

# CHARLOTTE NAVAL AMMUNITION DEPOT PROPOSED PLAN PUBLIC MEETING

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US Army Corps of Engineers  
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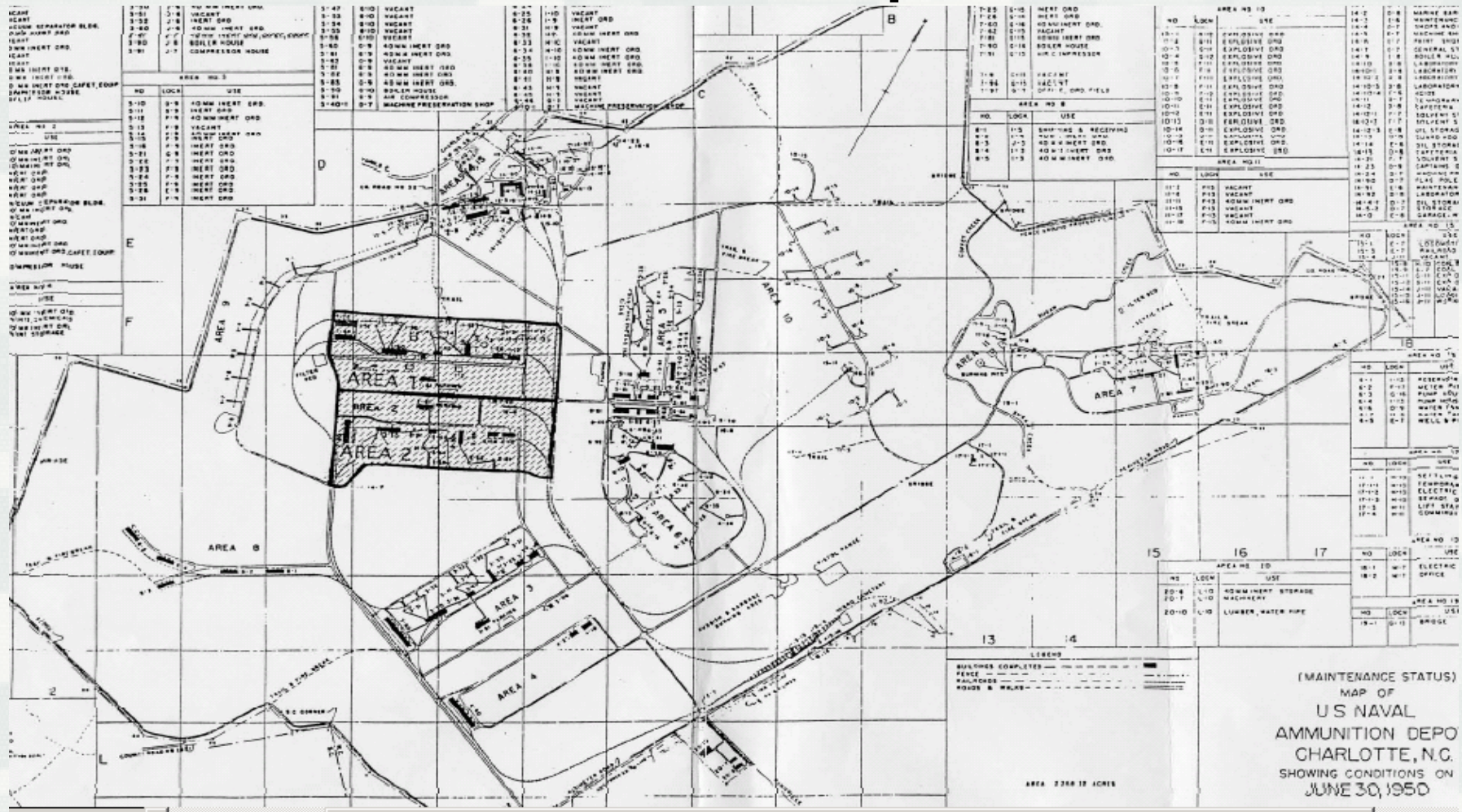
# Site History

- Former Charlotte Naval Ammunition Depot (NAD) complex occupied ~2,266 acres.
- Utilized by the Department of Navy from 1942 to 1959 for the production of 40-mm anti-aircraft munitions.
- Sold to commercial developers in 1959 and all buildings related to the complex were demolished.
- Today the area is known as the Arrowood Southern Industrial Park.
- Used by light industrial and commercial businesses for distribution and warehousing.
- Property owners include:
  - Arrowood Southern
  - Norfolk Southern Railway
  - Alliance Property
  - Frito-Lay, Inc.



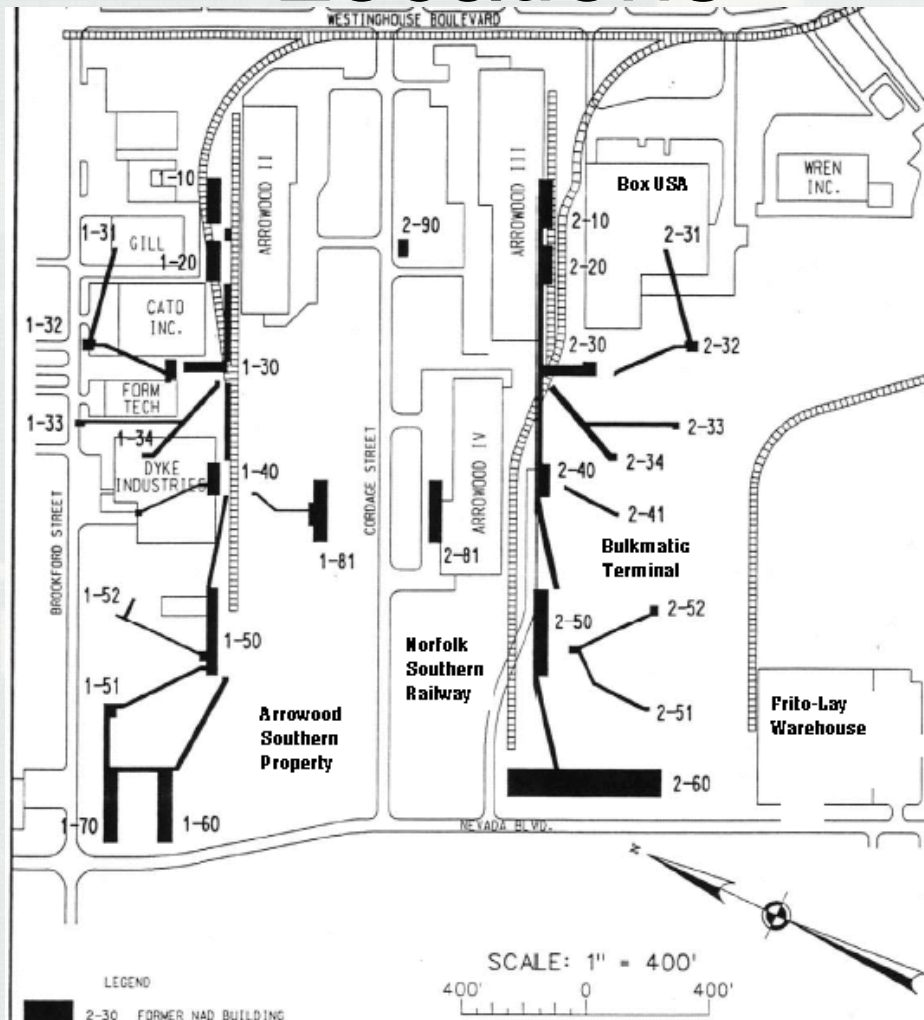


# Former NAD Complex - 1950



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# Current and Former NAD Building Locations





# Investigation Activities

- Beginning in 1994, CERCLA remedial investigations (RIs) were conducted at the former NAD site to investigate groundwater contamination
- RI activities focused on NAD Areas 1 and 2
  - Location of former TCE vapor degreasing operation
  - Phase I completed in 1995
  - Phase II completed in 2000
  - Supplemental investigation completed 2003



# Investigation Findings

- Groundwater is contaminated with CVOCs.
- TCE was found to be the predominant contaminant by mass.
- No specific source for the TCE identified.
- Most significant concentrations correspond to the former vapor degreasing operation.

COPCs Identified for the Former NAD site FFS	NC GWQS Standard <sup>a</sup> (µg/L)	Federal MCL <sup>b</sup> (µg/L)
1,1,2-Trichloroethane	--	5
1,1-Dichloroethene	7	
1,2-Dichloroethane	0.38	
1,2-Dichloropropane	0.56	
2-Butanone	4.20	
Tetrachloroethene	0.7	
Trichloroethene	2.8	
Vinyl Chloride	0.015	
<i>cis</i> -1,2-Dichloroethene	70	

<sup>a</sup> North Carolina Administrative Code (NCAC) Groundwater Quality Standards (GWQS), Chapter 15A NCAC 02L.0202, April 1, 2005, site applicable or relevant and appropriate requirement (ARAR).

<sup>b</sup> U. S. Environmental Protection Agency maximum contaminant level (MCL) federal drinking water standard. Used as ARAR where the NCAC 2L standard is not available.

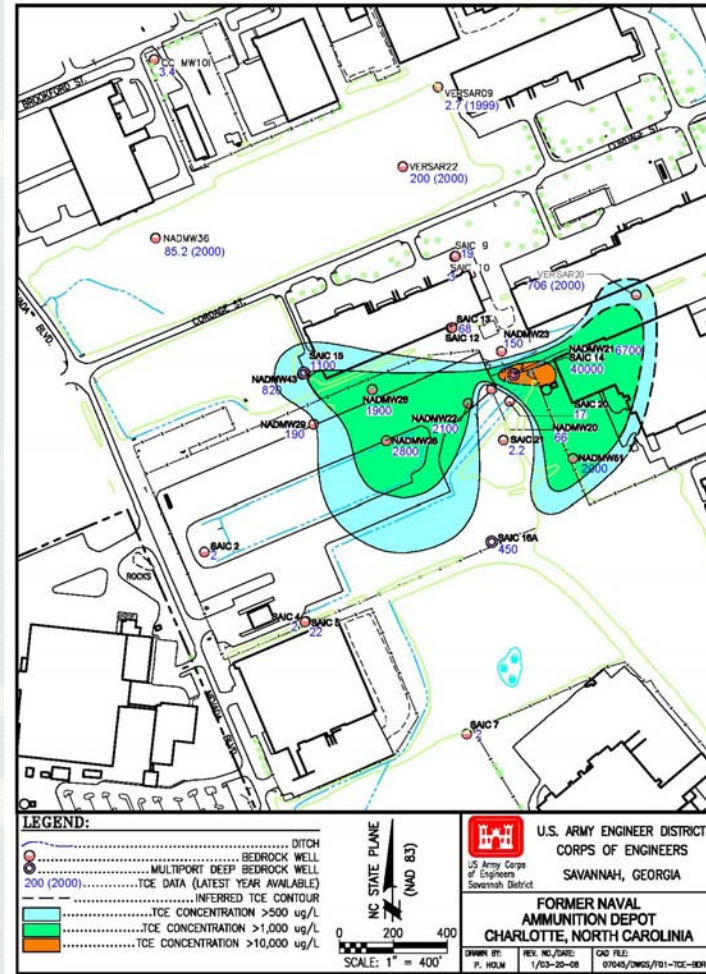
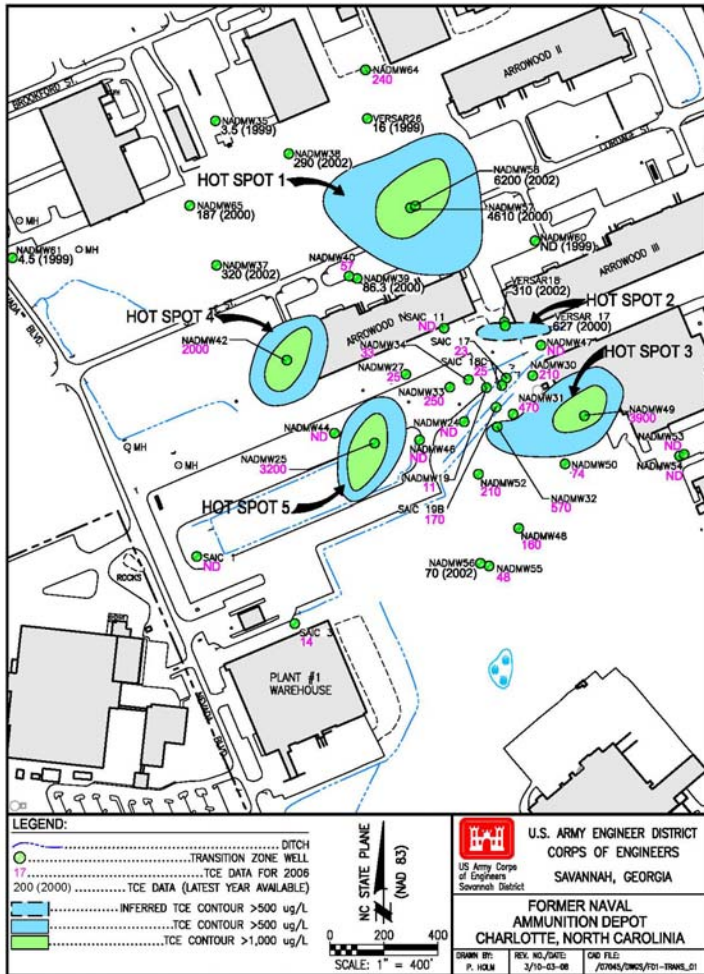
COPC = Contaminant of potential concern.

FFS = Focused feasibility study.

NC = North Carolina.



# TCE Plumes Transition and Bedrock Zone





# Pilot Study

- Pilot Study completed in 2006
  - Enhanced bioremediation
  - Conducted in suspected source area
  - Injection of sodium lactate as the electron donor

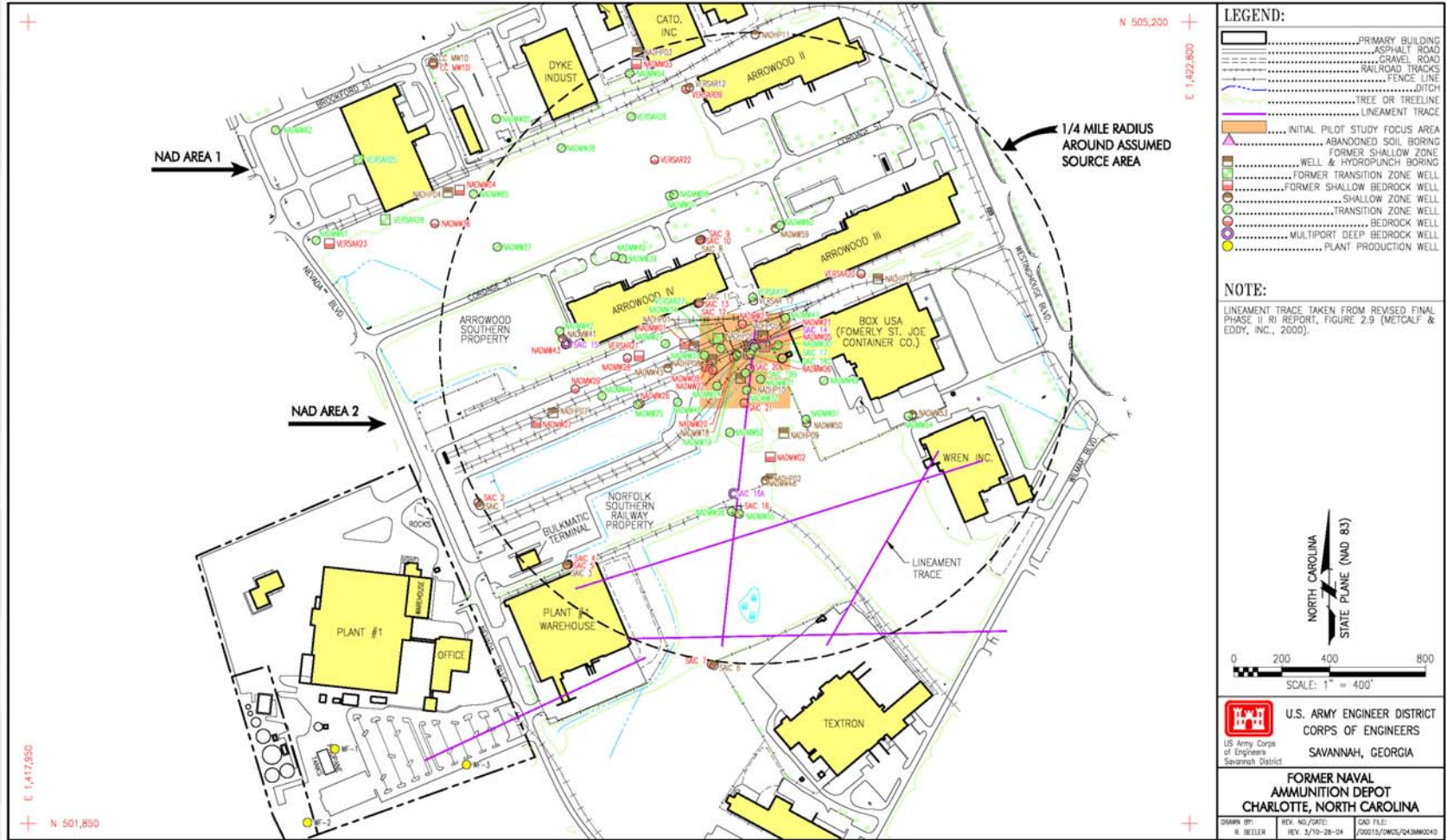


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# Current Site Map



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# Final Focused Feasibility Studies/Proposed Plan

- Final Focused Feasibility Study Report issued in February 2009.
  - Three remedial alternatives evaluated to address contaminated groundwater.
    - Alternative 1: No action
    - Alternative 2: Monitored Natural Attenuation
    - Alternative 3: Enhanced Bioremediation using sodium lactate injection
  - Alternative evaluation
    - Nine CERLCA criteria
    - Comparative analysis





# Proposed Well Sample Locations

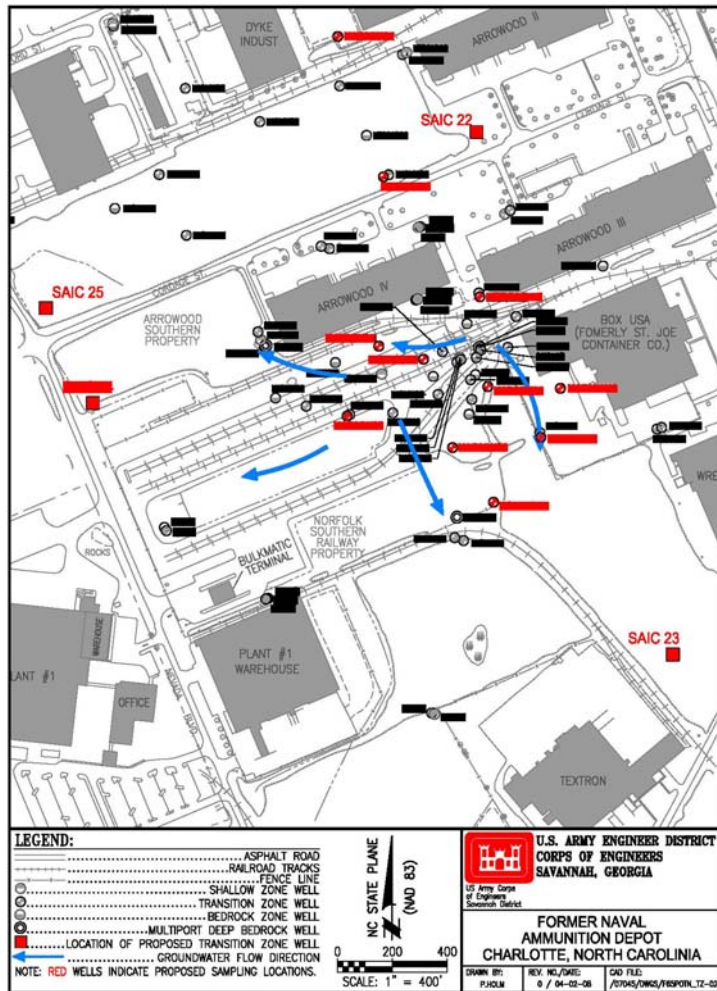


Figure 5. Location of Proposed Monitoring Wells and Sampling Locations for the Transition Zone

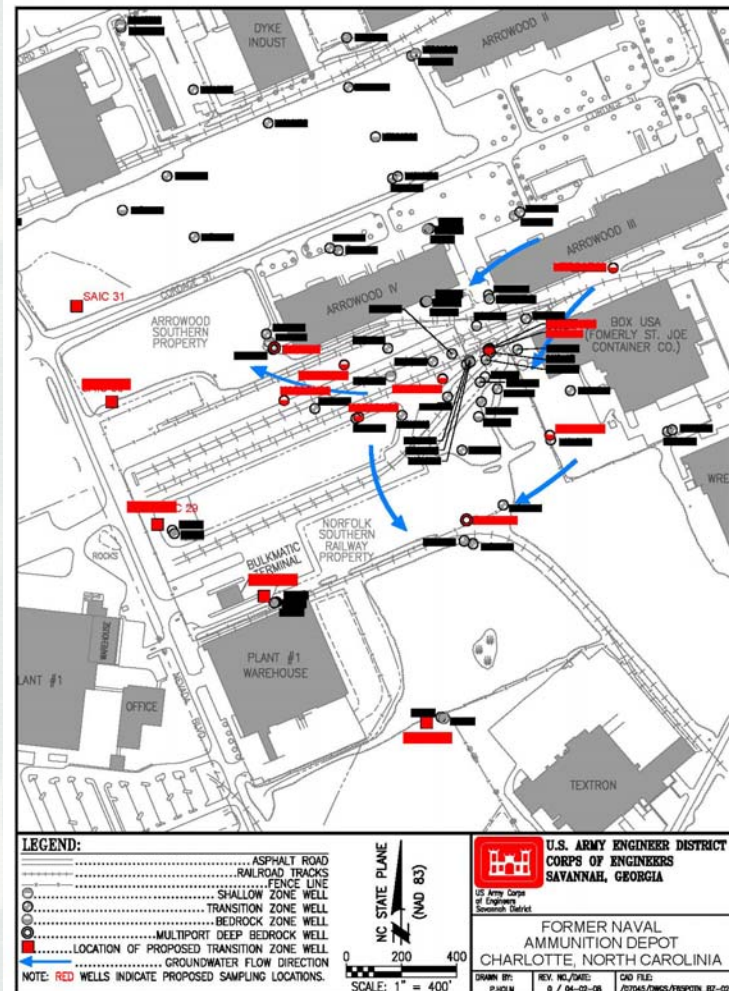


Figure 6. Location of Proposed Monitoring Wells and Sampling Locations for the Bedrock Zone





# Proposed Plan

- Proposed plan required by CERCLA
- Public meeting
- Comment period: September 1 – October 1, 2009
- Proposed remedial alternative - Alternative 3: Enhanced bioremediation using sodium lactate injection



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