N00221_004025
MARE ISLAND
SSIC NO. 5090.3.A

Contract Number: N62473-11-D-2215
Contract Task Order: 0007
DCN: CESJ-2215-0007-0022

Itinerary

Mare Island Restoration Advisory Board (RAB) Tour

Wednesday December 2, 2015
1:00 pm – 3:00 pm

1:00-1:10	Welcome at Building 535 on Walnut Avenue
1:10-1:20	Review of Tour Itinerary / Board Bus
1:20-1:40	Visit Tour Stop 1
1:40-1:50	Visit Tour Stop 2
1:50-2:05	Visit Tour Stop 3
2:05-2:15	Visit Tour Stop 4
2:15-2:25	Visit Tour Stop 5
2:25-2:40	Visit Tour Stop 6
2:40-2:55	Visit Tour Stop 7
3:00	Return to Building 535

Tour Stop List

Tour Stop 1:	Lennar Mare Island (LMI) Sites - IA B.2-2 Area (B455, IR16/64), Building 637 Area, Building 811, UST Sites (241, 267, 637), and FOPL Sites (G2/4/3ST, G2/2.5/3ST, G1/X/B637) IA H2 Area (IR10/13, USTs 231 and 243, PCB Sites in B529)
Tour Stop 2:	LMI Sites – IA C2 and Building 866 Area (UST M57, B866 PCB Sump Site)
Tour Stop 3:	LMI Sites - IA C3 (BGM Triangle, PCB Sites, UST Sites, B144 OWS)
Tour Stop 4:	Navy Site - Installation Restoration (IR) Site 04
Tour Stop 5:	Navy Site - Polychlorinated biphenyl (PCB) Site - Building A142
Tour Stop 6:	Navy Site - PCB Site - Building A266
Tour Stop 7:	Navy Site - South Shore Area

Thank you for participating!

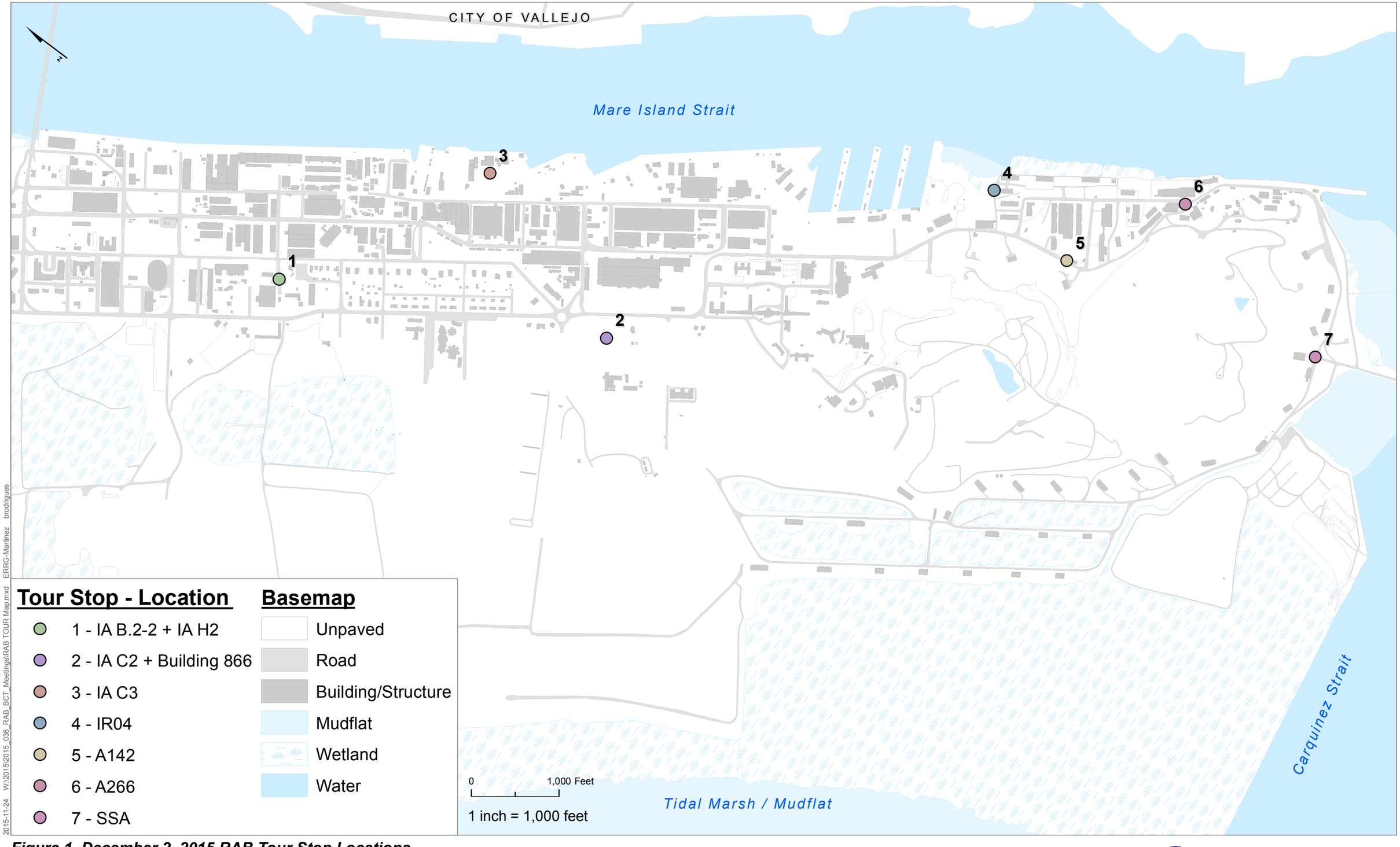


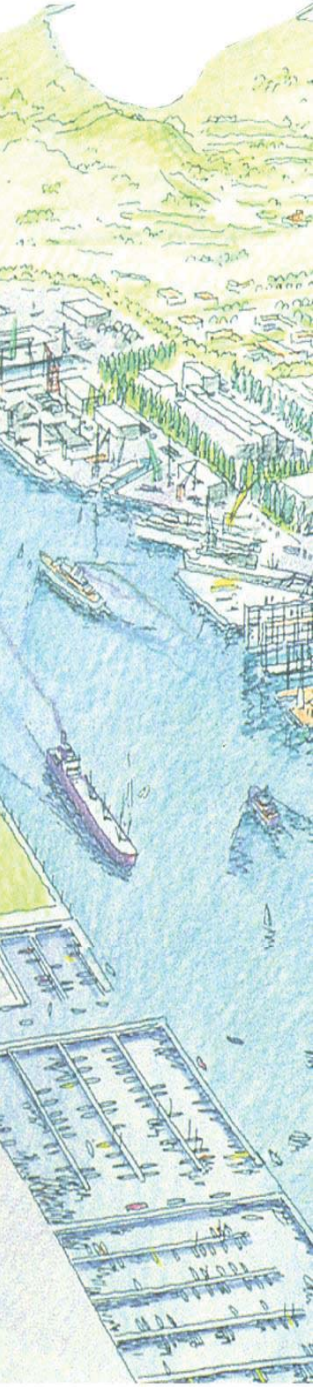
Figure 1. December 2, 2015 RAB Tour Stop Locations
Former Mare Island Navy Shipyard, Vallejo, California

CES CONSTRUCTION ENGINEERING SERVICES, LLC.

ACRONYMS AND ABBREVIATIONS

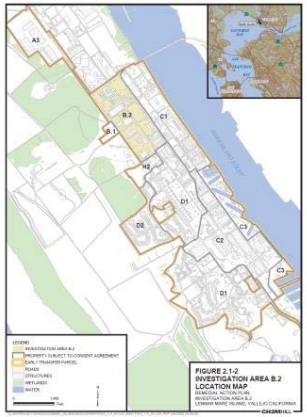
ACM	asbestos-containing material
AOC	area of concern
bgs	below ground surface
BRAC	Base Realignment and Closure
COC	constituents-of-concern
CVOC	chlorinated volatile organic compound
DOM	domestic
DRMO	Defense Reutilization and Marketing Office
EPA	Environmental Protection Agency
FOPL	Fuel-Oil Pipeline
FS	Feasibility Study
ft	feet
IA	Investigation Area
IR	Installation Restoration
IWPS	Industrial wastewater pipeline
LMI	Lennar Mare Island
LUC	Land Use Control
NAVFAC	Naval Facilities Engineering Command
OCP	organochlorine pesticides
OWS	oil water separator
PCB	polychlorinated biphenyl
ppm	parts per million
RAB	Restoration Advisory Board
RI	Remedial Investigation
sf	square feet
SSA	South Shore Are
STS	ship-to-store
TCRA	Time-Critical Removal Action
TSCA	Toxic Substances Control Act
UST	underground storage tank
UXO	unexploded ordnance
VOC	volatile organic compound
WBF	wood block floor

Tour Stop 1: Investigation Area B.2-2 (IA B.2-2) and Investigation Area H2 (IA H2)
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Investigation Area B.2-2 - Site Description and Background

- **20 Acres – Mixed Use Area**
- **Historic Use**
  - Light and Heavy Industrial
- **Future Use**
  - Commercial / Light Industrial
  - Residential
- **Environmental Sites in Investigation Area (IA) B.2-2**
  - 33 Sites
    - 5 Industrial Restoration Program (IR) Sites
    - 5 Underground Storage Tank (UST) Sites
    - 4 Fuel-Oil Pipeline (FOPL) Segments
    - 14 Polychlorinated Biphenyl (PCB) Sites
    - 5 Other Sites
    - Sanitary Sewer System
- **Constituents-of-Concern (COC)**
  - Petroleum Hydrocarbons
  - PCBs
  - Organochlorine Pesticides (OCPs)
  - Lead



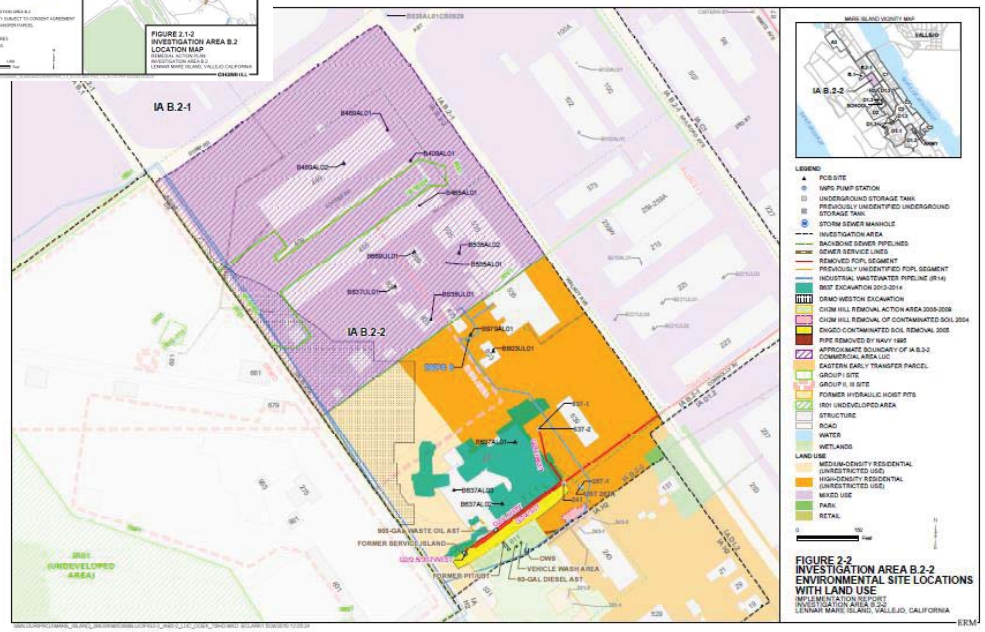
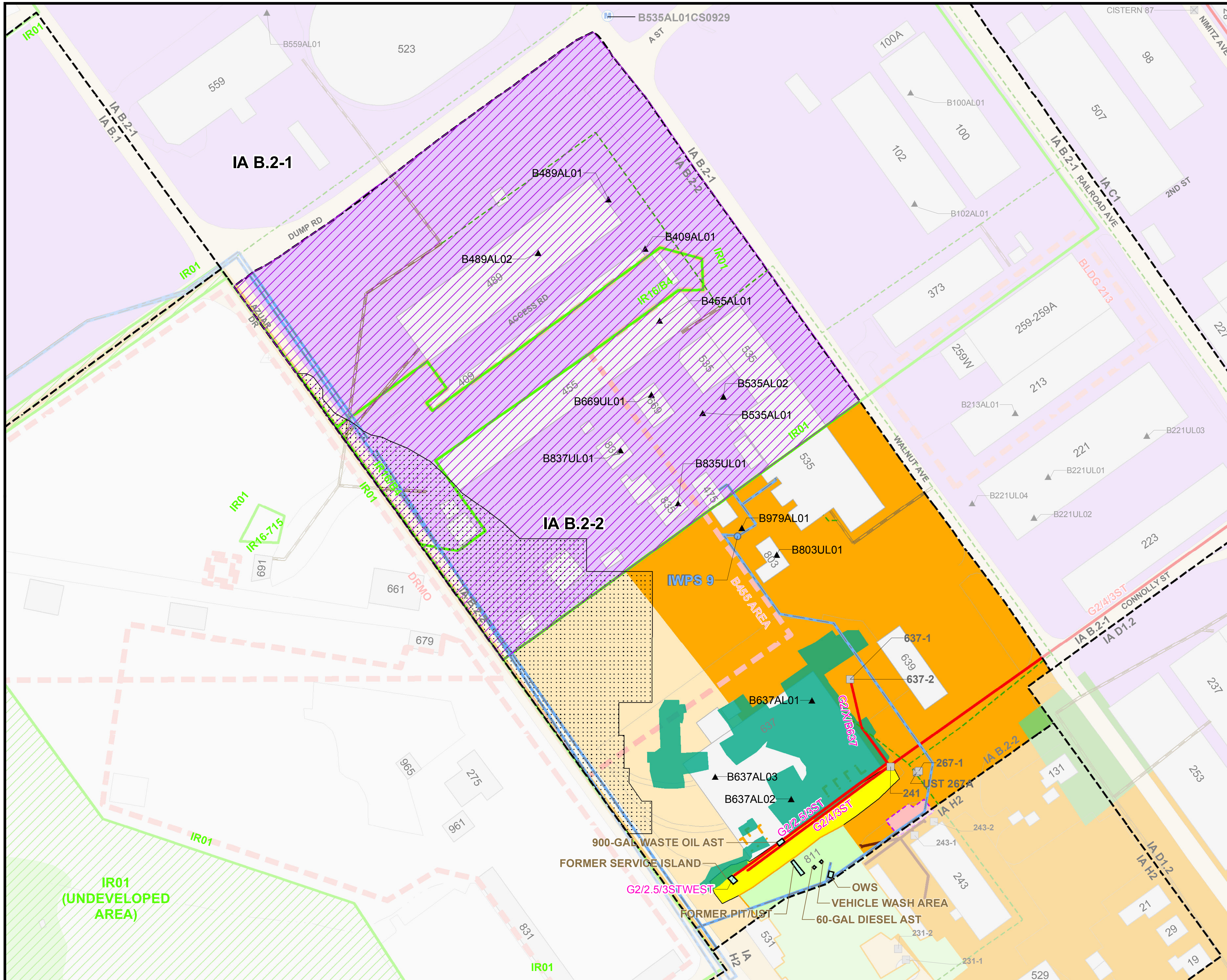


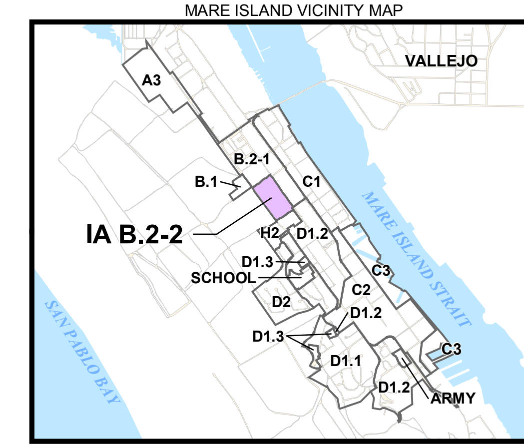
FIGURE 2.1-2
INVESTIGATION AREA B.2
LOCATION MAP
REMEDIAL ACTION PLAN
INVESTIGATION AREA B.2
LENNAR MARE ISLAND, VALLEJO CALIFORNIA

CH2MHILL

\\LOKI\PROJECTS\RDDGIS\MARE_ISLAND\MXDS\B\RAP\FIG2_1-2_IA-LOC.MXD FIG2_1-2_IA-LOC.PDF 8/9/2006 08:08:30



MARE ISLAND VICINITY MAP



LEGEND

- PCB SITE
- IWPS PUMP STATION
- UNDERGROUND STORAGE TANK
- PREVIOUSLY UNIDENTIFIED UNDERGROUND STORAGE TANK
- STORM SEWER MANHOLE
- INVESTIGATION AREA
- BACKBONE SEWER PIPELINES
- SEWER SERVICE LINES
- REMOVED FOPL SEGMENT
- PREVIOUSLY UNIDENTIFIED FOPL SEGMENT
- INDUSTRIAL WASTEWATER PIPELINE (IR14)
- B637 EXCAVATION 2012-2014
- DRMO WESTON EXCAVATION
- CH2M HILL REMOVAL ACTION AREA 2008-2009
- CH2M HILL REMOVAL OF CONTAMINATED SOIL 2004
- ENGEO CONTAMINATED SOIL REMOVAL 2005
- PIPE REMOVED BY NAVY 1995
- APPROXIMATE BOUNDARY OF IA B.2-2 COMMERCIAL AREA LUC
- EASTERN EARLY TRANSFER PARCEL
- GROUP I SITE
- GROUP II, III SITE
- FORMER HYDRAULIC HOIST PITS
- IR01 UNDEVELOPED AREA
- STRUCTURE
- ROAD
- WATER
- WETLANDS

LAND USE

- MEDIUM-DENSITY RESIDENTIAL (UNRESTRICTED USE)
- HIGH-DENSITY RESIDENTIAL (UNRESTRICTED USE)
- MIXED USE
- PARK
- RETAIL

0 150 Feet

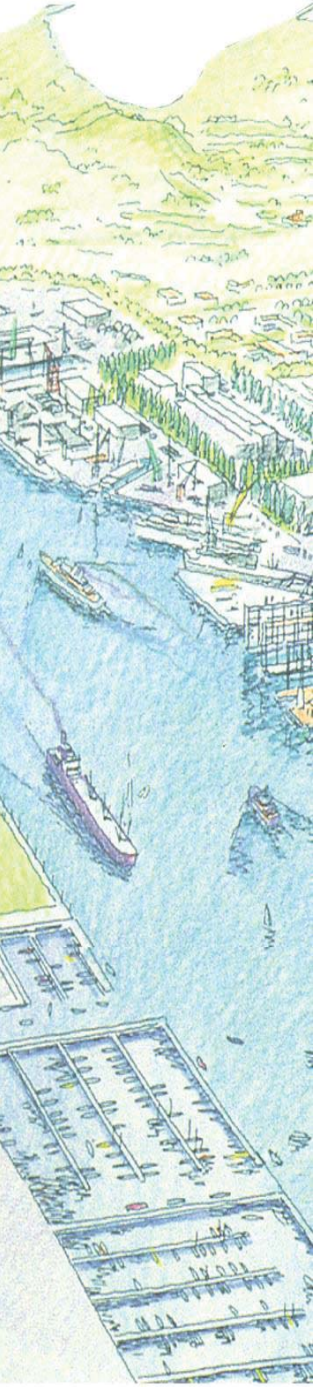
N

FIGURE 2-2
INVESTIGATION AREA B.2-2 ENVIRONMENTAL SITE LOCATIONS WITH LAND USE

IMPLEMENTATION REPORT
INVESTIGATION AREA B.2-2
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

ERM

\\BALDUR\PROJ\MARE_ISLAND_264204\MXDS\B\LUC\FIG2-2_IAB2-2_LUC_COEX_TSHD.MXD ECLARK1 5/24/2010 12:25:24



Investigation Area H2 - Site Description and Background

- **14 Acres – Mixed Use Area**
- **Historic Use**
  - Residential, Commercial and Industrial (Storage, Maintenance and Administrative)
- **Future Use**
  - Residential – Medium- to High-Density
  - Recreational
- **Environmental Sites in Investigation Area (IA) H2**
  - 13 Sites
    - 4 Industrial Restoration Program (IR) Sites
    - 2 Underground Storage Tank (UST) Sites
    - 4 Polychlorinated Biphenyl (PCB) Sites
    - 2 ABM Sites
    - 1 Soil Gas Site
    - Lead-Based Paint in Soil
- **Constituents-of-Concern (COC)**
  - Petroleum Hydrocarbons
  - PCBs
  - Metals (Lead)
  - Chlorinated Volatile Organic Compounds (CVOCs)

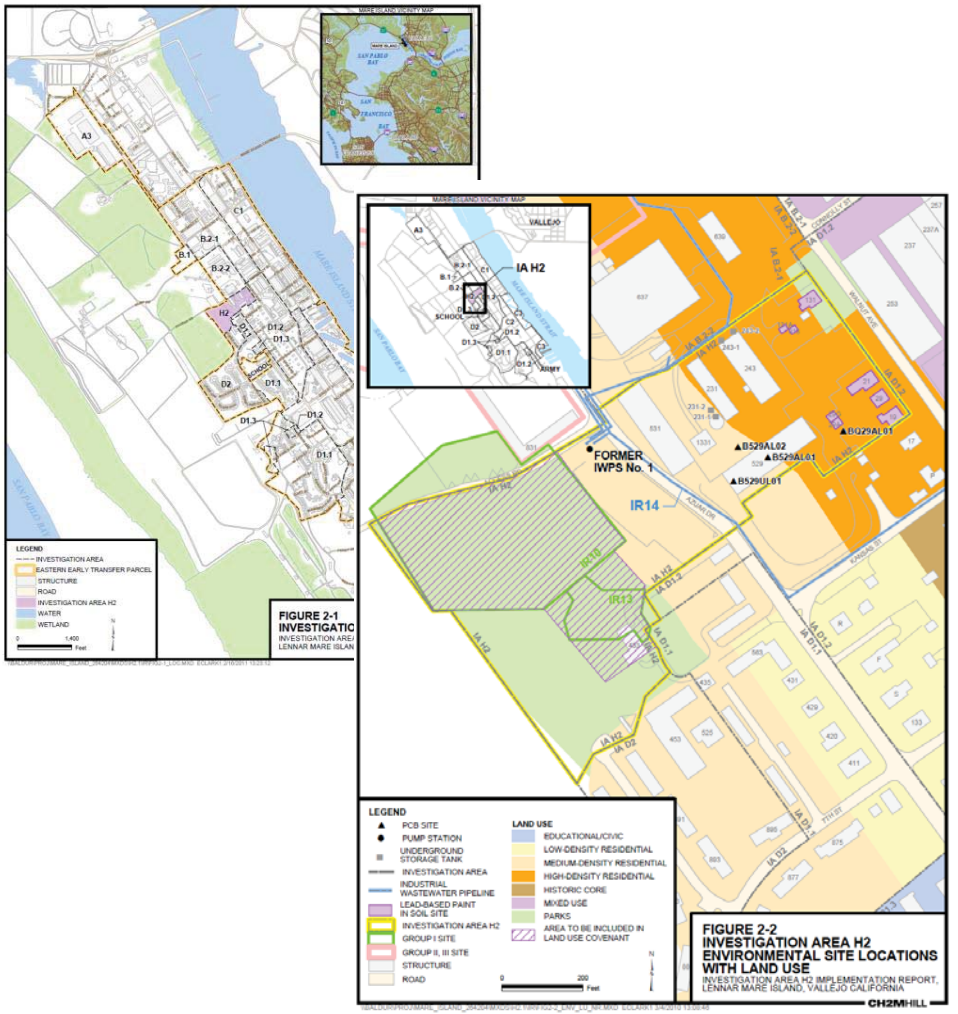
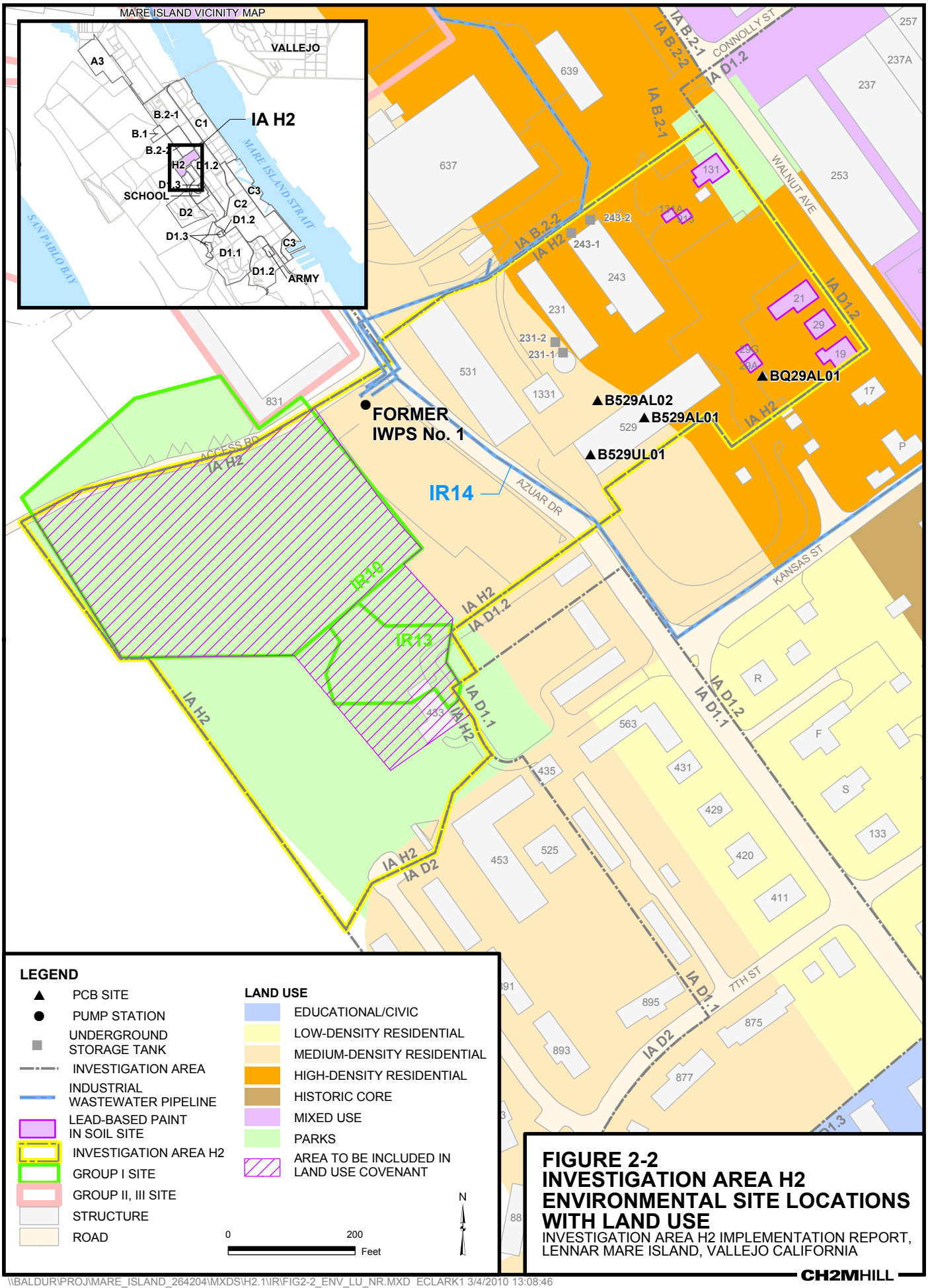


FIGURE 2-1
INVESTIGATION AREA H2 LOCATION
INVESTIGATION AREA H2 IMPLEMENTATION REPORT,
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

CH2MHILL

\\BALDUR\PROJ\MARE_ISLAND_264204\MXDS\H2.1\IR\FIG2-1_LOC.MXD ECLARK1 2/16/2011 13:23:12



LEGEND

- ▲ PCB SITE
- ● PUMP STATION
- UNDERGROUND STORAGE TANK
- INVESTIGATION AREA
- INDUSTRIAL WASTEWATER PIPELINE
- LEAD-BASED PAINT IN SOIL SITE
- INVESTIGATION AREA H2
- GROUP I SITE
- GROUP II, III SITE
- STRUCTURE
- ROAD

LAND USE

- EDUCATIONAL/CIVIC
- LOW-DENSITY RESIDENTIAL
- MEDIUM-DENSITY RESIDENTIAL
- HIGH-DENSITY RESIDENTIAL
- HISTORIC CORE
- MIXED USE
- PARKS
- AREA TO BE INCLUDED IN LAND USE COVENANT

0 200 Feet

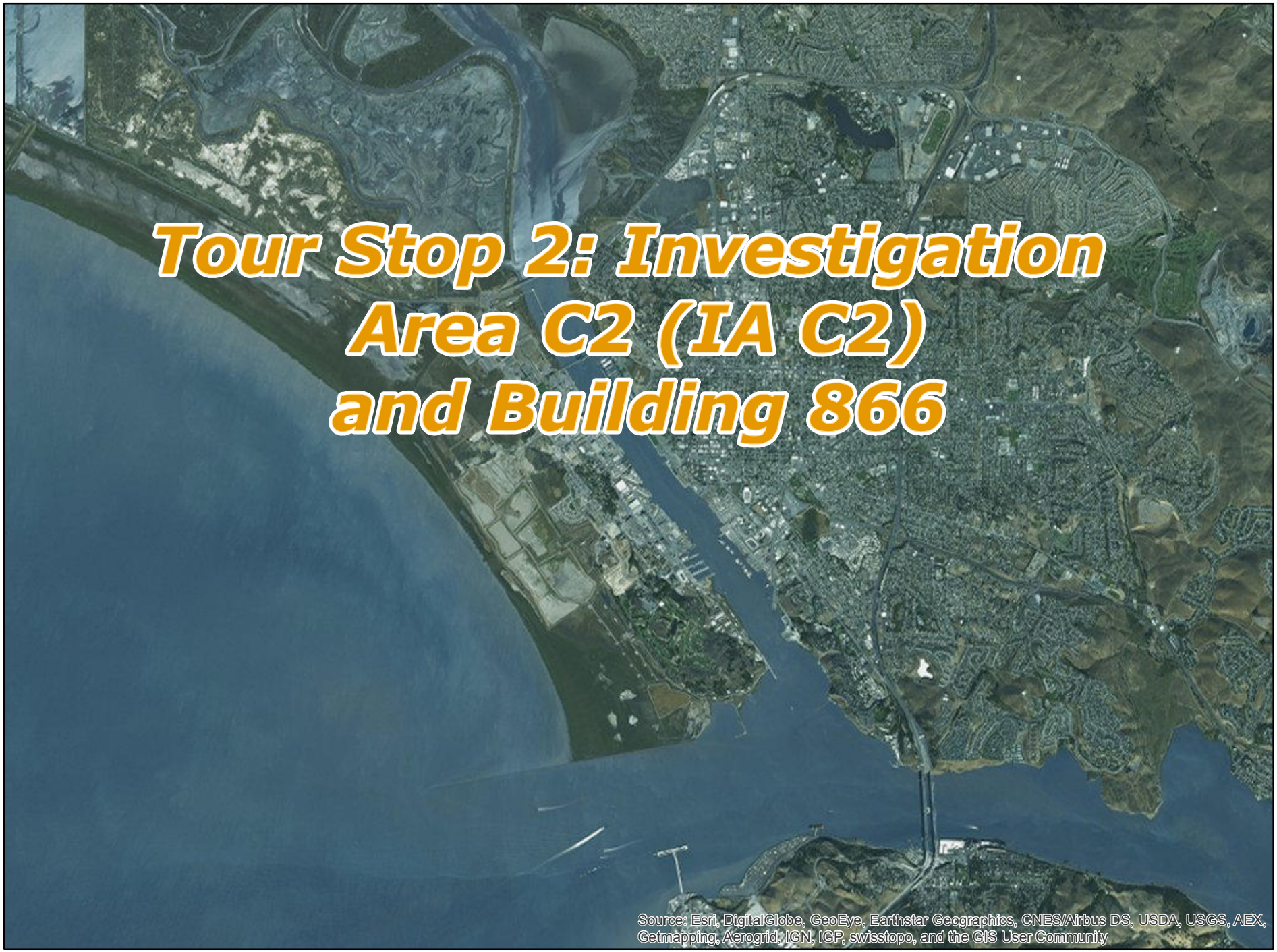
N

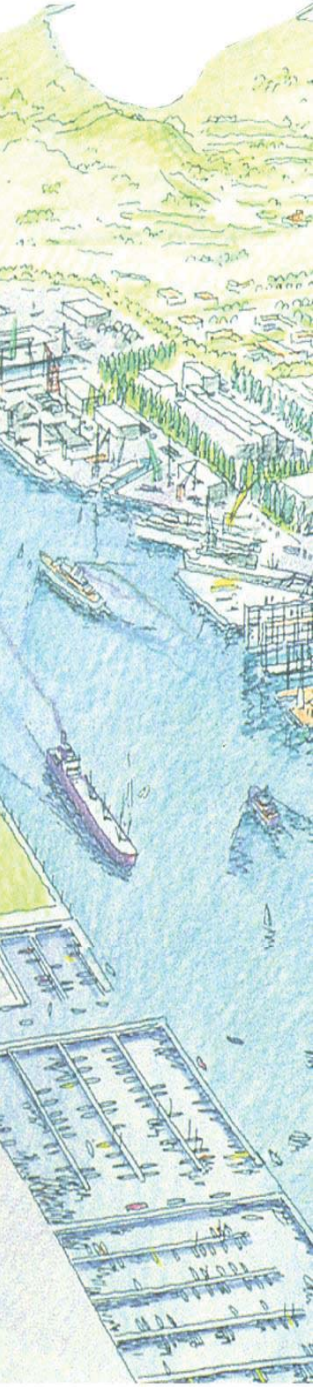
FIGURE 2-2
INVESTIGATION AREA H2 ENVIRONMENTAL SITE LOCATIONS WITH LAND USE

INVESTIGATION AREA H2 IMPLEMENTATION REPORT, LENNAR MARE ISLAND, VALLEJO CALIFORNIA

CH2MHILL

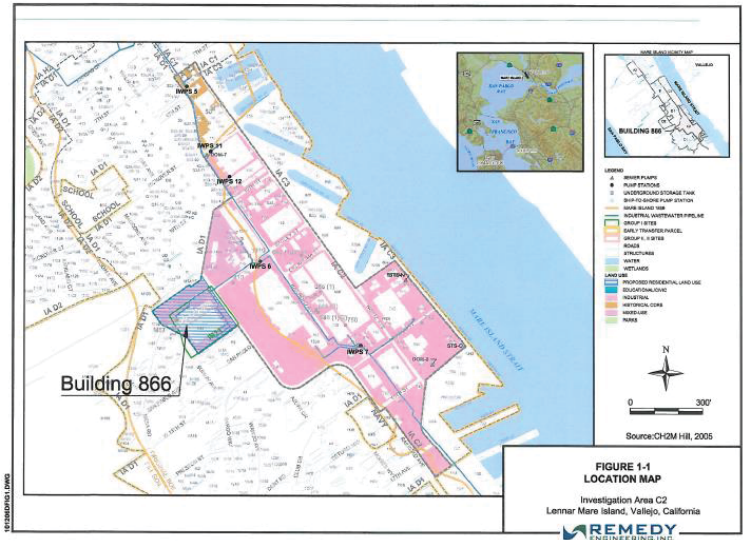
\\BALDUR\PROJ\MARE_ISLAND_264204\MXDS\H2.1\IR\FIG2-2_ENV_LU_NR.MXD ECLARK1 3/4/2010 13:08:46

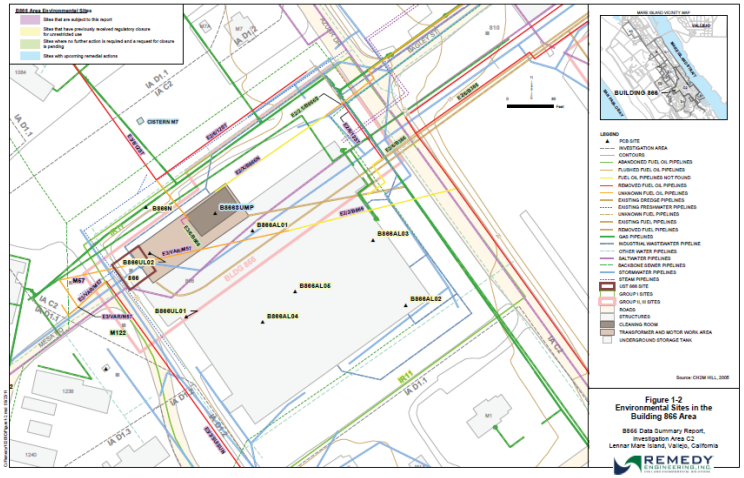

Tour Stop 2: Investigation Area C2 (IA C2) and Building 866
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

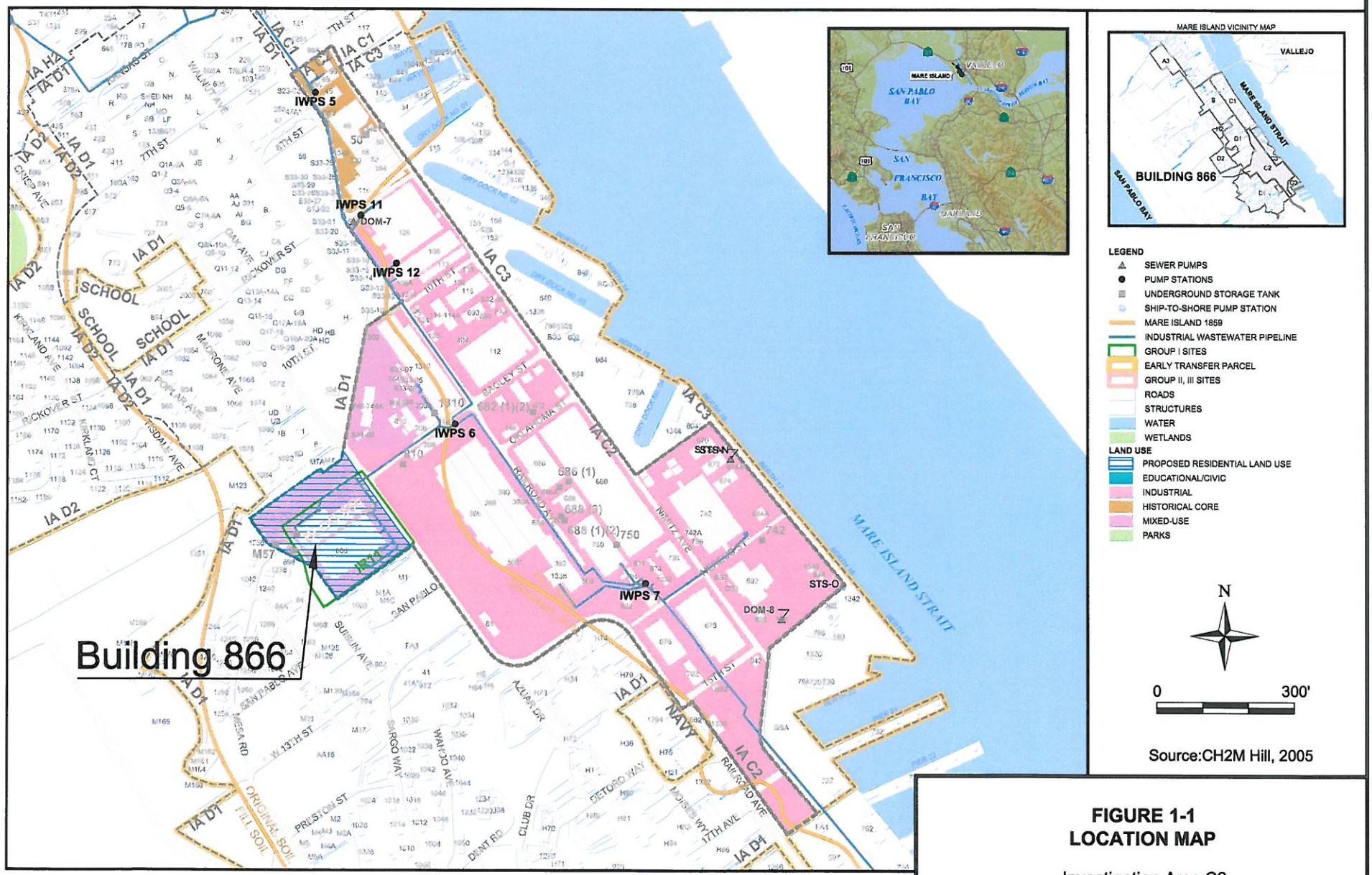


Building 866 Area – Investigation Area C2 Site Description and Background

- **11 Acres – Industrial Area**
- **Historic Use**
  - Commercial / Industrial
- **Future Use**
  - Originally – Commercial / Industrial
  - Voluntarily Changed - Residential
- **Environmental Sites in Building 866 Area**
  - 23 Sites
    - 2 Industrial Restoration Program (IR) Sites
    - 3 Underground Storage Tank (UST) Sites
    - 9 Fuel-Oil Pipeline (FOPL) Segments
    - 9 Polychlorinated Biphenyl (PCB) Sites
- **Constituents-of-Concern (COC)**
  - Petroleum Hydrocarbons
  - PCBs
  - Metals (Lead)







Source:CH2M Hill, 2005

FIGURE 1-1
LOCATION MAP

Investigation Area C2
Lennar Mare Island, Vallejo, California

REMEDY ENGINEERING, INC.

101206DFIG1.DWG

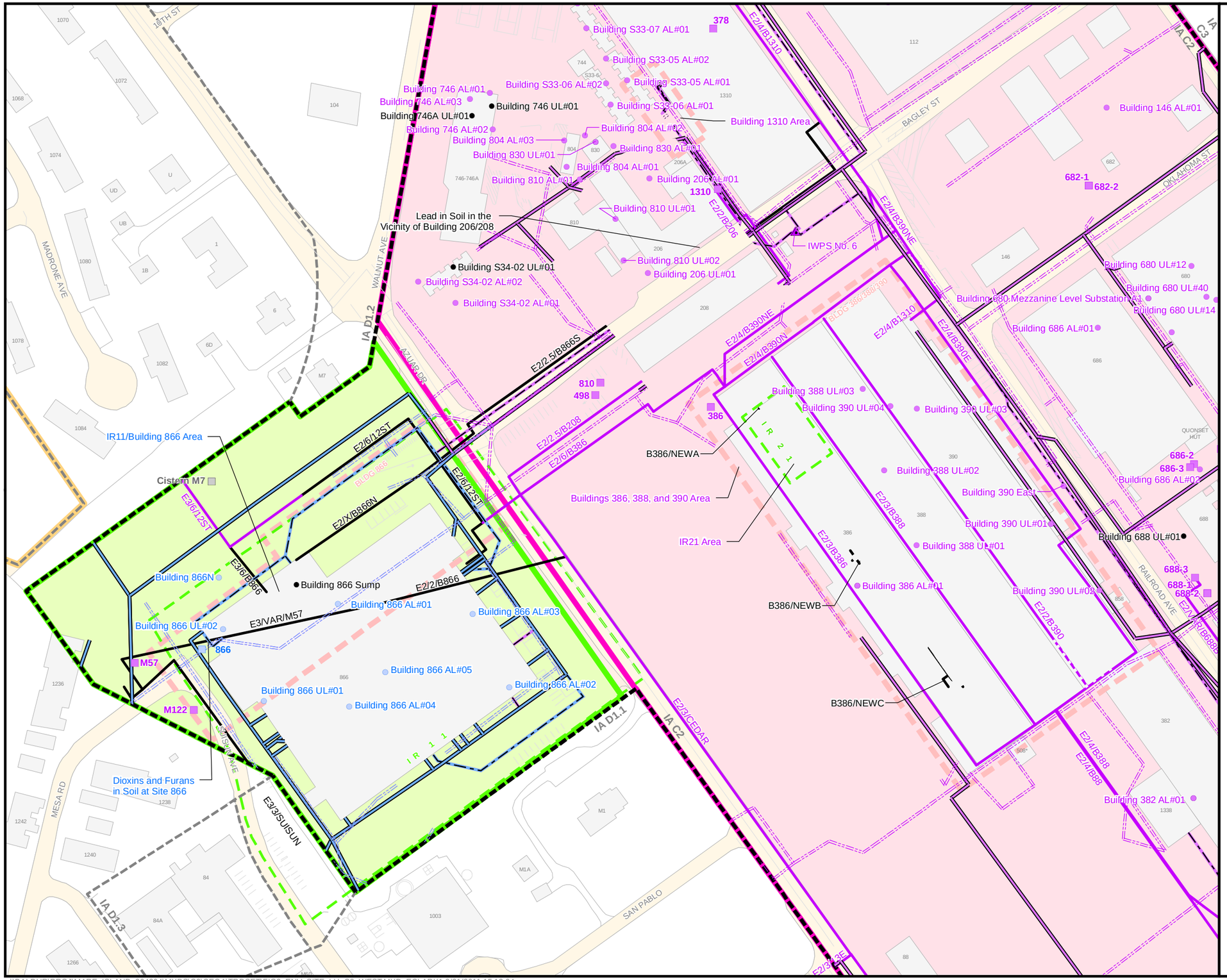


FIGURE 3
ENVIRONMENTAL SITES IN THE WESTERN PORTION OF INVESTIGATION AREA C2

LAND-USE COVENANT,
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

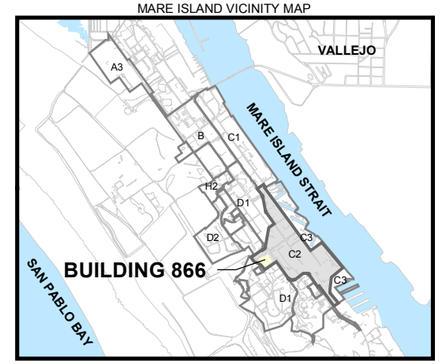
\\BALDUR\PROJ\MARE_ISLAND_264204\MXDS\C2\CEQA\TRDSET\FIG3_ENV_SITE_LU_C2_WEST.MXD ECLARK1 2/21/2011 15:13:04

CH2MHILL

B866 Area Environmental Sites

- Sites that are subject to this report
- Sites that have previously received regulatory closure for unrestricted use
- Sites where no further action is required and a request for closure is pending
- Sites with upcoming remedial actions

MARE ISLAND VICINITY MAP



N

0 80 Feet

LEGEND

- PCB SITE
- INVESTIGATION AREA
- CONTOURS
- ABANDONED FUEL OIL PIPELINES
- FLUSHED FUEL OIL PIPELINES
- FUEL OIL PIPELINES NOT FOUND
- REMOVED FUEL OIL PIPELINES
- UNKNOWN FUEL OIL PIPELINES
- EXISTING DREDGE PIPELINES
- EXISTING FRESHWATER PIPELINES
- UNKNOWN FUEL PIPELINES
- EXISTING FUEL PIPELINES
- REMOVED FUEL PIPELINES
- GAS PIPELINES
- INDUSTRIAL WASTEWATER PIPELINE
- OTHER WATER PIPELINES
- SALTWATER PIPELINES
- BACKBONE SEWER PIPELINES
- STORMWATER PIPELINES
- STEAM PIPELINES
- UST 866 SITE
- GROUP I SITES
- GROUP II, III SITES
- ROADS
- STRUCTURES
- CLEANING ROOM
- TRANSFORMER AND MOTOR WORK AREA
- UNDERGROUND STORAGE TANK

Source: CH2M HILL, 2005

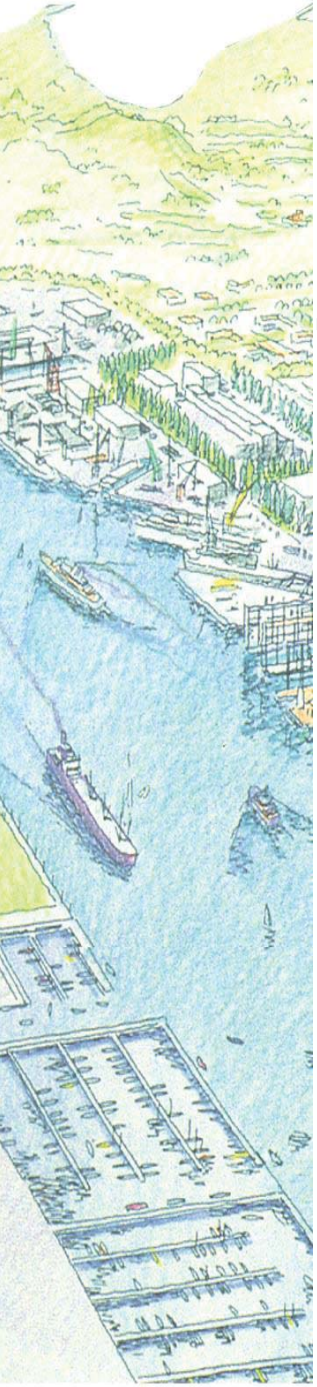
Figure 1-2
Environmental Sites in the Building 866 Area

B866 Data Summary Report,
Investigation Area C2
Lennar Mare Island, Vallejo, California

REMEDY ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL SOLUTIONS

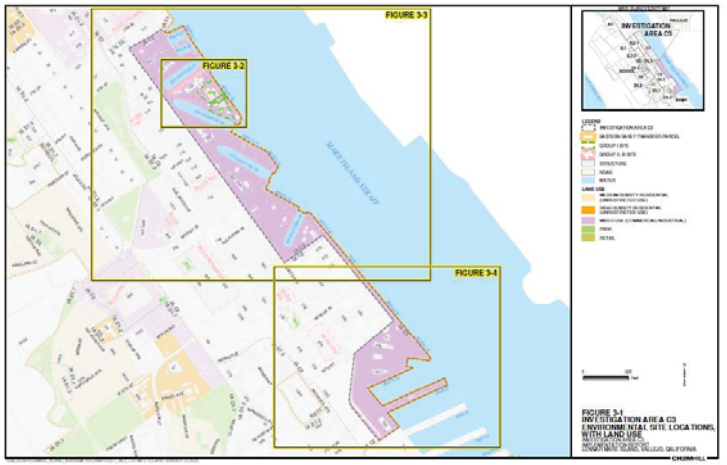
C:\Remedy\10206D\Figure1-2.mxd 09/23/11

Tour Stop 3: Investigation Area C3 (IA C3)
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Investigation Area C3 - Site Description and Background

- **50 Acres – Industrial Area**
- **Historic Use**
  - Industrial Maritime Use
- **Future Use**
  - Commercial
  - Industrial – Maritime Use
- **Environmental Sites in Investigation Area (IA) C3**
  - 120 Sites
    - 4 Industrial Restoration Program (IR) Sites
    - 8 Underground Storage Tank (UST) Sites
    - 105 Polychlorinated Biphenyl (PCB) Sites
    - 3 Other Sites
    - Sanitary Sewer System
- **Constituents-of-Concern (COC)**
  - Petroleum Hydrocarbons
  - PCBs
  - Lead



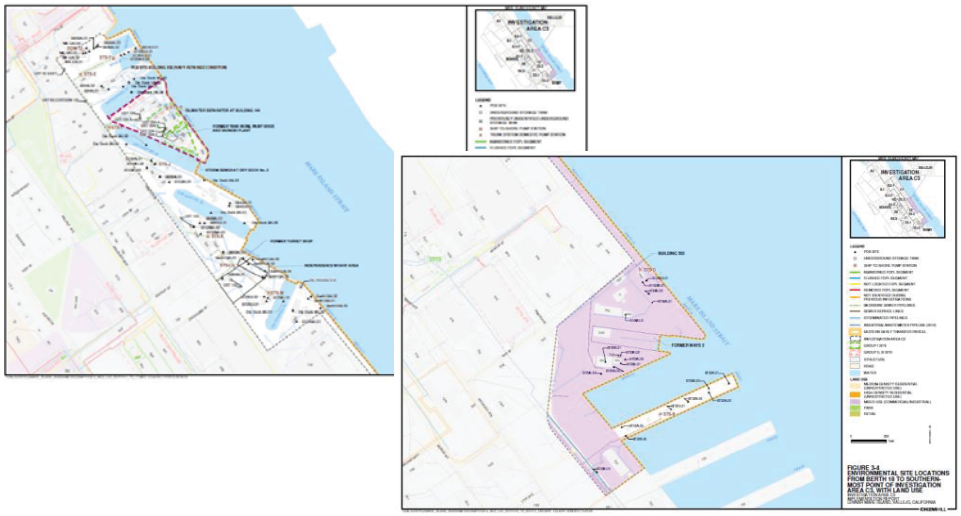
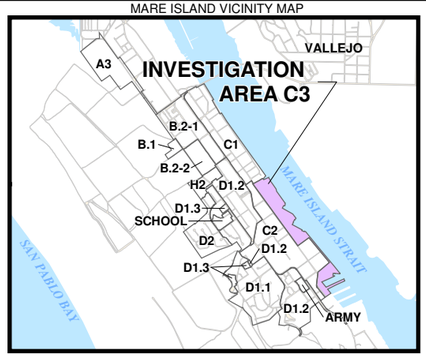


FIGURE 3-3

FIGURE 3-2

FIGURE 3-4

MARE ISLAND VICINITY MAP



LEGEND

- INVESTIGATION AREA C3
- EASTERN EARLY TRANSFER PARCEL
- GROUP I SITE
- GROUP II, III SITE
- STRUCTURE
- ROAD
- WATER

LAND USE

- MEDIUM-DENSITY RESIDENTIAL (UNRESTRICTED USE)
- HIGH-DENSITY RESIDENTIAL (UNRESTRICTED USE)
- MIXED USE (COMMERCIAL/INDUSTRIAL)
- PARK
- RETAIL

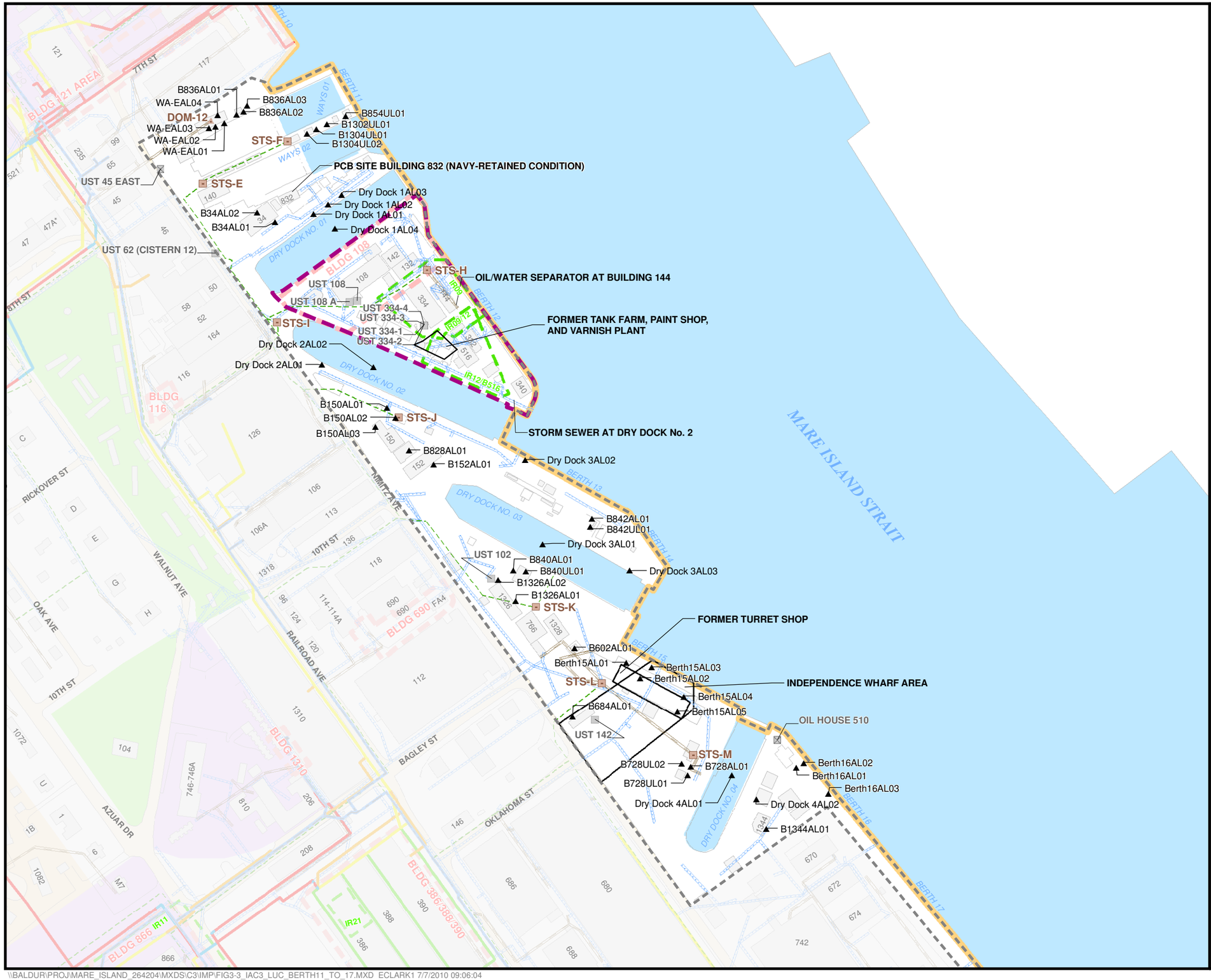
0 500 Feet

N

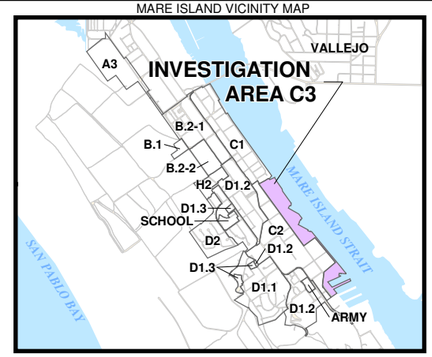
FIGURE 3-1
INVESTIGATION AREA C3
ENVIRONMENTAL SITE LOCATIONS, WITH LAND USE
INVESTIGATION AREA C3
IMPLEMENTATION REPORT
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

CH2MHILL

\\BALDUR\PROJ\MARE_ISLAND_264204\MXDS\C3\IMP\FIG3-1_IAC3_LUC.MXD ECLARK1 6/29/2010 15:33:05



MARE ISLAND VICINITY MAP



LEGEND

- PCB SITE
- UNDERGROUND STORAGE TANK
- PREVIOUSLY UNIDENTIFIED UNDERGROUND STORAGE TANK
- SHIP-TO-SHORE PUMP STATION
- TRUNK SYSTEM DOMESTIC PUMP STATION
- ABANDONED FOPL SEGMENT
- FLUSHED FOPL SEGMENT
- NOT LOCATED FOPL SEGMENT
- REMOVED FOPL SEGMENT
- NOT IDENTIFIED DURING PREVIOUS INVESTIGATIONS
- BACKBONE SEWER PIPELINES
- SEWER SERVICE LINES
- STORMWATER PIPELINES
- INDUSTRIAL WASTEWATER PIPELINE (IR14)
- INVESTIGATION AREA C3
- EASTERN EARLY TRANSFER PARCEL
- IA C3 TRIANGLE AREA
- GROUP I SITE
- GROUP II, III SITE
- STRUCTURE
- ROAD
- WATER

LAND USE

- MEDIUM-DENSITY RESIDENTIAL (UNRESTRICTED USE)
- HIGH-DENSITY RESIDENTIAL (UNRESTRICTED USE)
- MIXED USE (COMMERCIAL/INDUSTRIAL)
- PARK
- RETAIL

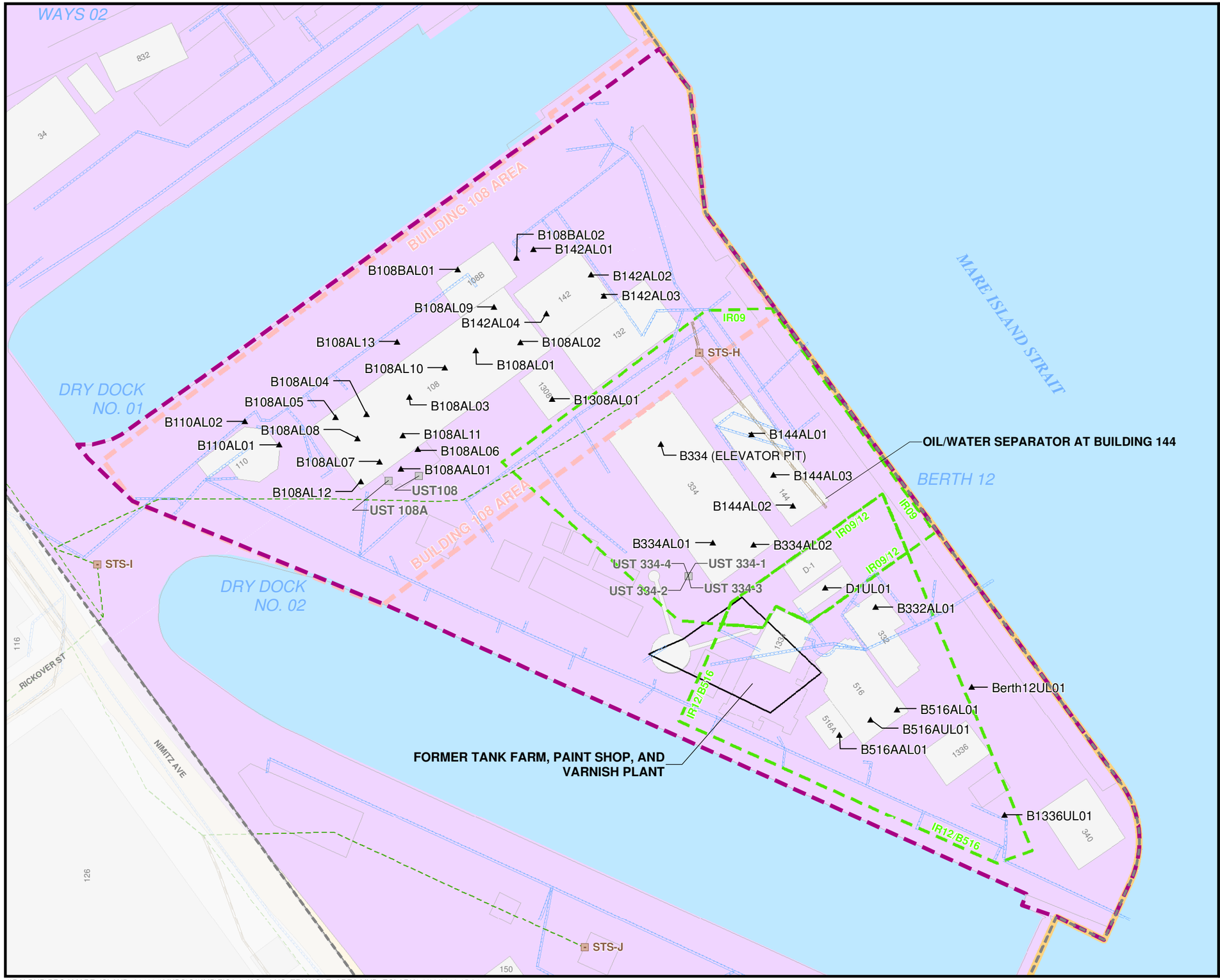
0 300 Feet

N

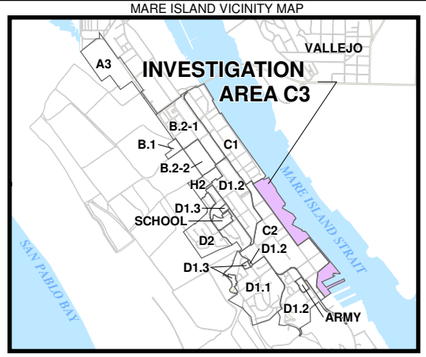
FIGURE 3-3
INVESTIGATION AREA C3 ENVIRONMENTAL SITE LOCATIONS BETWEEN BERTHS 11 AND 17, EXCLUDING TRIANGLE AREA, WITH LAND USE
INVESTIGATION AREA C3
IMPLEMENTATION REPORT
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

CH2MHILL

\\BALDUR\PROJ\MARE_ISLAND_264204\MXDS\C3\IMP\FIG3-3_IAC3_LUC_BERTH11_TO_17.MXD ECLARK1 7/7/2010 09:06:04



MARE ISLAND VICINITY MAP



LEGEND

- PCB SITE
- UNDERGROUND STORAGE TANK
- SHIP-TO-SHORE PUMP STATION
- INVESTIGATION AREA
- BACKBONE SEWER PIPELINE
- SEWER SERVICE LINE
- STORMWATER PIPELINE
- INVESTIGATION AREA C3
- EASTERN EARLY TRANSFER PARCEL
- IA C3 TRIANGLE AREA
- GROUP I SITE
- GROUP II, III SITE
- STRUCTURE
- ROAD
- WATER

LAND USE

- MEDIUM-DENSITY RESIDENTIAL (UNRESTRICTED USE)
- HIGH-DENSITY RESIDENTIAL (UNRESTRICTED USE)
- MIXED USE (COMMERCIAL/INDUSTRIAL)
- PARK
- RETAIL

0 75 Feet

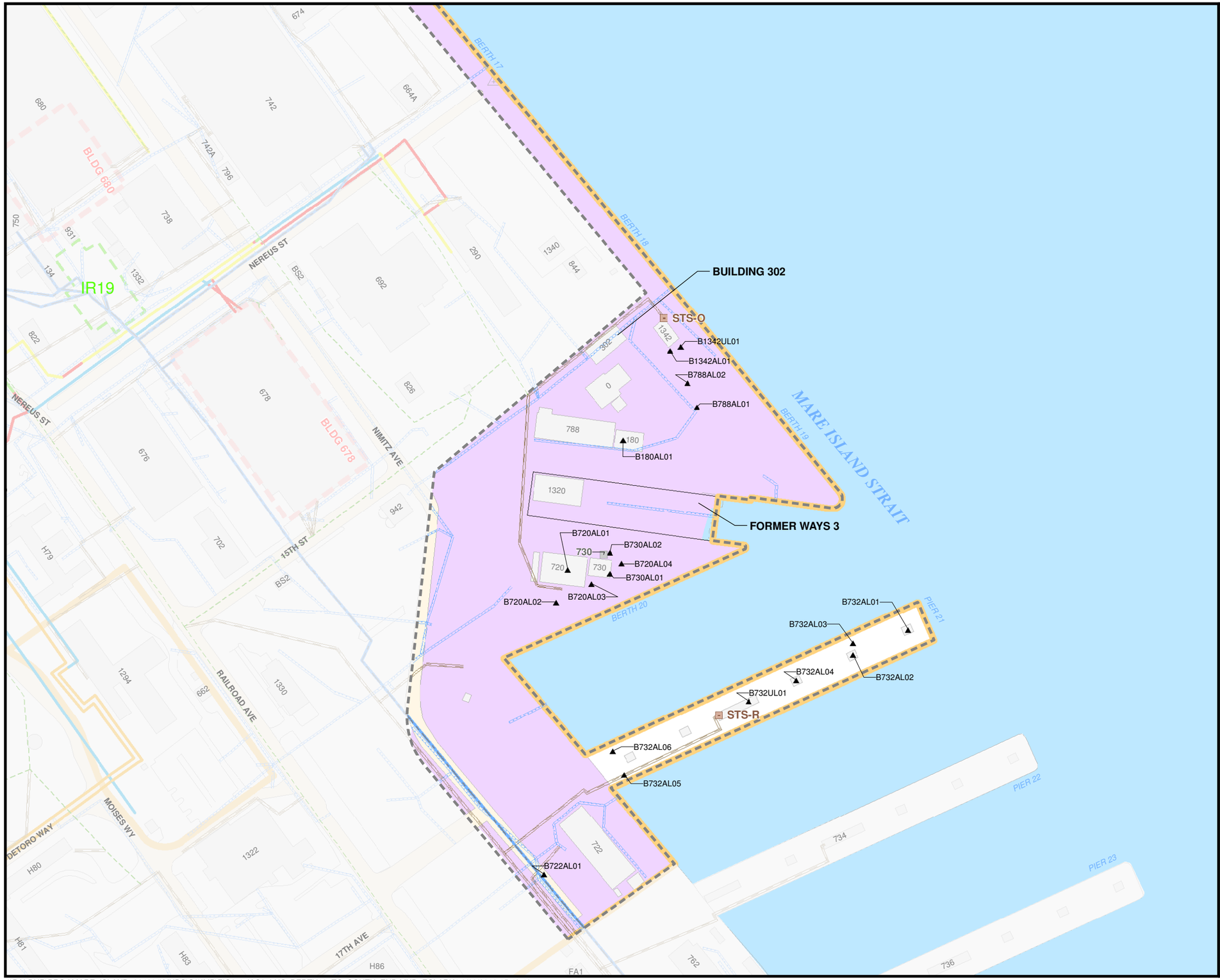
N

FIGURE 3-2
INVESTIGATION AREA C3 TRIANGLE AREA ENVIRONMENTAL SITE LOCATIONS, WITH LAND USE

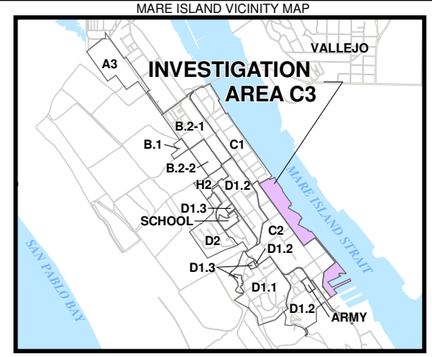
INVESTIGATION AREA C3
IMPLEMENTATION REPORT
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

CH2MHILL

\\BALDUR\PROJ\MARE_ISLAND_264204\MXDS\C3\IMP\FIG3-2_IAC3_LUC_TRIANGLE_AREA.MXD ECLARK1 6/29/2010 15:34:48



MARE ISLAND VICINITY MAP



LEGEND

- PCB SITE
- UNDERGROUND STORAGE TANK
- SHIP TO SHORE PUMP STATION
- ABANDONED FOPL SEGMENT
- FLUSHED FOPL SEGMENT
- NOT LOCATED FOPL SEGMENT
- REMOVED FOPL SEGMENT
- NOT IDENTIFIED DURING PREVIOUS INVESTIGATIONS
- BACKBONE SEWER PIPELINES
- SEWER SERVICE LINES
- STORMWATER PIPELINES
- INDUSTRIAL WASTEWATER PIPELINE (IR14)
- EASTERN EARLY TRANSFER PARCEL
- INVESTIGATION AREA C3
- GROUP I SITE
- GROUP II, III SITE
- STRUCTURE
- ROAD
- WATER

LAND USE

- MEDIUM-DENSITY RESIDENTIAL (UNRESTRICTED USE)
- HIGH-DENSITY RESIDENTIAL (UNRESTRICTED USE)
- MIXED USE (COMMERCIAL/INDUSTRIAL)
- PARK
- RETAIL

0 200 Feet

N

FIGURE 3-4
ENVIRONMENTAL SITE LOCATIONS FROM BERTH 18 TO SOUTHERN-MOST POINT OF INVESTIGATION AREA C3, WITH LAND USE

INVESTIGATION AREA C3
IMPLEMENTATION REPORT
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

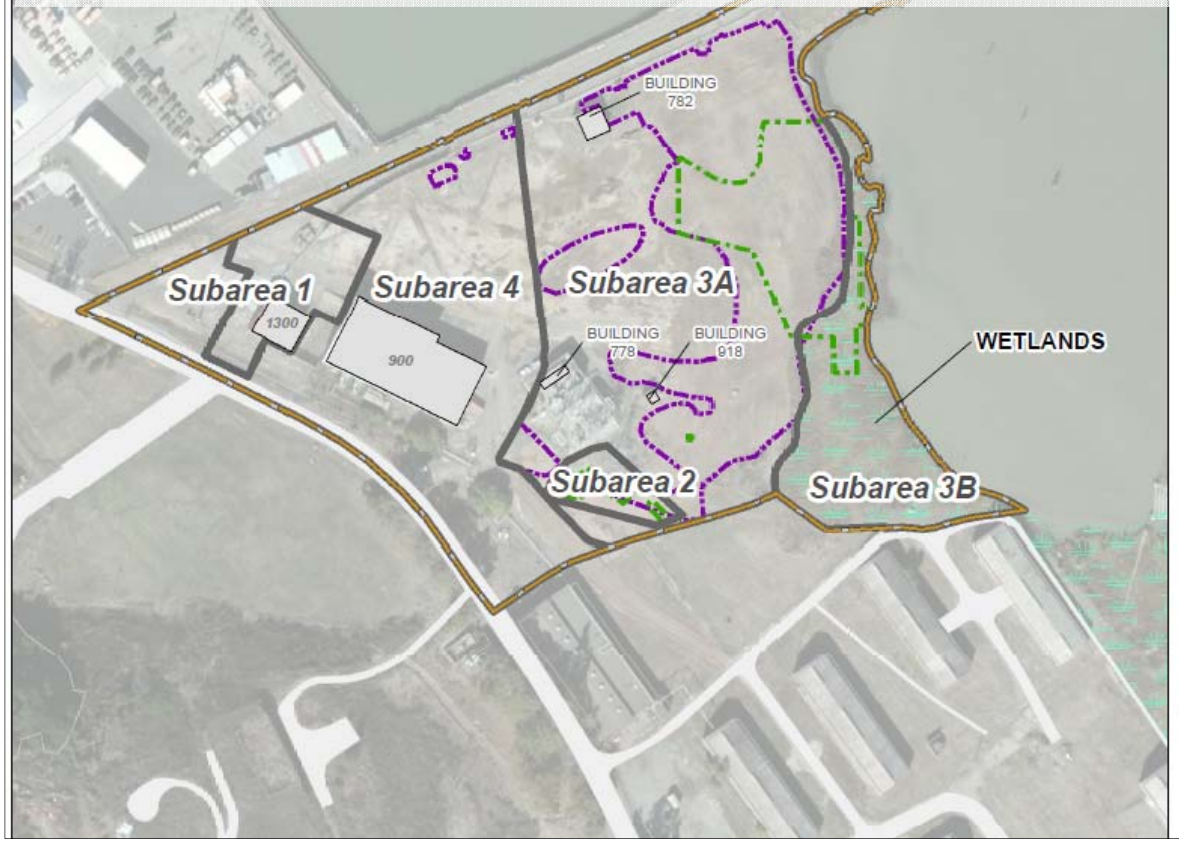
CH2MHILL

\\BALDUR\PROJ\MARE_ISLAND_264204\MXDS\C3\IMP\FIG3-4_IAC3_LUC_BERTH18_TO_SOUTH_END.MXD ECLARK1 6/29/2010 15:43:49

Tour Stop 4: Installation Restoration Site 4 (IR04)
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

IR Site 4

Building 778 – Electrical Substation (1942-current)
Building 782 – Electrical Substation Center (1943-current)
Building 900 – Sandblast Facility w/Paint Spray Booths (1955-1992)
Building 918 – Sewer Pump Station (1959-current)
Building 1286 – Sandblast Enclosure (1963-1993)
Building 1300 – Paint Spray Shed (1975-1992)
Building 1316 – Pump Station #8 (1975-1992)



LEGEND

- IR Site 4 Boundary
- IR Site 4 Subareas
- 2000 Excavation Area
- 2007 - 2008 TCRA Excavation Area
- Building/Structure
- Road
- Wetland

NOTES:
FS - Feasibility Study
IR - Installation Restoration
RI - Remedial Investigation
TCRA - Time-Critical Removal Action

GRAPHIC SCALE
0 125 250 500
(IN FEET)
1 INCH = 250 FEET

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
SAN DIEGO, CALIFORNIA

IR SITE 4 RI/FS REPORT
FORMER MARE ISLAND NAVAL SHIPYARD
VALLEJO, CALIFORNIA

FIGURE 2

IR Site 4

- History:
  - Components of ships and submarines were sandblasted and repainted from 1950s to 1992
- Previous Investigations
  - 1983 Initial Assessment Study / Verification Study
  - 1994 Preliminary Assessment/Site Inspection
  - 1988–2014 Remedial Investigations (RI)
  - 1998–2000 Unexploded Ordnance (UXO) Intrusive Investigation
    - Site was included in larger UXO investigation but was later removed from munitions program. Three pits in Subarea 2 to remove paint cans, debris, and VOC-impacted soil identified during investigation.
  - 2007–2008 Time-Critical Removal Action (TCRA)
    - Removed approximately 28,760 cubic yards of sand blast material and soil
- Future Use is industrial except for the wetlands area which will remain wetlands

IR Site 4

- Risk Assessment Conclusions:
  - Subarea 1&4 – No unacceptable human health or ecological risk.
  - Subarea 2 – Elevated risk to hypothetical future residents from VOCs in Soil Gas at the Former Paint-Cans Disposal Pit.
  - Subarea 3A – Elevated risk in residential and industrial scenarios based on PCBs in Soil at Building 782. Lead in soil is a potential risk for hypothetical future child resident.
  - Subarea 3B – Metals in Sediment are a potential ecological risk, including risk to the salt marsh harvest mouse.

- Remedial Action is being evaluated for:
  - Subarea 2 – VOCs in Soil Gas at the Former Paint-Cans Disposal Pit
  - Subarea 3A – PCBs in Soil at Building 782
  - Subarea 3B – Metals in Sediment

IR Site 4 - Next Steps

Preliminary Assessment/Site Inspection
Identify need for Further Investigation

Remedial Investigation
Determine Nature and Extent and Assess Risks

Feasibility Study
Evaluate Potential Remedial Alternatives

Combined Remedial Investigation and Feasibility Study

Apr 2016

Proposed Plan
Presents the Proposed Remedial Action for Public Comment

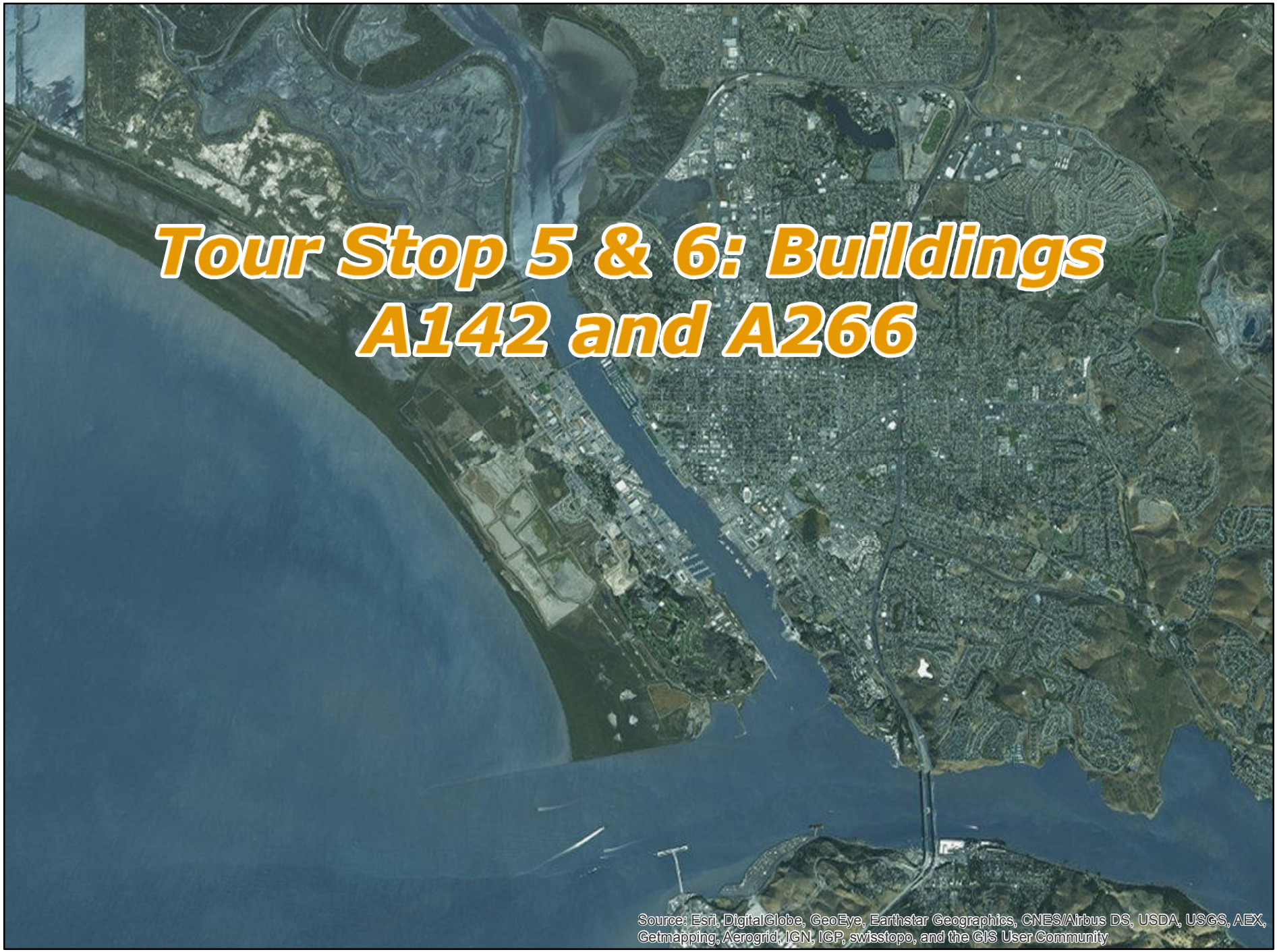
May2016

Record of Decision
Stipulates the Selected Remedial Action

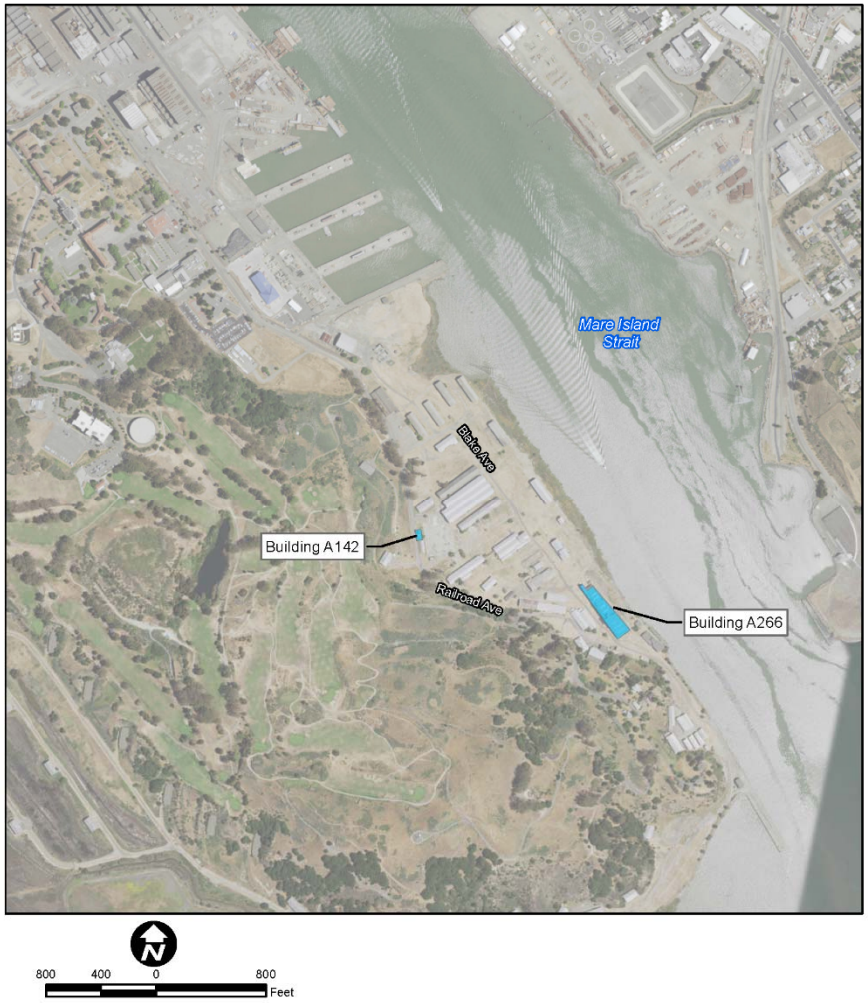
Sept 2016

Remedial Design/Remedial Action
Design and Implement the Remedy

Apr 2018


Tour Stop 5 & 6: Buildings
A142 and A266
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

PCB Site Cleanup Overview for Buildings A142 and A266



- Polychlorinated Biphenyls – Man made organic chemicals manufactured and used between 1930 – 1979
- Frequently used in industrial and commercial fluid insulation applications
- PCBs banned in 1979
- PCB Cleanup is performed under the Toxic Substances Control Act (TSCA) Self-Implementing Program
- TSCA regulated by EPA
- Cleanup level of less than or equal to 1 part per million (ppm)

Building A142 Background

- Former industrial shop and electrical distribution center (limited to north end of building)
  - Four PCB containing transformers (removed between 1983 and 1992)
  - Three dry-type transformers (removed in 2013)
  - Subsurface electrical vault
- Previous Investigations/Cleanups
  - 1997 through 2013 initial and subsequent investigation and remediation activity
  - Recent data gaps investigations at two Areas of Concern (AOCs)
- Focus of Current Cleanup:
  - AOC 1 northwest room of Building A142
  - AOC 2 subsurface vault

Building A142 Cleanup Activities

Cleanup Activity

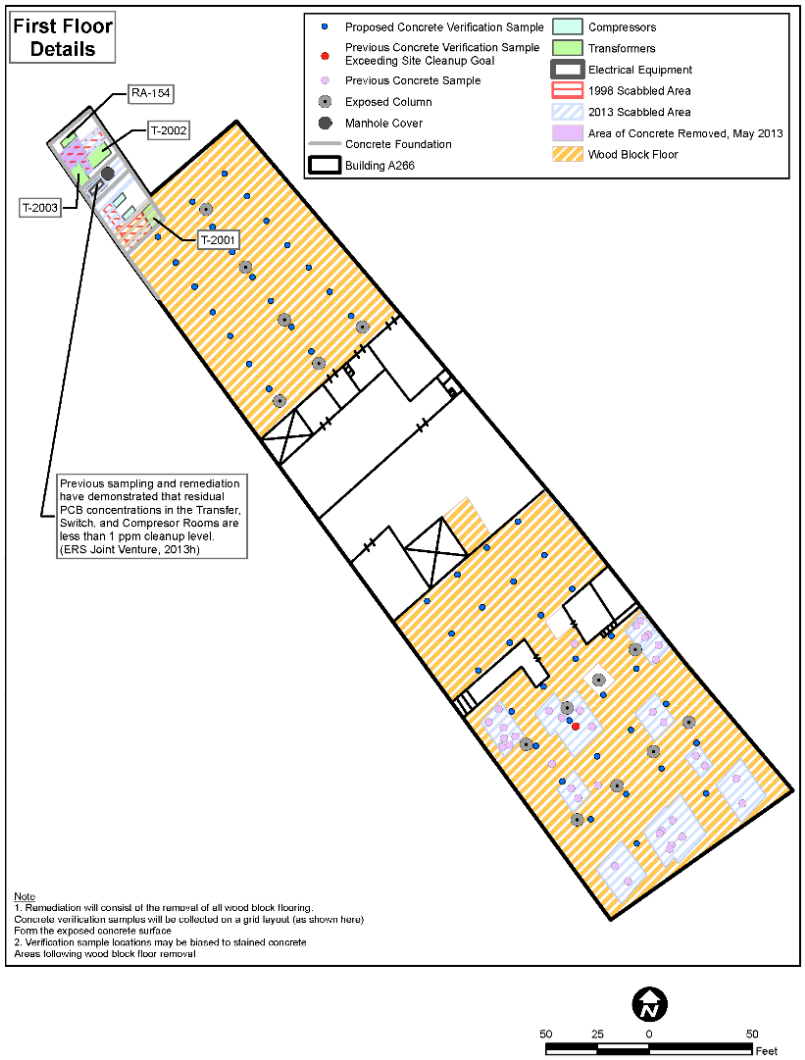
- AOC 1
  - Cleanup Performed (May – August 2015)
    - Remediation of 75 square feet (sf) of concrete (scabbled 0.5 inches)
    - Collected 12 post remediation concrete verification samples (all above 1 ppm, max of 7,900 ppm)
    - Removed entire concrete floor based on elevated results
    - Collected 12 soil verification samples (8 of 12 samples exceeded 1 ppm, max of 1,030 ppm)
  - Remaining Cleanup (December 2015 - January 2016)
    - Based on analytical results in soil, plan to collect up to 11 soil characterization samples to evaluate depth of PCBs in soil, then excavate and dispose of soil that exceeds cleanup level. Collect verification soil samples to verify cleanup level achieved.

- AOC 2
  - Additional Investigation Performed (May – August 2015)
    - Coordinated power outage and confined space entry to access vault and conduct work
    - Collected 4 concrete characterization samples from subsurface vault (all above 1 ppm, max of 222 ppm)
  - Investigation Complete
    - No additional remediation activities will be conducted in the vault. Remediation within vault not possible while utilities remain intact and in-use.
    - Institutional controls will be necessary for vault

Building A266 Background

- Two-story structure, former warehouse, industrial shop, and offices
  - Northeastern portion of 1st floor contains a transformer vault, switch room, and compressor room
- Previous Investigations/Cleanups
  - 1997 – 2007 initial and subsequent investigation and remediation activity; achieved cleanup level in the transformer vault, switch room, and compressor room
  - 2013 Five areas with visible oil-stained flooring on the 1st floor of the building were selected for collection of WBF samples and underlying concrete samples. All five exceeded cleanup level.
  - Based on these initial results, remediation (wood block floor removal and scabbling the underlying concrete) was performed at nine areas on the 1st floor of the building where there was visible oil-stained flooring. One area in the southern portion of the building still exceeded cleanup level.
- Focus of Current Cleanup:
  - Based on previous EPA and Navy experience with contaminated WBF in industrial buildings, extensive characterization would be required to leave any of the WBF in-place.
  - Navy decided to remove all WBF under the presumption that all remaining WBF contains PCBs greater than the cleanup level.
  - Conduct comprehensive characterization of concrete floor below WBF
  - Remediate known areas that exceed cleanup level

Building A266 Site Features



Building A266 Cleanup Activities

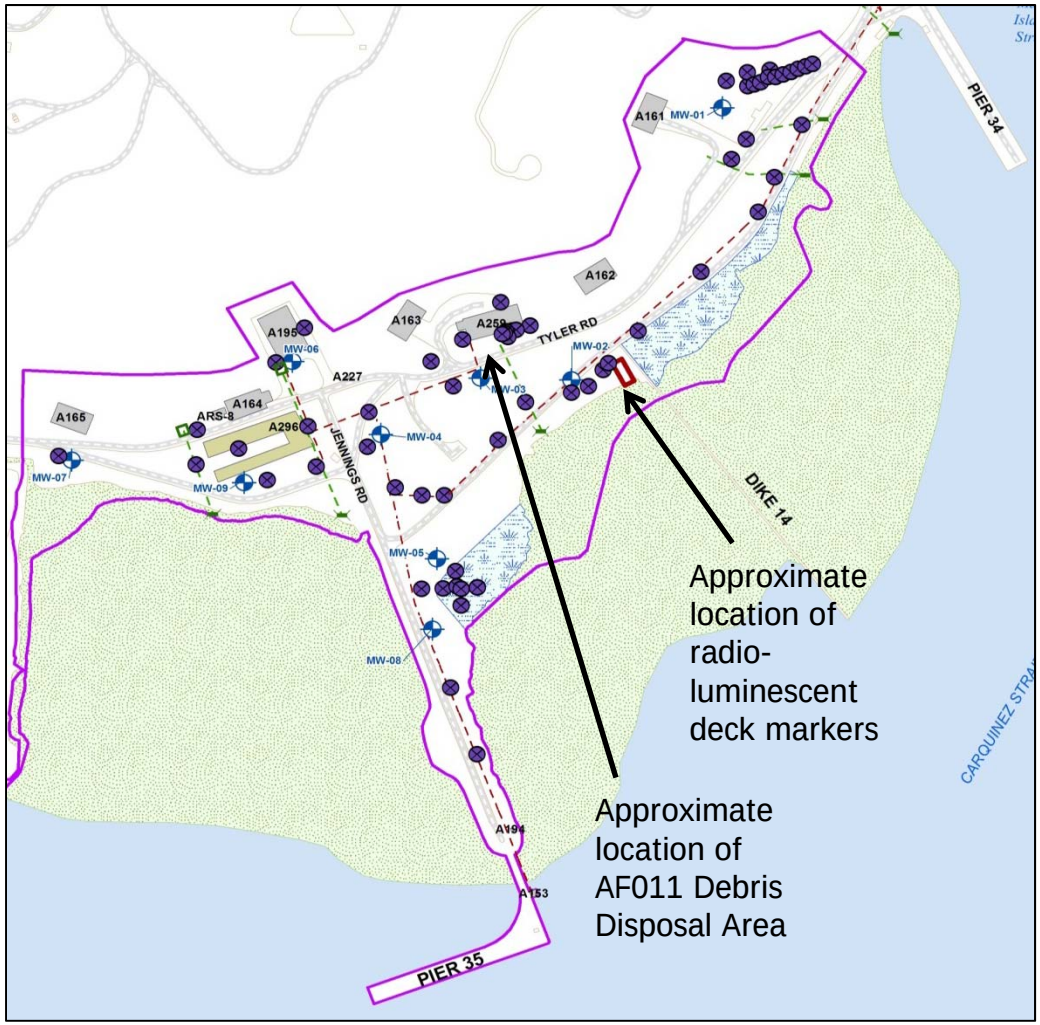
- Cleanup Activity (May-Sept, 2015)
  - Removed a total of 39,540 square feet of WBF from the 1st and 2nd floors.
  - Removed an additional 480 square feet of WBF from three administration rooms after overlying linoleum, ACM flooring, and carpet with plywood subfloor was removed.
  - Characterized and remediated concrete using stepwise process.
    - Collected concrete characterization samples at center of 400 square foot grids (total of 89 grids). Four of 89 samples exceeded 1 ppm, max of 24.6 ppm.
    - Remediated the four grids that exceeded cleanup level; approximately 1,600 square feet of concrete scabbled to 0.5-inch depth.
    - Collected verification samples at center of 25 square foot grids (total of 99 grids). Six of 99 verification samples exceeded 1 ppm, max of 48.7 ppm.
- Remaining Cleanup (January 2016)
  - Remove 16 square feet of WBF from beneath the air compressor reservoir tank.
    - Samples of the WBF beneath the tank were collected for characterization to avoid removal; however, results were inconclusive.
    - WBF beneath the tank is presumed to contain PCBs and will be removed when the tank is temporarily shifted and returned to its original position.
  - Remediate the six grids that exceeded cleanup level and collect verification samples.

Tour Stop 7: South Shore Area (SSA)
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

South Shore Area (SSA)

- **Former Usage:**
  - Staging and loading/unloading of munitions from ships from as early as 1857 to 1975
  - General storage and ammunitions container refurbishment 1975 to 1996
- **Ongoing projects include:**
  - SSA Installation Restoration Program - Remedial Investigation
    - Data Reporting Phase
  - SSA Munitions Response Program - Shoreline Investigation and Stabilization
    - Planning Phase

SSA Remedial Investigation



- **Soil Sampling**
  - **60+ locations**
- **Groundwater Sampling**
  - **9 wells**
- **Geophysical Delineation of Debris Pit Near Building A259**
- **Radiological Clearance in Area Where 2 Radiological Deck Markers Found**

Munitions in the SSA Shoreline

Transition Upland to Mudflats

Potential Outfall Mass

Shoreline Erosion

Munitions In Concrete

SSA Investigation and Stabilization

- **Objectives:**
  - Remove Any Remaining Munitions-related items from Shoreline
  - Install Shoreline Stabilization
- **Status:**
  - Planning Documents/Design (Spring/Summer 2016)
  - Fieldwork (Late Summer/Fall 2016)
    - » Remove Munitions from Shoreline
    - » Install Shoreline Stabilization
    - » Test Shoreline Stabilization

Transition - Remove Visible Munitions Inward up to 10 ft

Mudflats -Remove Metallic Anomalies to 2ft bgs

MARE ISLAND RAB SITE TOUR EVALUATION

December 2, 2015

Name: (Optional) _____

1. Did the site tour meet your expectations? Yes Somewhat No

Comments:

2. Was the site tour itinerary followed to your satisfaction? Yes Somewhat No

Comments:

3. Were discussions focused and productive? Yes Somewhat No

Comments:

4. Were the site tour stop presentations informative? Yes Somewhat No

Comments:

5. What did you like the most about the site tour?

6. What are your suggestions to improve the site tour?

7. Any other comments you would like to add?

Thank you for your participation today!
Please hand in the evaluations at the end of the tour.