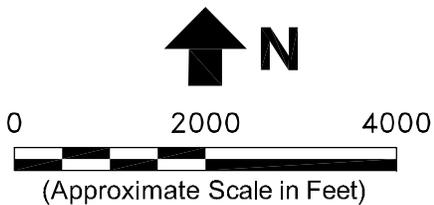


Reference: U.S.G.S. 7.5 Minute Series Topographic Map, Mountain View, California, 1991.

Note:

1. All locations are approximate.



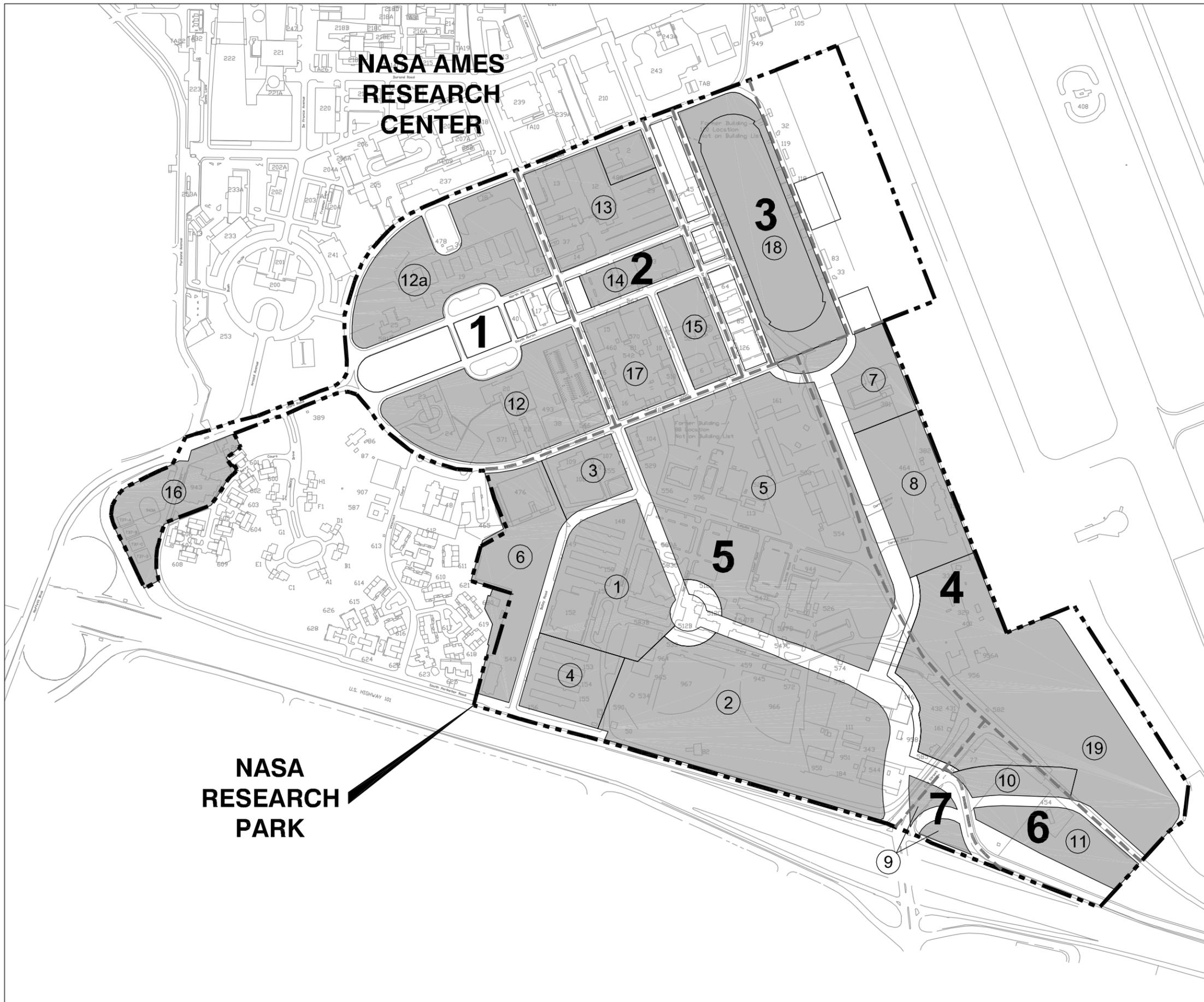
Erler & Kalinowski, Inc.

Site Location

NASA Research Park
Moffett Field, CA

March 2005
EKI A20044.00

Figure 1



**NASA AMES
RESEARCH
CENTER**

**NASA
RESEARCH
PARK**



Legend:

-  NASA Research Park Boundary
-  Land Use Parcel
-  Environmental Baseline Survey Study Area (Number and Boundary Shown)

LAND USE PARCEL

- | | |
|----------------------|-----------------------------|
| 1 Lab Project | 11 Partner Shared |
| 2 Lab Project | 12 Carnegie Mellon |
| 3 University Reserve | 13 Historic District Infill |
| 4 Partner Parcel | 14 Historic District Infill |
| 5 University Reserve | 15 Historic District Infill |
| 6 University Reserve | 16 Partner Parcel |
| 7 Computer Museum | 17 Historic Dist Reno |
| 8 Partner Parcel | 18 C. Air & Space Center |
| 9 Gateway Parcel | 19 Burrowing Owl Preserve |
| 10 Partner Shared | |

Notes:

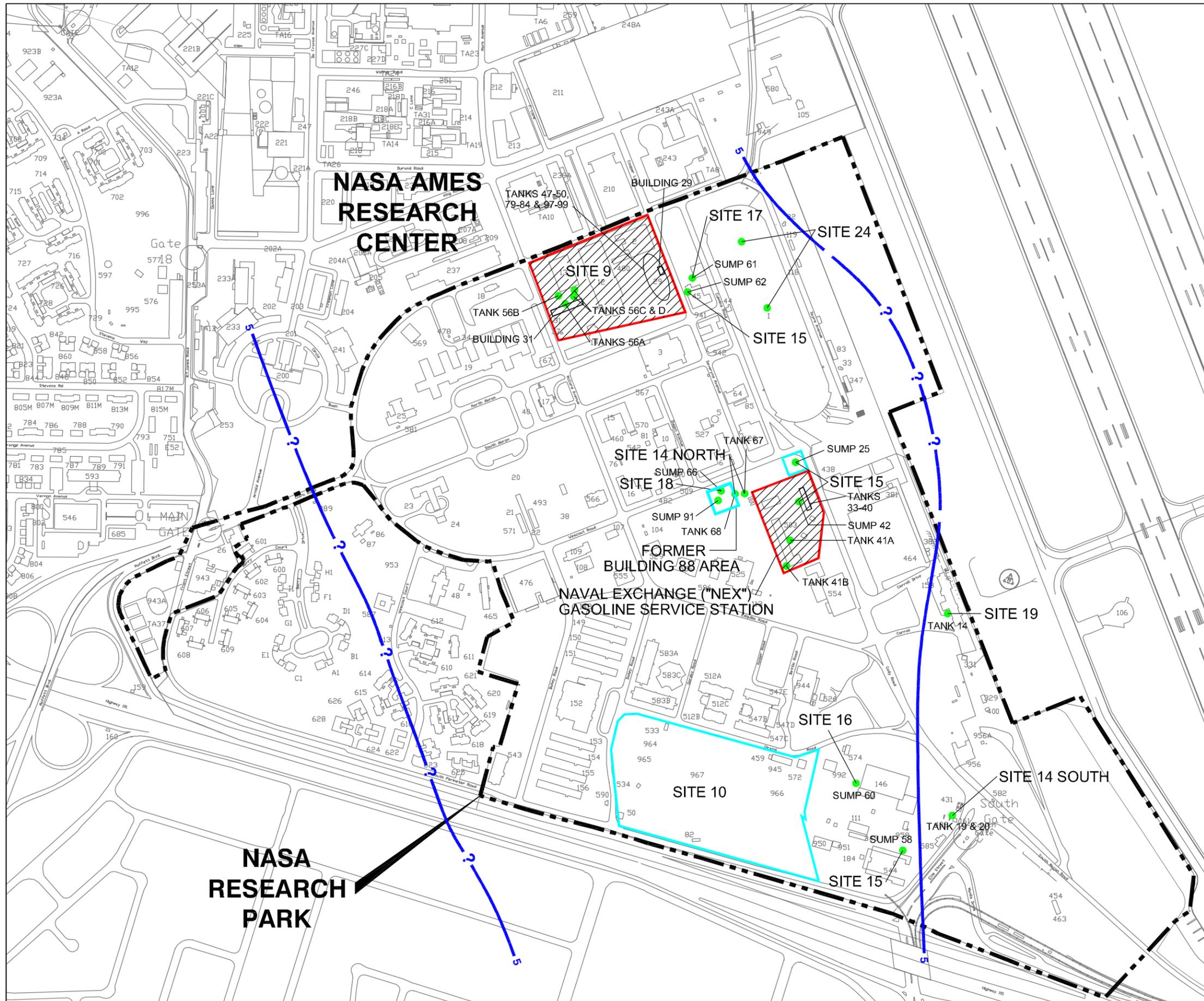
1. All locations are approximate.
2. NRP Land Use Map provided by NASA, DXD-DMJM.
3. EBS Location Map provided by HLA, January 2001.

**Erler &
Kalinowski, Inc.**

Planned Land Use and Environmental
Baseline Survey Study Areas

NASA Research Park Parcels
Moffet Field, CA
March 2005
EKI A20044.00

Figure 2



Legend:

- OU2 - West Sites
- Petroleum Sites
- NASA Research Park Boundary
- 5 5 ug/L Isoconcentration Contour for TCE in Shallow Groundwater (See Figure 4)
- Tank or Sump
- TCE Trichloroethene
- ug/L Micrograms Per Liter

Notes:

1. All locations are approximate.
2. Basemap source: Well Sample Location Map by Mactec, dated May 2003.
3. Data source: Appendix C in Revised Human Health Risk Assessment, NASA Research Park, Moffett Field, California, prepared by Mactec, Inc., July 28, 2003.
4. Adapted from Harding Lawson Associates Environmental Baseline Survey.

Erlar & Kalinowski, Inc.

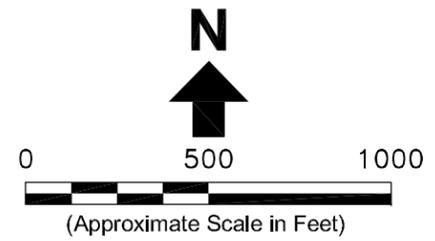
Installation Restoration Program
Site Locations

NASA Research Park
Moffett Field, CA
March 2005
EKI A20044.00

Figure 3

NASA AMES RESEARCH CENTER

NASA RESEARCH PARK



Legend:

- ◆ Sample Location
- ⊕ Monitoring Well Location
- NASA Research Park Boundary
- (590) Maximum Trichloroethene Concentrations Detected in Groundwater During February 1996 Through May 2001 (ug/L)
- 100 — TCE Concentration in Groundwater (ug/L)
- (NA) Not Analyzed
- TCE Trichloroethene
- ug/L Micrograms Per Liter

WIC-1 (3600)	WW-6 (30)
WIC-3 (2900)	WW-7A (1800)
WIC-5 (680)	WW-8A (27)
WIC-6 (1100)	WW-9A (1)
WIC-7 (1400)	WW-10A (11)
WIC-8 (1600)	WW-10C (25)
WIC-9 (830)	WW-10D (20)
WIC-10 (190)	WW-11 (1200)
WIC-11 (420)	WW-12 (3400)
WIC-12 (4000)	WW-13A (2)
WW-1A (2)	WW-14 (1)
WW-2 (2000)	WW-15 (30)
WW-3 (11)	WW-16A (1100)
WW-4A (<0.5)	WW-17A (4)
WW-5 (0.5)	WW-18A (10)

Notes:

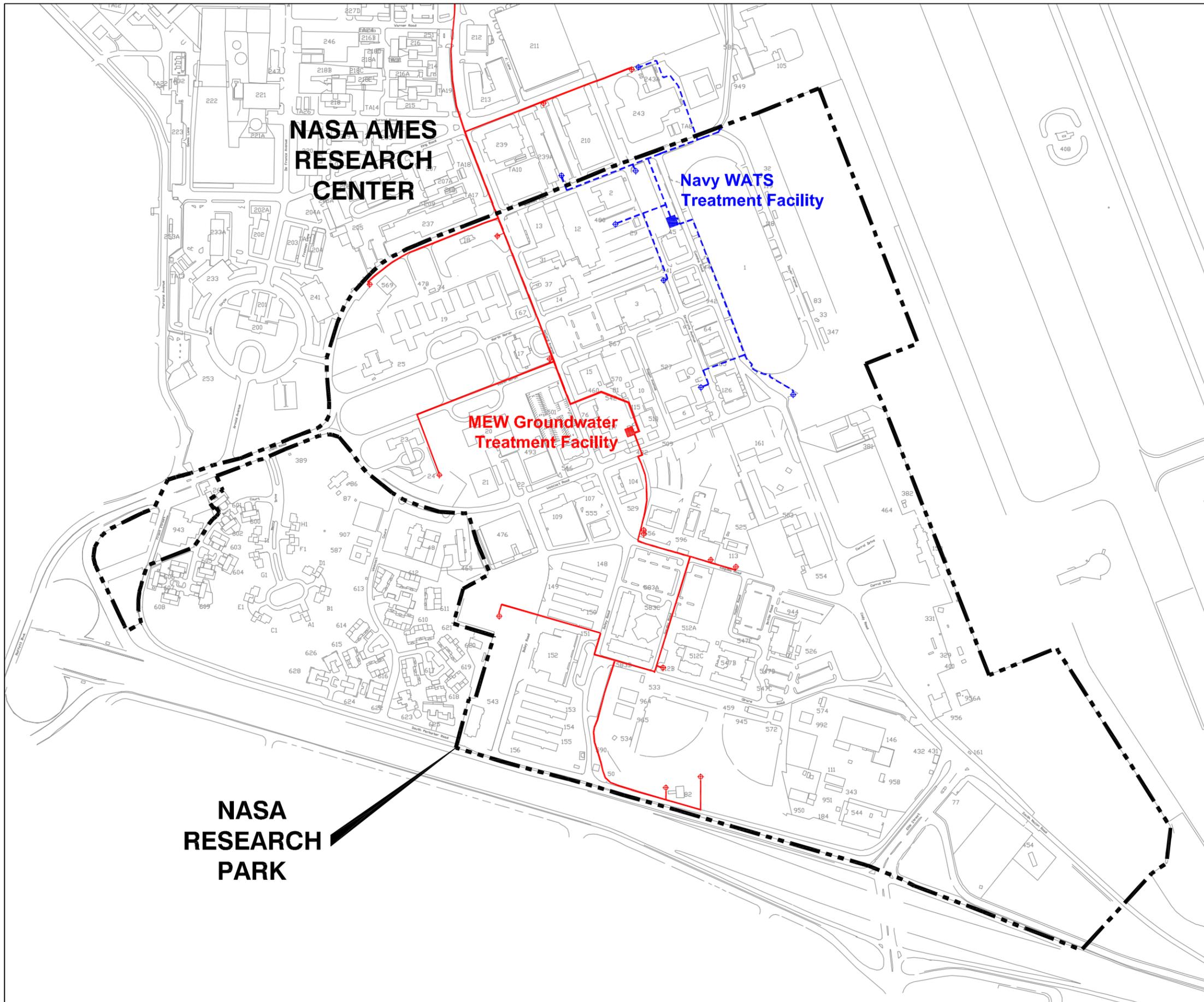
1. All locations are approximate.
2. Basemap source: Well Sample Location Map by Mactec, dated May 2003.
3. Data source: Appendix C in Revised Human Health Risk Assessment, NASA Research Park, Moffett Field, California, prepared by Mactec, Inc., 28 July 2003.
4. The locations of the TCE concentration contours are approximate and reflect the preponderance of the data. Note that selected analytical results were not honored in contouring.

Erlar & Kalinowski, Inc.

Trichloroethene Concentrations
Detected in Groundwater (ug/L)

NASA Research Park Parcels
Moffett Field, CA
March 2005
EKI A20044.00

Figure 4

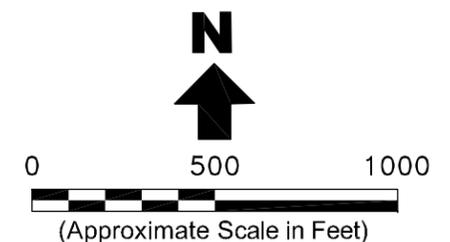


**NASA AMES
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CENTER**

**Navy WATS
Treatment Facility**

**MEW Groundwater
Treatment Facility**

**NASA
RESEARCH
PARK**



Legend:

- MEW Groundwater Extraction and Treatment Facility
- - - Navy WATS Groundwater Extraction and Treatment Facility
- NASA Research Park Boundary

Notes:

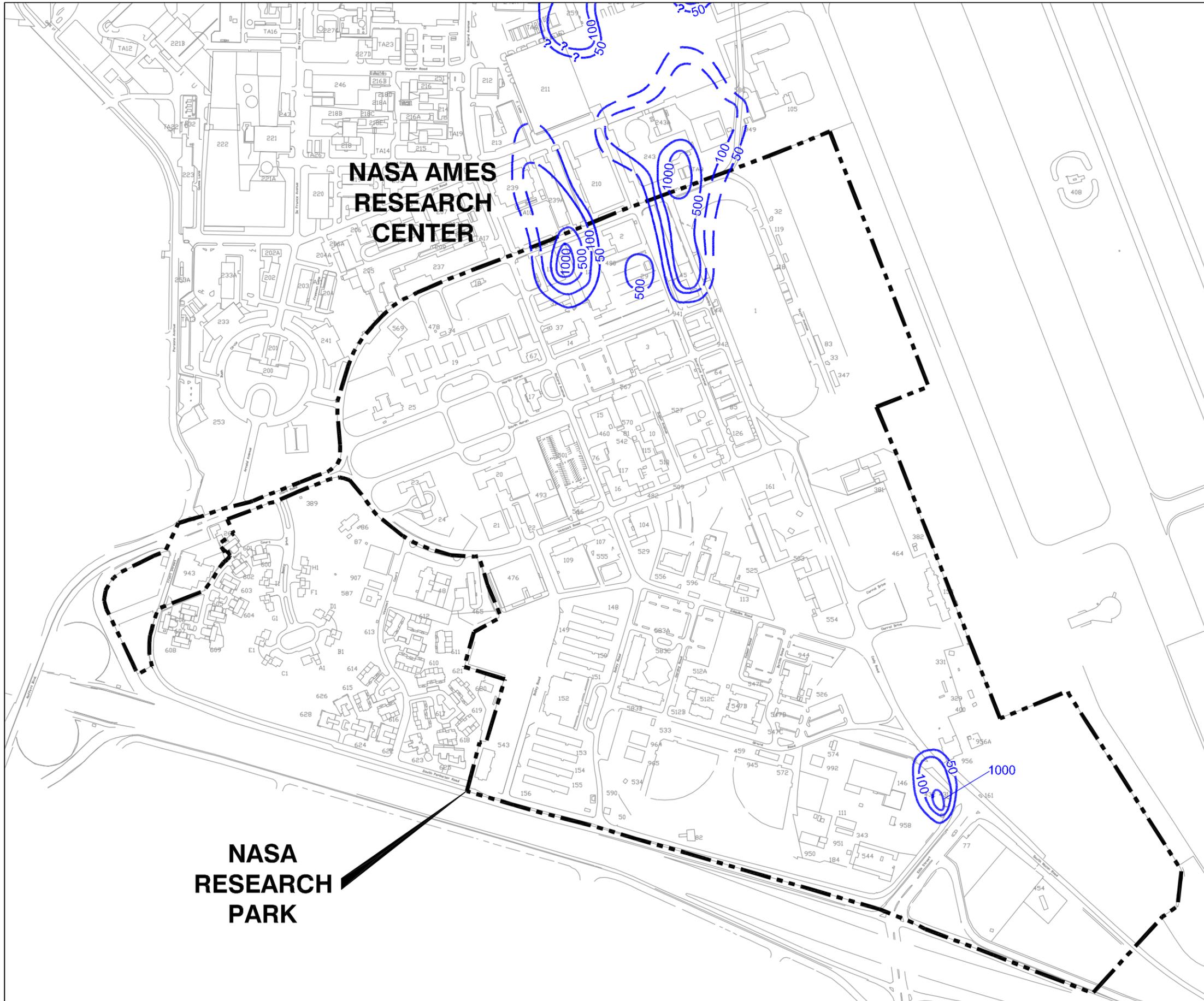
1. All locations are approximate.
2. Basemap source: NASA Ames Research Center.

**Erler &
Kalinowski, Inc.**

Regional Groundwater Remediation
Program Treatment System Layout

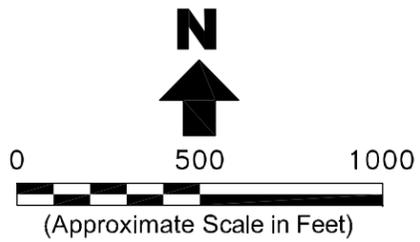
NASA Research Park
Moffett Field, CA
March 2005
EKI A20044.00

Figure 5



**NASA AMES
RESEARCH
CENTER**

**NASA
RESEARCH
PARK**



- Legend:**
- NASA Research Park Boundary
 - 100 TPHg Concentration in Groundwater (ug/L)
 - TPHg Total Petroleum Hydrocarbons as Gasoline
 - ug/L Micrograms Per Liter

- Notes:**
1. All locations are approximate.
 2. Basemap source: Well Sample Location Map by Mactec, dated May 2003.
 3. TPHg contours provided by NASA, 2003.

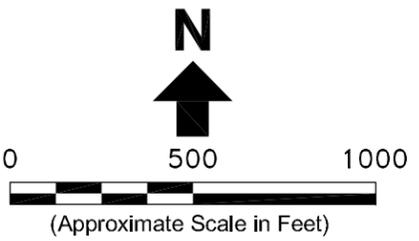
**Erler &
Kalinowski, Inc.**

TPH as Gasoline in Groundwater (ug/L),
Approximate Concentration Contours

NASA Research Park
Moffett Field, CA
March 2005
EKI A20044.00

Figure 6

NASA AMES RESEARCH CENTER



Legend:

- ◆ Sample Location
- ⊕ Monitoring Well Location
- NASA Research Park Boundary
- (35) Maximum Benzene Concentration Detected in Groundwater During February 1996 Through May 2001 (ug/L)
- 100 Benzene Concentration in Groundwater (ug/L)
- (NA) Not Analyzed
- ug/L Micrograms Per Liter

WIC-1	(3)	WW-6	(<0.5)
WIC-3	(<0.5)	WW-7A	(0.4)
WIC-5	(1)	WW-8A	(0.6)
WIC-6	(<0.5)	WW-9A	(<0.5)
WIC-7	(<0.5)	WW-10A	(<0.5)
WIC-8	(<0.5)	WW-10C	(<0.5)
WIC-9	(0.2)	WW-10D	(<0.5)
WIC-10	(<0.5)	WW-11	(<1)
WIC-11	(<0.5)	WW-12	(0.3)
WIC-12	(<2)	WW-13A	(<0.5)
WW-1A	(<0.5)	WW-14	(<0.5)
WW-2	(<1)	WW-15	(<0.5)
WW-3	(<0.5)	WW-16A	(<0.5)
WW-4A	(0.3)	WW-17A	(<0.5)
WW-5	(<0.5)	WW-18A	(<0.5)

Notes:

1. All locations are approximate.
2. Basemap source: Well Sample Location Map by Mactec, dated May 2003.
3. Data source: Appendix C in Revised Human Health Risk Assessment, NASA Research Park, Moffett Field, California, prepared by Mactec, Inc., July 28, 2003.

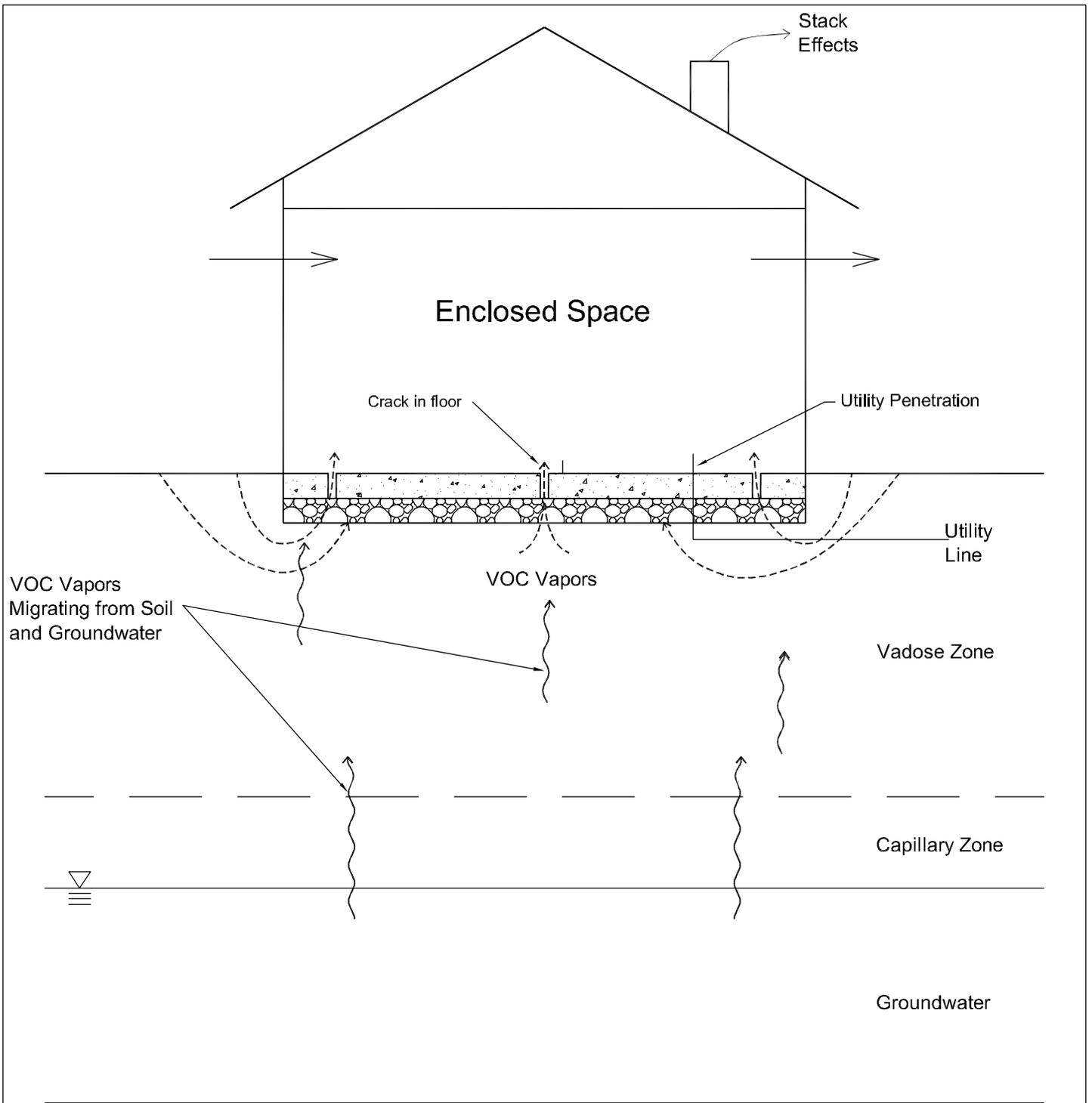
NASA RESEARCH PARK

Erler & Kalinowski, Inc.

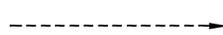
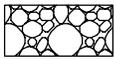
Benzene Concentrations Detected in Groundwater (ug/L)

NASA Research Park Parcels
Moffett Field, CA
March 2005
EKI A20044.00

Figure 7



Legend

-  VOC Vapor Migrating from Soil or Groundwater
-  Air Streamline
-  Concrete Floor
-  Baserock Beneath Floor

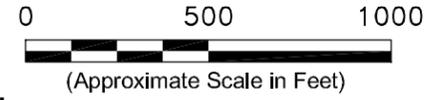
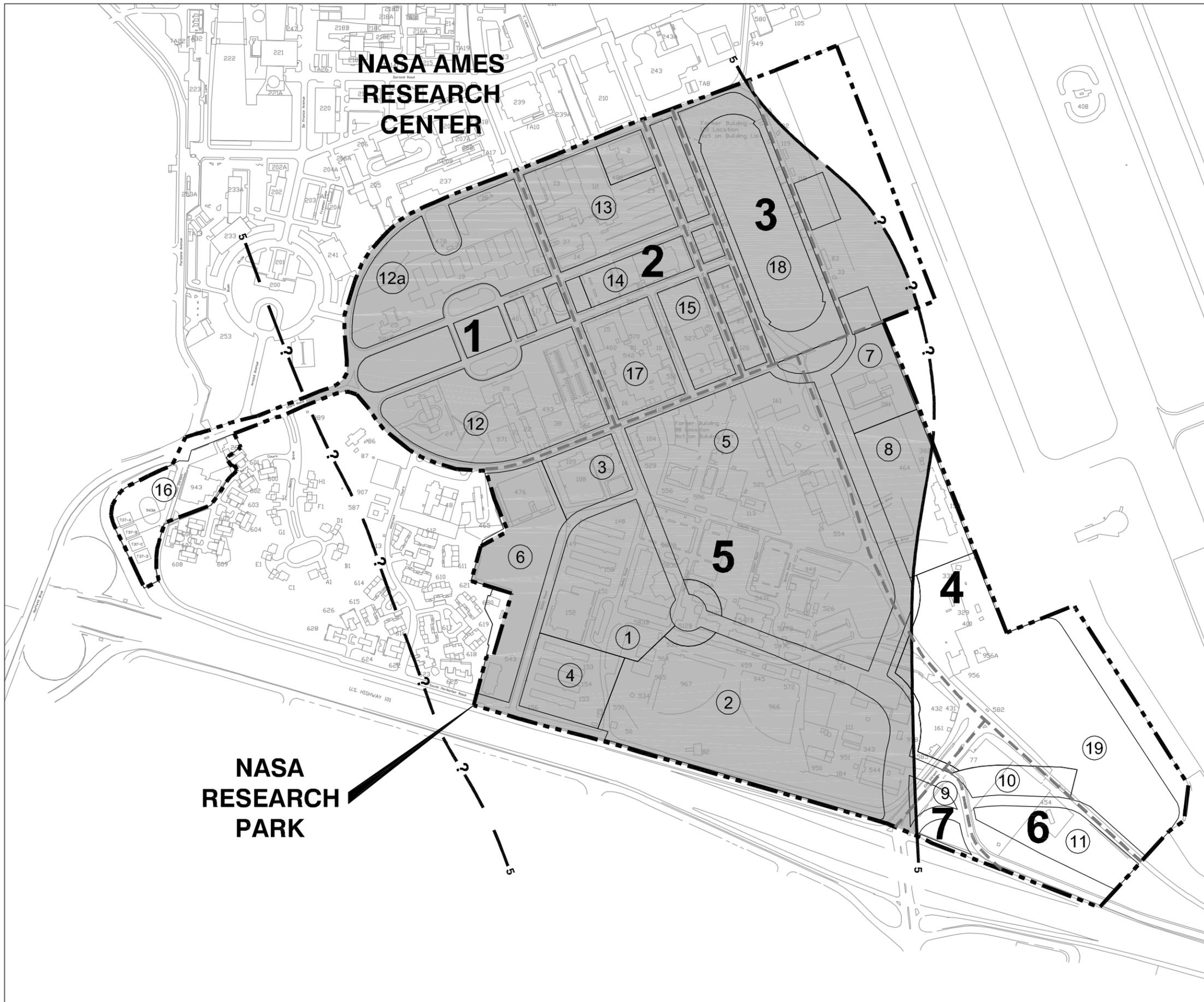
Erler & Kalinowski, Inc.

Generalized Vapor Intrusion Process

NASA Research Park
Moffett Field, California

March 2005
EKI A20044.00

Figure 8



Legend:

- NASA Research Park Boundary
- TCE Concentration in Groundwater (ug/L)
(See Figure 4)
- Vapor Intrusion Mitigation Area (Note 4)
- TCE Trichloroethene
- ug/L Micrograms Per Liter
- Land Use Parcel Number
- Environmental Baseline Survey Study Area Number

LAND USE PARCEL

- | | |
|----------------------|-----------------------------|
| 1 Lab Project | 11 Partner Shared |
| 2 Lab Project | 12 Carnegie Mellon |
| 3 University Reserve | 13 Historic District Infill |
| 4 Partner Parcel | 14 Historic District Infill |
| 5 University Reserve | 15 Historic District Infill |
| 6 University Reserve | 16 Partner Parcel |
| 7 Computer Museum | 17 Historic Dist Reno |
| 8 Partner Parcel | 18 C. Air & Space Center |
| 9 Gateway Parcel | 19 Burrowing Owl Preserve |
| 10 Partner Shared | |

Notes:

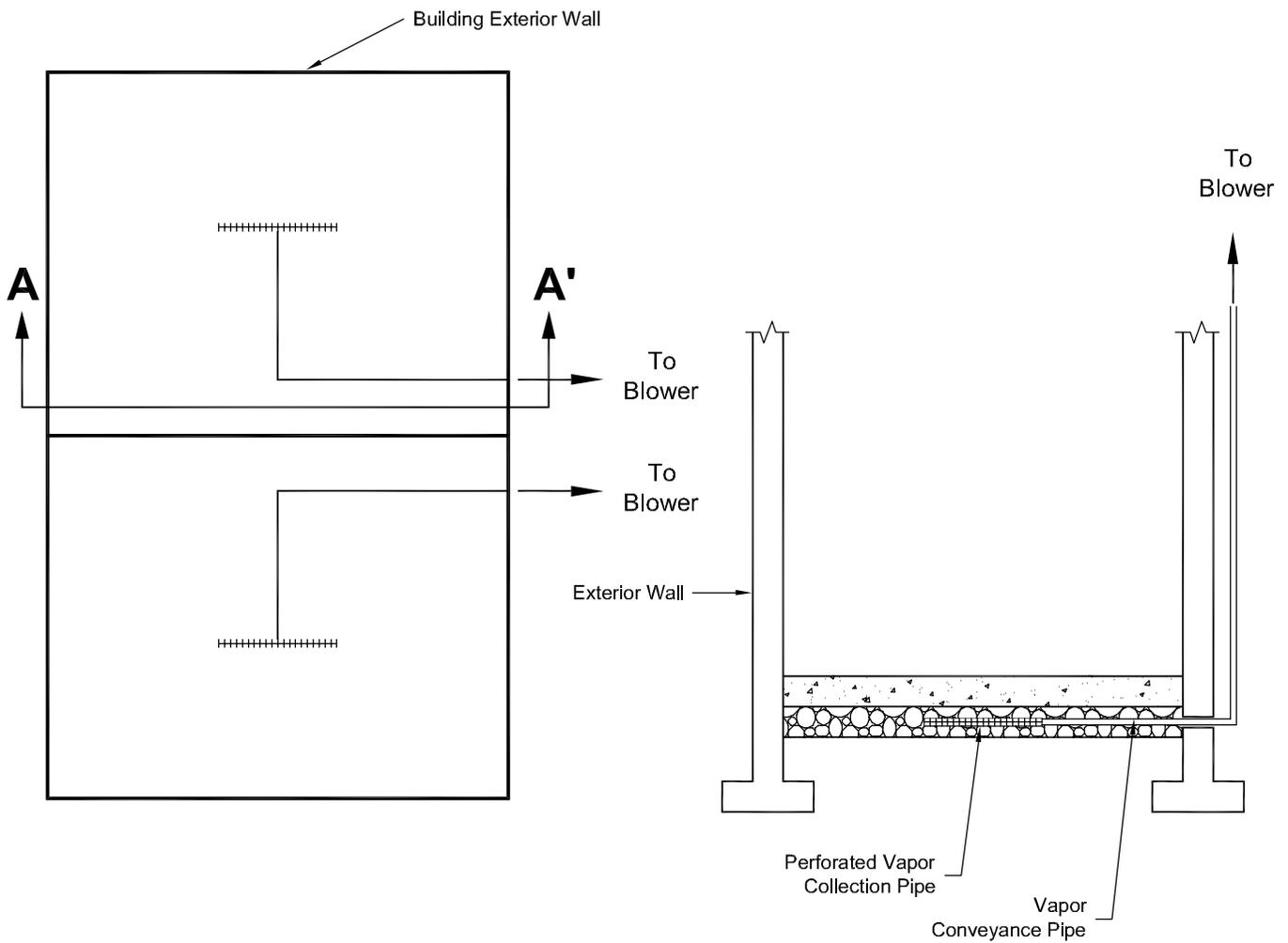
1. All locations are approximate.
2. NRP Land Use Map provided by NASA, DXD-DMJM.
3. EBS Location Map provided by HLA, January 2001.
4. As discussed in the text, vapor intrusion mitigation is generally required where TCE concentrations in groundwater exceed 5 ug/L. The shaded "vapor intrusion mitigation area" shows where concentrations may exceed 5 ug/L, based on available data.

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Vapor Intrusion Mitigation Area

NASA Research Park Parcels
Moffet Field, CA
March 2005
EKI A20044.00

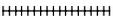
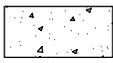
Figure 9



Plan View
(Not to Scale)

Section A-A'
(Not to Scale)

Legend

- 
Perforated Vapor Collection Pipe
- 
Continuous Perimeter or Interior Footing
- 
Vapor Conveyance Pipe
- 
Concrete Floor
- 
Baserock Beneath Floor

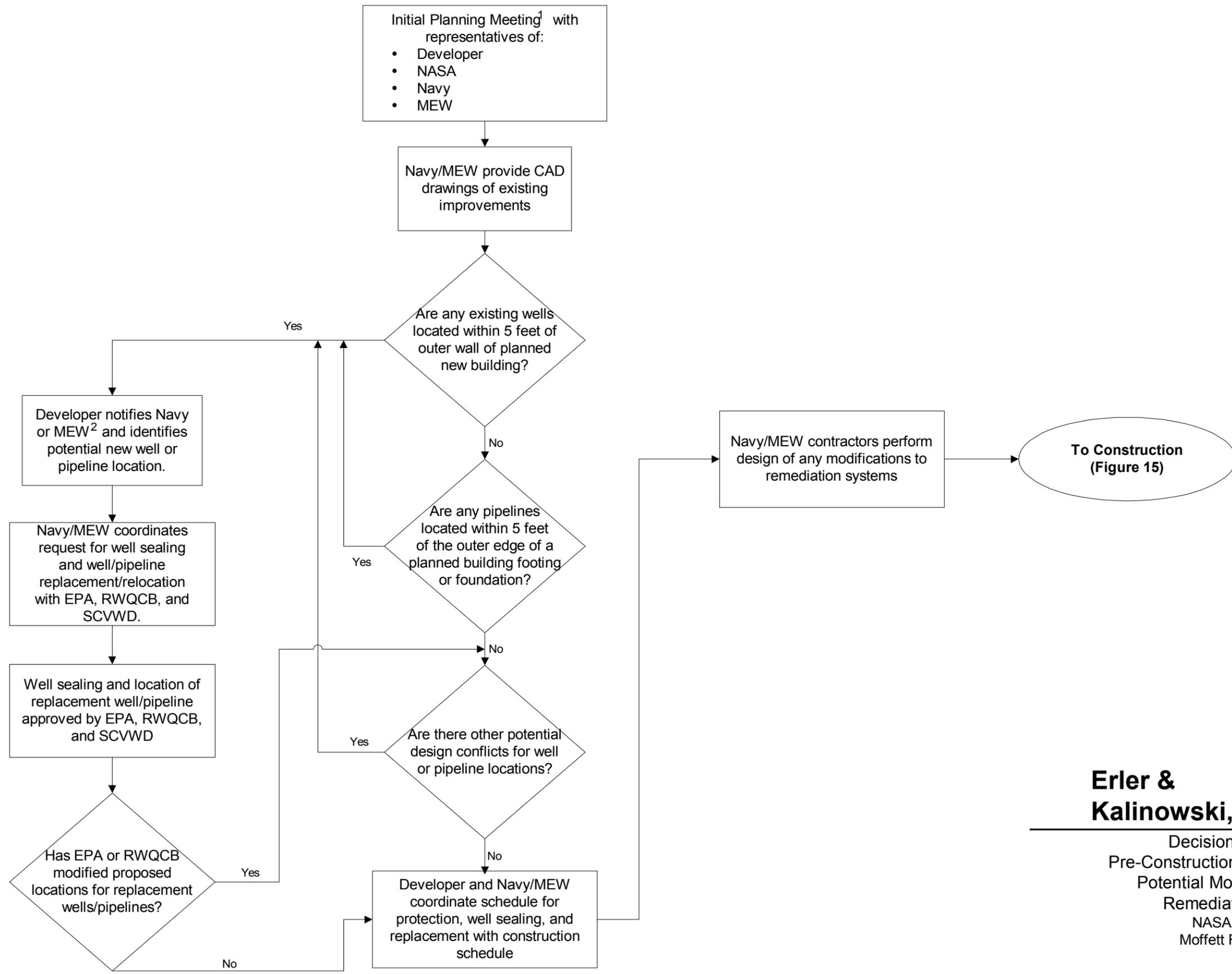
Erler & Kalinowski, Inc.

**Generalized Layout of Sub-Slab
Depressurization System**

NASA Research Park
Moffett Field, California

March 2005
EKI A20044.00

Figure 10



Abbreviations:
 MEW: MEW Companies
 EPA: U.S. Environmental Protection Agency
 SCVWD: Santa Clara Valley Water District
 RWQCB: Regional Water Quality Control Board

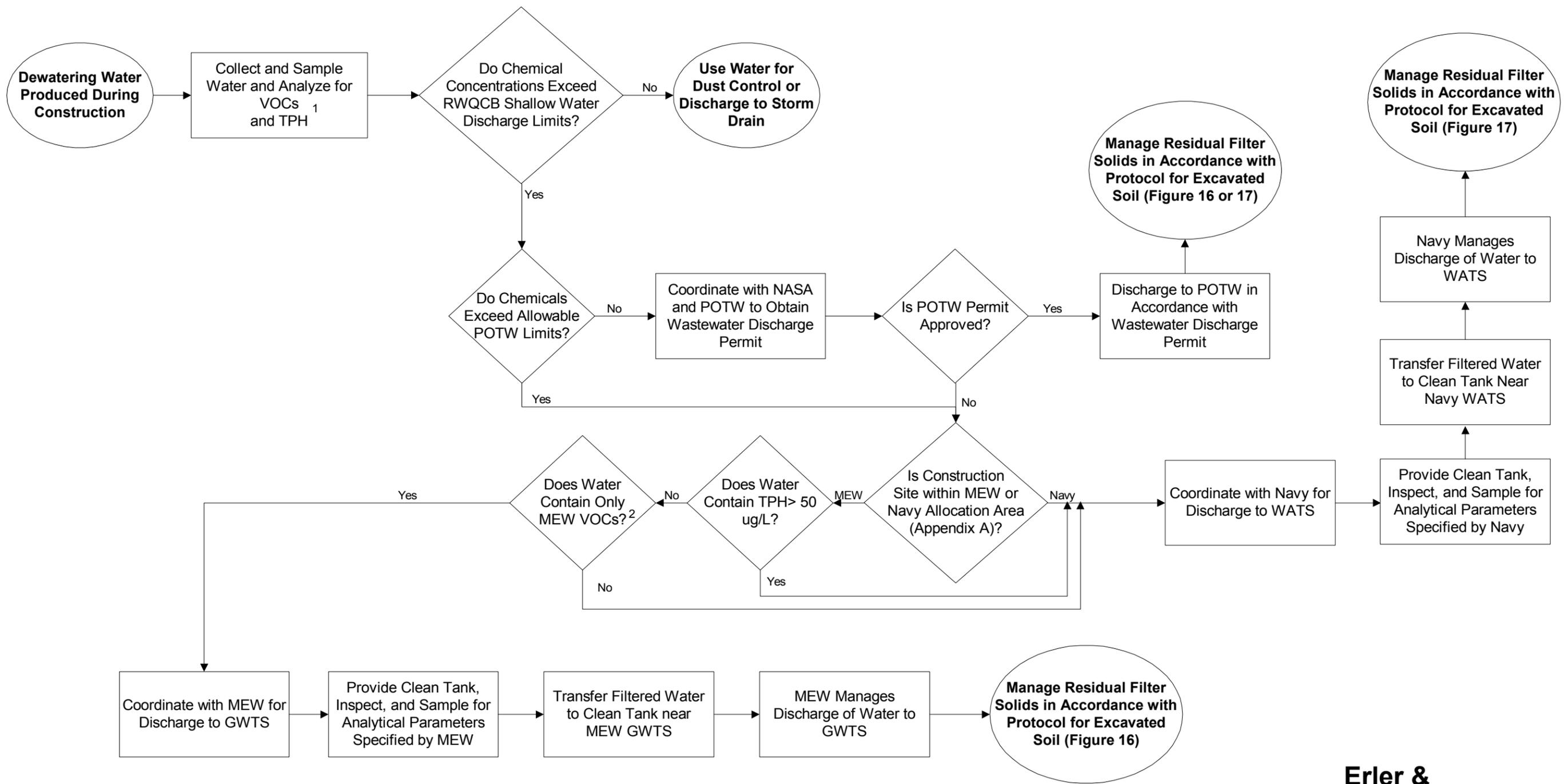
Notes:
 1. Developer provides construction plans and schedule updates throughout project implementation; MEW/Navy are notified of and invited to scheduled construction meetings that relate to construction plans/schedules.

2. Notification is made to owner of specific system component in question.

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Decision Diagram for
 Pre-Construction Planning of
 Potential Modifications to
 Remediation Systems
 NASA Research Park
 Moffett Field, California
 March 2005
 EKI A20044.00

Figure 11



Abbreviations:

VOCs Volatile Organic Compounds
 TPH Total Petroleum Hydrocarbons
 POTW Publicly Owned Treatment Works
 RWQCB Regional Water Quality Control Board
 MEW MEW Companies
 GWTS MEW Companies Groundwater Treatment System
 WATS Navy's West Side Aquifer Treatment System

Notes:

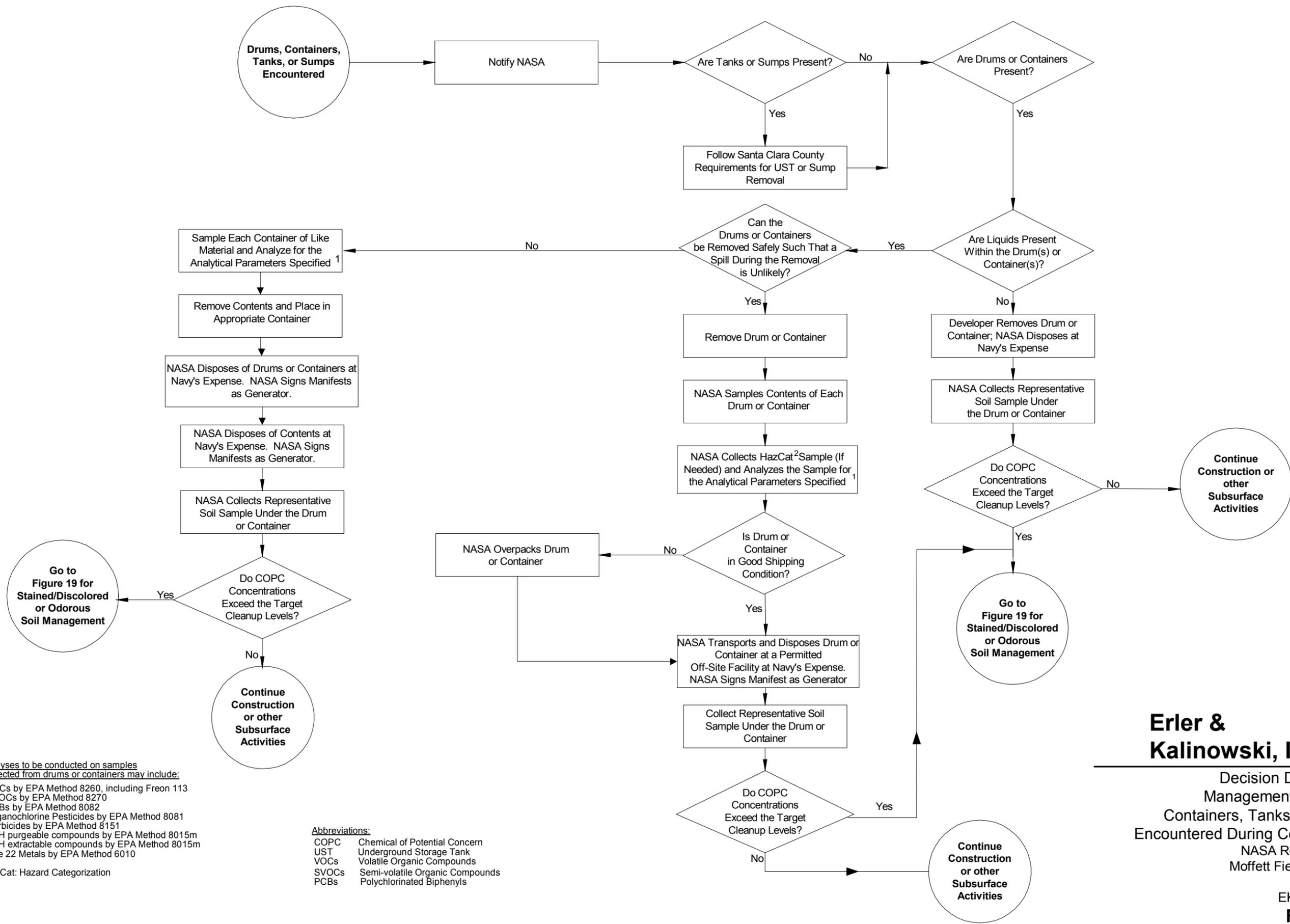
- Analyses to be conducted on water samples:
 VOCs by EPA Method 8260
 TPH by EPA Method 8015m
- MEW VOCs include: chloroform; 1,2-dichlorobenzene; 1,1-dichloroethane; 1,2-dichloroethane; 1,1-dichloroethene; cis-1,2-dichloroethene; trans-1,2-dichloroethene; Freon 113 (trichlorotrifluoromethane); tetrachloroethene; 1,1,1-trichloroethane; trichloroethene; and vinyl chloride.

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Decision Diagram For Management of Dewatering Water

NASA Research Park
 Moffett Field, California
 March 2005
 EKI A20044.00

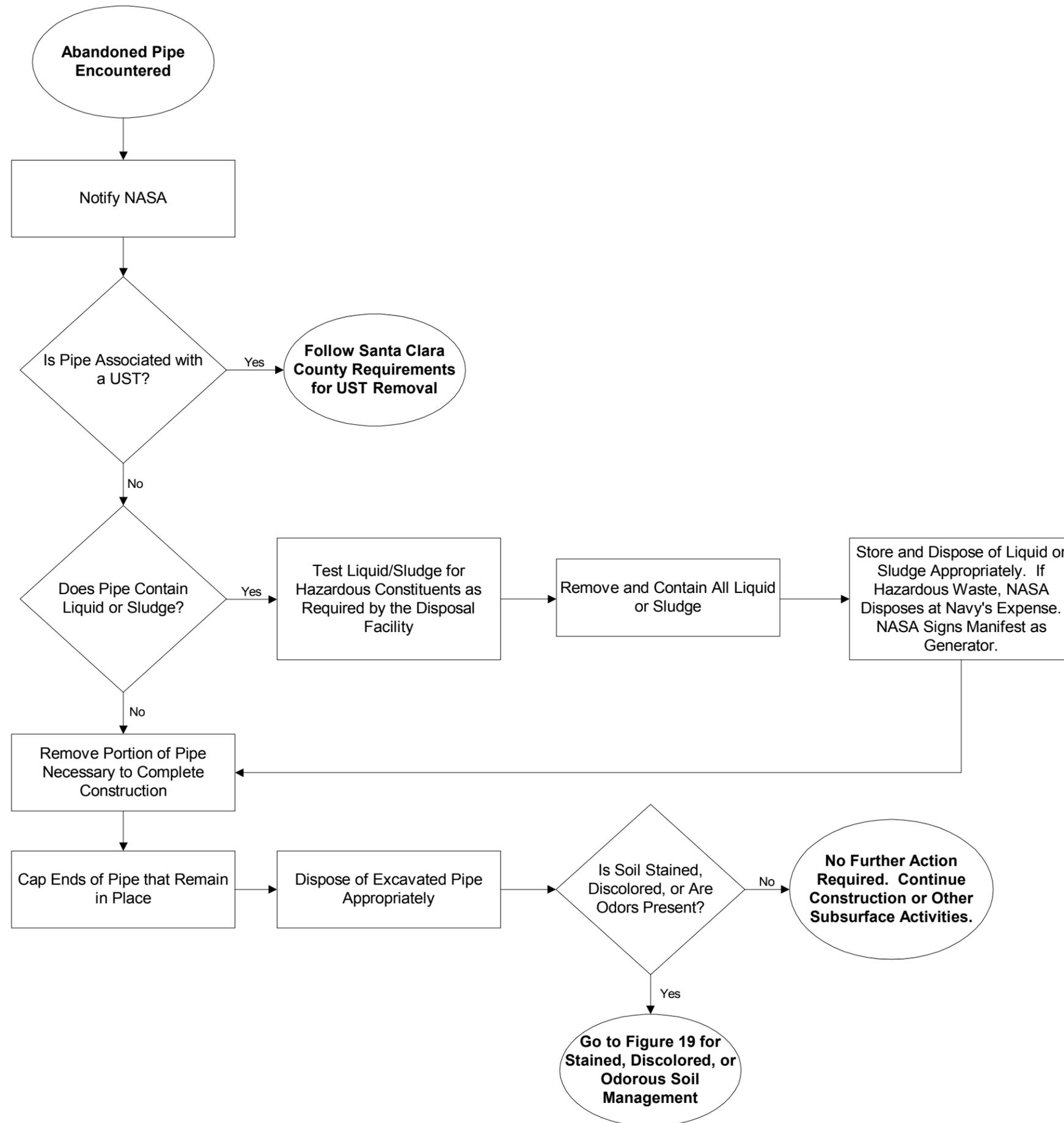
Figure 12



Notes:
 1. Analyses to be conducted on samples collected from drums or containers may include:
 VOCs by EPA Method 8260, including Freon 113
 SVOCs by EPA Method 8270
 PCBs by EPA Method 8082
 Organochlorine Pesticides by EPA Method 8081
 Herbicides by EPA Method 8151
 TPH purgeable compounds by EPA Method 8015m
 TPH extractable compounds by EPA Method 8015m
 Title 22 Metals by EPA Method 6010

2. HazCat: Hazard Categorization

Abbreviations:
 COPC Chemical of Potential Concern
 UST Underground Storage Tank
 VOCs Volatile Organic Compounds
 SVOCs Semi-volatile Organic Compounds
 PCBs Polychlorinated Biphenyls



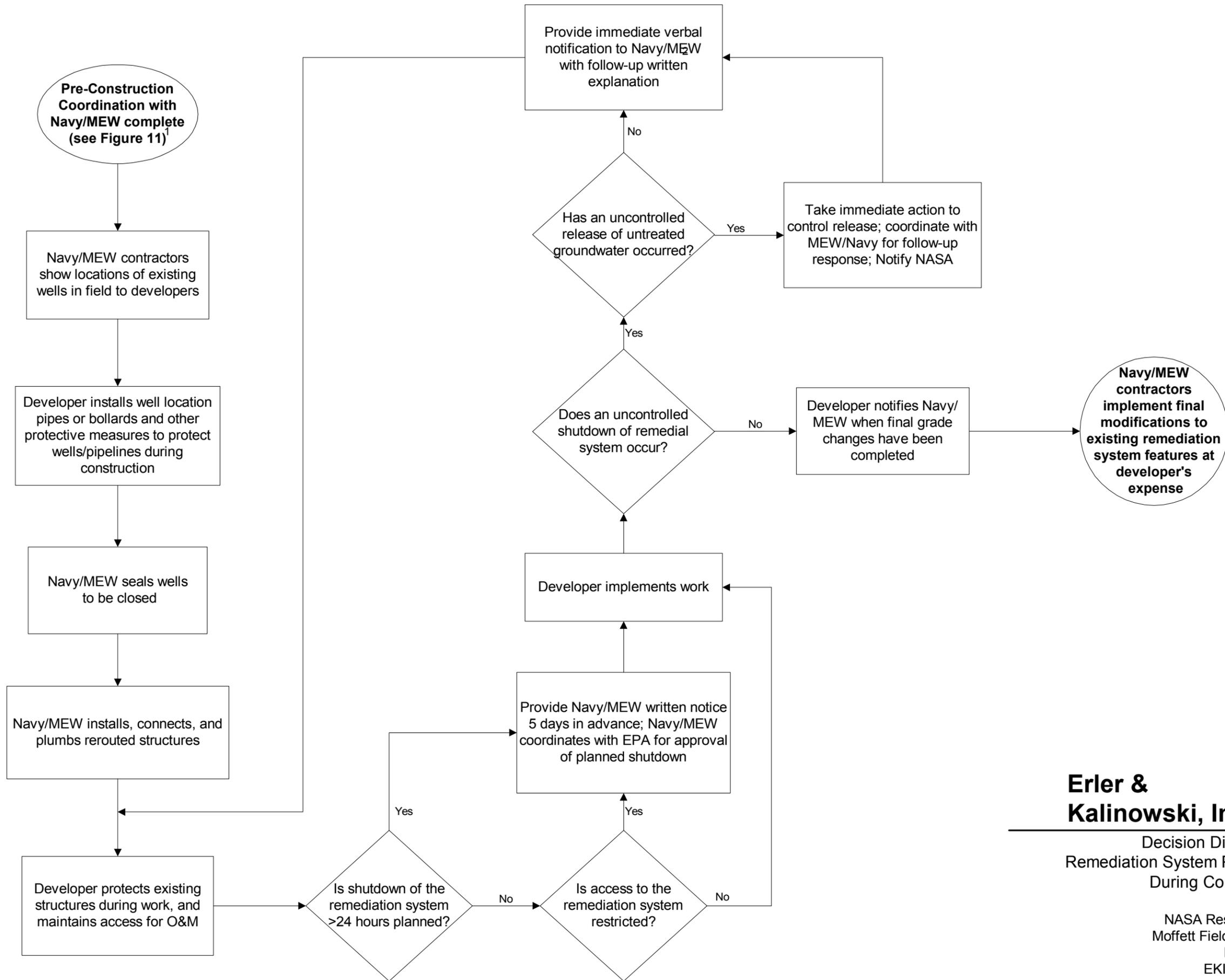
Abbreviations:
 UST Underground Storage Tank

**Erler &
 Kalinowski, Inc.**

Decision Diagram for
 Abandoned Pipe Management
 During Construction

NASA Research Park
 Moffett Field, California
 March 2005
 EKI A20044.00

Figure 14



Abbreviations:
MEW: MEW Companies

Notes:
1. Developer provides construction plans and schedule updates throughout project implementation; MEW/Navy are notified of and invited to scheduled construction meetings that relate to construction plans/schedules.

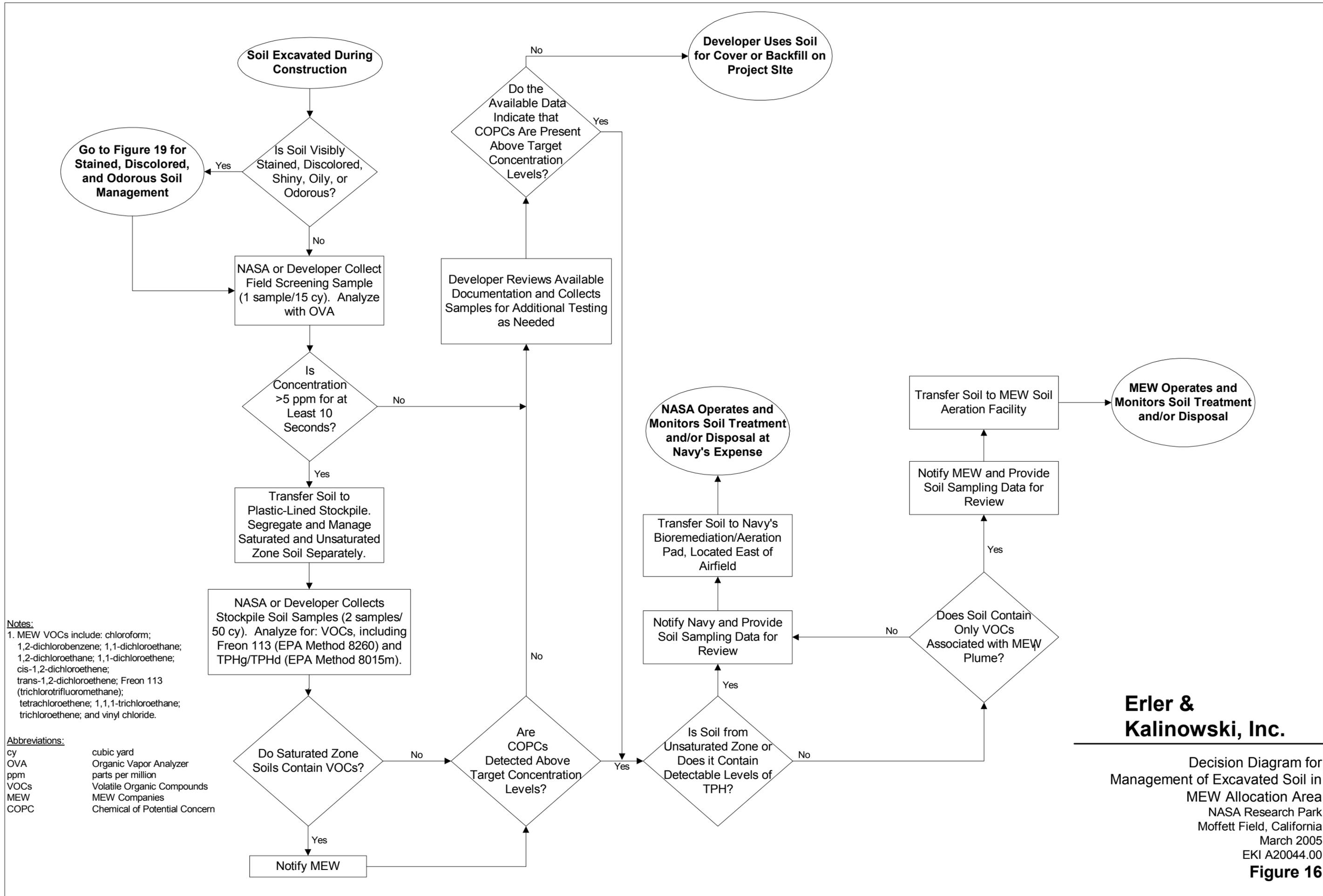
2. Notification is made to owner of specific system component in question.

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Decision Diagram for Remediation System Protection During Construction

NASA Research Park
Moffett Field, California
March 2005
EKI A20044.00

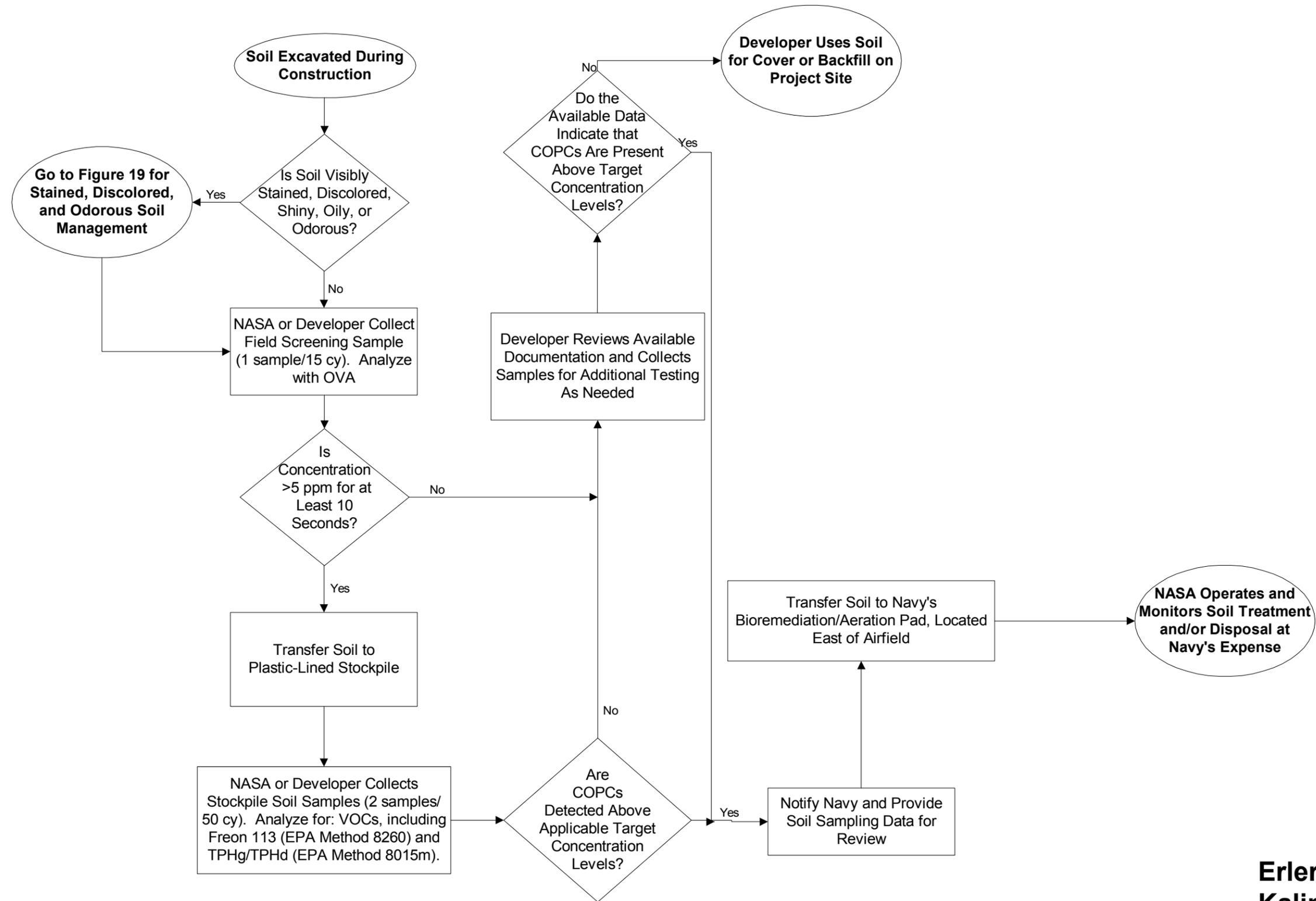
Figure 15



Notes:
 1. MEW VOCs include: chloroform; 1,2-dichlorobenzene; 1,1-dichloroethane; 1,2-dichloroethane; 1,1-dichloroethene; cis-1,2-dichloroethene; trans-1,2-dichloroethene; Freon 113 (trichlorotrifluoromethane); tetrachloroethene; 1,1,1-trichloroethane; trichloroethene; and vinyl chloride.

Abbreviations:
 cy cubic yard
 OVA Organic Vapor Analyzer
 ppm parts per million
 VOCs Volatile Organic Compounds
 MEW MEW Companies
 COPC Chemical of Potential Concern

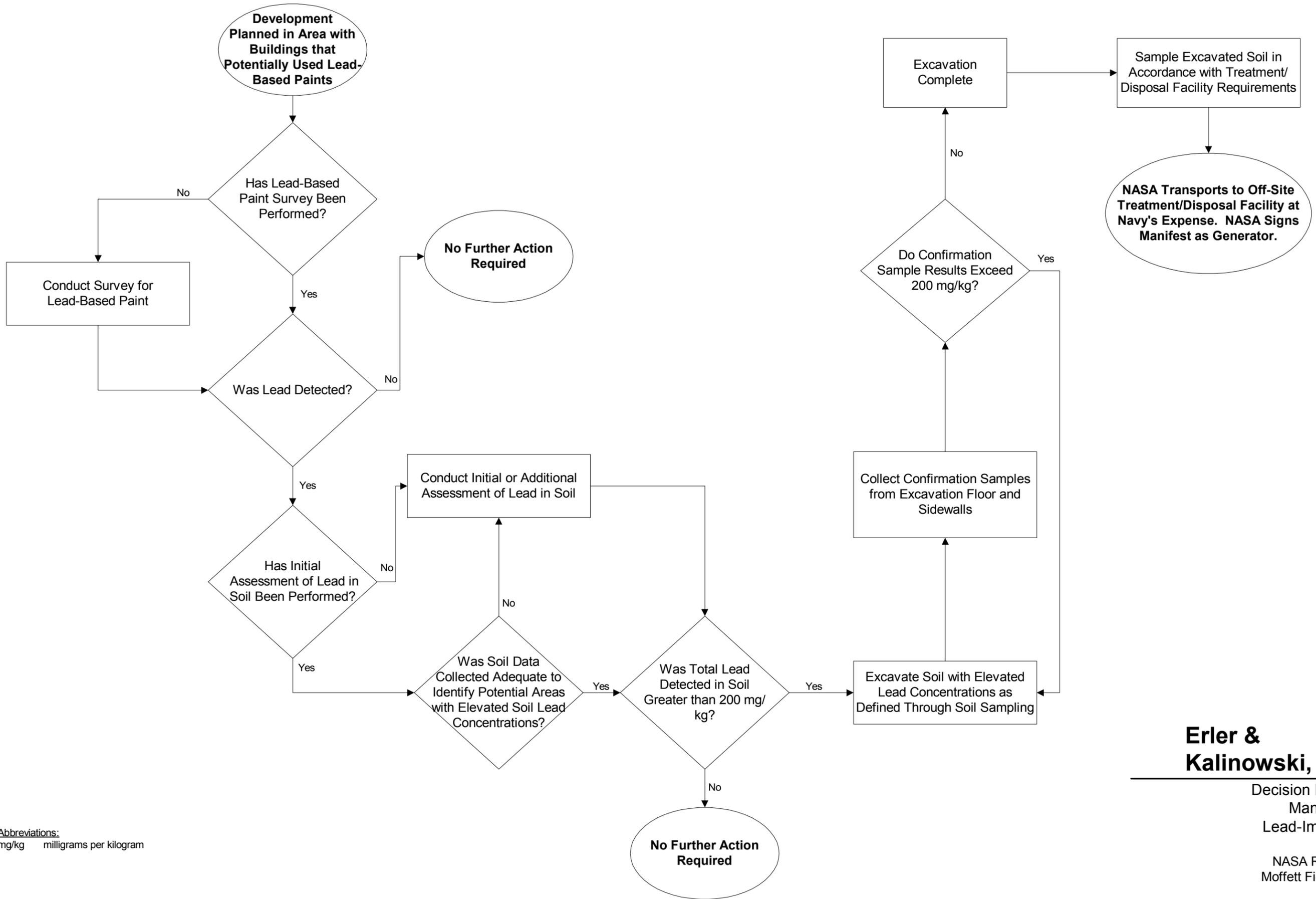
Erler & Kalinowski, Inc.
 Decision Diagram for Management of Excavated Soil in MEW Allocation Area
 NASA Research Park
 Moffett Field, California
 March 2005
 EKI A20044.00
Figure 16



Abbreviations:
 cy cubic yard
 OVA Organic Vapor Analyzer
 ppm parts per million
 VOCs Volatile Organic Compounds
 MEW MEW Companies
 COPC Chemical of Potential Concern

Erler & Kalinowski, Inc.
 Decision Diagram for Management of Excavated Soil in Navy Allocation Area

NASA Research Park
 Moffett Field, California
 March 2005
 EKI A20044.00
Figure 17



Abbreviations:
 mg/kg milligrams per kilogram

Erler & Kalinowski, Inc.

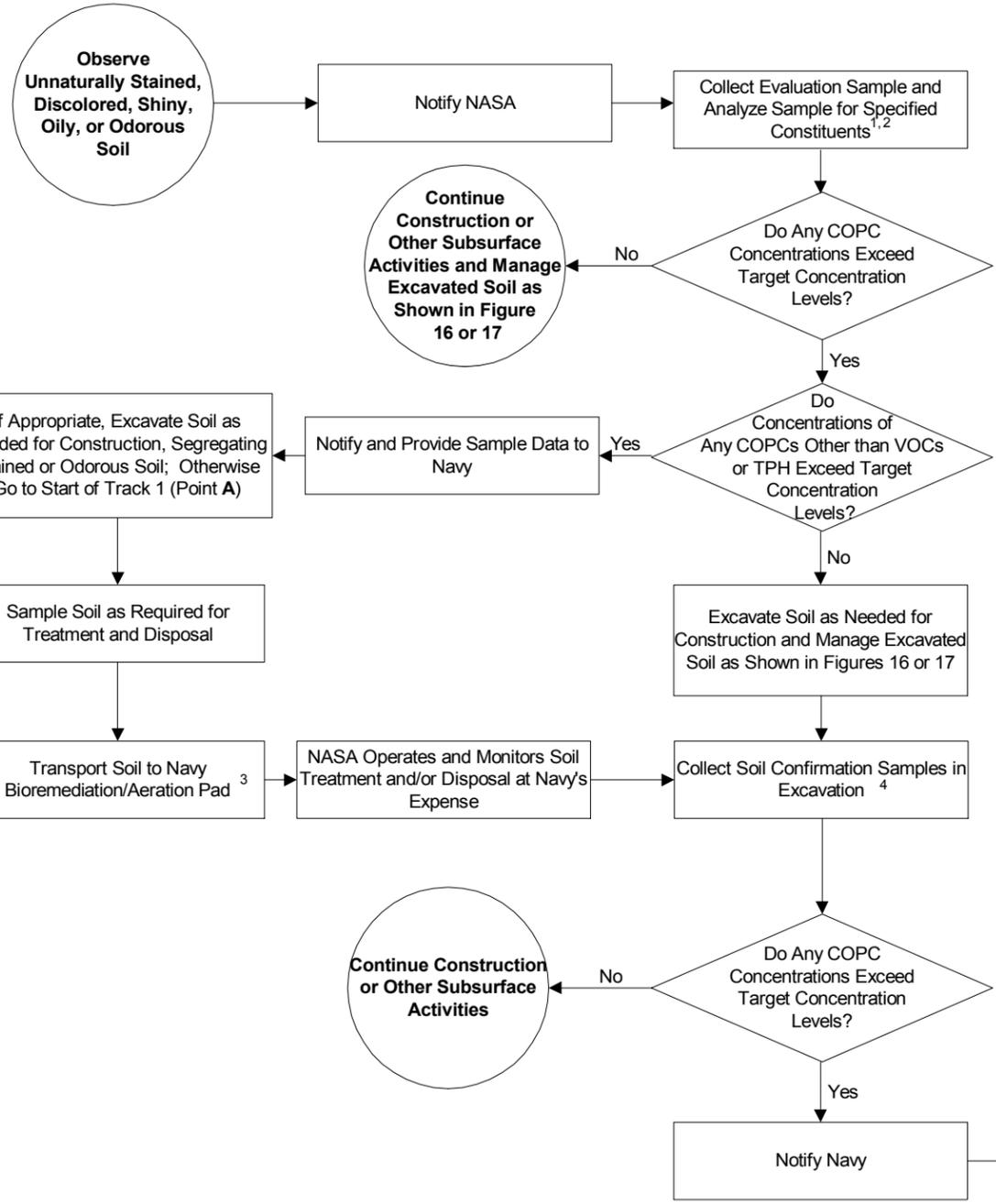
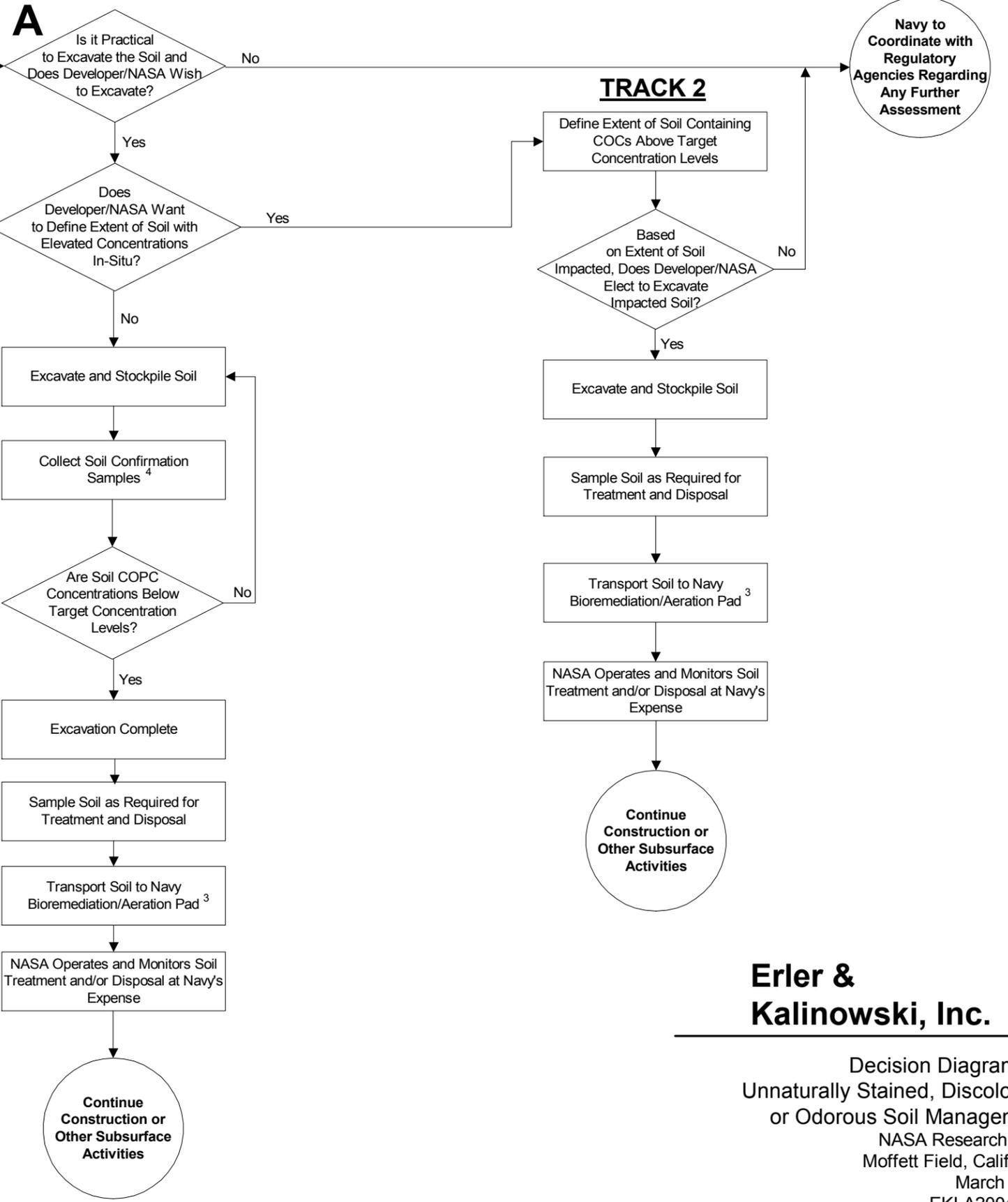
Decision Diagram for Management of Lead-Impacted Soil

NASA Research Park
 Moffett Field, California
 March 2005
 EKI A20044.00

Figure 18

TRACK 1

TRACK 3



Notes:

1. Required analyses to be conducted on the "Evaluation Sample":

- VOCs by EPA Method 8260B, including Freon 113
- TPH purgeable compounds by EPA Method 8015m
- TPH extractable compounds by EPA Method 8015m

2. Potential additional analyses to be conducted, if appropriate:

- SVOCs by EPA Method 8270
- Title 22 Metals by EPA Method 6010
- PCBs by EPA Method 8082
- Organochlorine Pesticides by EPA Method 8081
- Herbicides by EPA Method 8151

3. If soil is impacted by COPCs that cannot be treated by the Navy soil treatment process, it may be transported directly for off-site disposal.

4. Analyses to be conducted on the soil confirmation samples will depend on the COPCs identified in the Evaluation Samples (see notes 1 and 2).

Abbreviations:

- | | |
|-------|---------------------------------|
| COPCs | Chemicals of Potential Concern |
| VOCs | Volatile Organic Compounds |
| SVOCs | Semi-volatile Organic Compounds |
| PCBs | Polychlorinated Biphenyls |

Erler & Kalinowski, Inc.

Decision Diagram for
Unnaturally Stained, Discolored,
or Odorous Soil Management
NASA Research Park
Moffett Field, California
March 2005
EKI A20044.00
Figure 19