

2005 BRAC

***Fort Monmouth Environmental Condition of Property  
Assessment***

***Phase II Site Investigation Work Plan***

April 2, 2008



Tracking Number



# Overview

- **Recap of the Environmental Condition of Property (ECP) Process**
- **Phase II Site Investigation Work Plan for the Fort Monmouth ECP**
- **Path Forward**



# BRAC 2005 ECP Process Review

- **Programmatic Environmental Review**
  - Completed in 2005
- **ECP Assessment**
  - Completed January 2007
- **CERFA Letter Report**
  - Summary letter/map of the Phase I ECP Report
  - Submitted to Regulators January 2007
- **Site Investigation Sampling Recommendations**
  - Work Plan Completed September 2007
- **Site Investigation / Field Sampling**
  - Sampling conducted Sept 2007 – January 2008



# ECP Phase I Process

- **Historical Records Review**
- **Aerial Photography Analysis**
- **Visual Site Inspection**
- **Interviews**
- **Write ECP Phase I Report/Develop Parcels**



# ECP Parcel Categories

- **Category 1** - Areas where **no release or disposal** of hazardous or petroleum products has occurred.
- **Category 2** - Areas where only release or disposal of **petroleum products** has occurred.
- **Category 3** - Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal - **below action levels**.
- **Category 4** - Areas where release, disposal, and/or migration of hazardous substances has occurred and all necessary removal and/or response **actions have been taken**.
- **Category 5** - Areas of known contamination where release, disposal, and/or migration of hazardous substances has occurred and removal and/or response **actions are underway**.
- **Category 6** - Areas of known contamination where required response **actions have not been taken**.
- **Category 7** - Areas that are not evaluated or **require further evaluation**.



# Charles Wood Area (CWA) Parcels

## LEGEND

 Installation Boundary

## ECP PARCEL CATEGORY DEFINITIONS

-  1 Areas where no release or disposal of hazardous substances or petroleum products has occurred (including the migration of these substances from adjacent areas).
-  2 Areas where only release or disposal of petroleum products has occurred.
-  3 Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.
-  4 Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.
-  5 Areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or remedial actions are underway, but all required remedial actions have not yet been taken.
-  7 Areas that are not evaluated or require additional evaluation.



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# Main Post Parcels

## LEGEND

 Installation Boundary

## ECP PARCEL CATEGORY DEFINITIONS

 1 Areas where no release or disposal of hazardous substances or petroleum products has occurred (including the migration of these substances from adjacent areas).

 2 Areas where only release or disposal of petroleum products has occurred.

 3 Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.

 4 Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.

 5 Areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or remedial actions are underway, but all required remedial actions have not yet been taken.

 7 Areas that are not evaluated or require additional evaluation.



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# CWA - Further Investigations Areas

**Category 2** Areas where **petroleum** releases have been addressed or older tank removals were not fully documented.

**Category 7** - Areas that are not evaluated or require further evaluation.



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# Main Post Further Investigation Areas

**Category 2** Areas where **petroleum** releases have been addressed or older tank removals were not fully documented.

**Category 7** - Areas that are not evaluated or require further evaluation.



# Site Investigation / Phase II

- **Site Investigation**
  - Fill data gaps identified in the Phase I ECP
  - Absence/presence of constituents of concern
  - Investigate likely release locations
- **Work Plan Prepared**
  - 21 parcels investigated
  - Areas not addressed under the IRP
- **Field Sampling**
  - September 2007 – January 2008
  - Geophysical surveys
  - Surface and subsurface soil
  - Groundwater
  - Sediment
  - Indoor air/soil gas

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# Site Investigation Field Methodologies

- **NJDEP Field Sampling Protocols**
  - NJDEP Field Sampling Procedures Manual
  - N.J.A.C.
    - Chapter 26E - Technical Requirements for Site Remediation
    - Chapter 14B – Underground Storage Tanks
  - NJDEP Vapor Intrusion Guidance
- **Reviewed and approved by the NJDEP**



# Geophysical Surveys

- **Non-intrusive investigative tool for evaluating subsurface features / conditions**
- **Former USTs**
- **Former Septic Tanks**



# Surface and Subsurface Soil Sampling

- **Rationale**
- **Equipment Utilized**
  - Direct Push Technology (DPT)
  - Hand auger
  - Test pits
- **Field implementation**
  - Locations
  - Spacing
  - Depths



# Groundwater Sampling

- **Rationale**
- **Equipment Utilized**
  - DPT
  - Existing monitoring wells
- **Field implementation**
  - Locations
  - Spacing
  - Depths – shallow groundwater



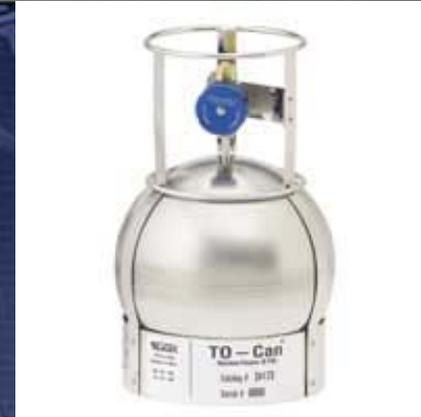
# Sediment Sampling

- Rationale
- Equipment Utilized
- Field implementation
  - Locations
    - Potential discharge locations
    - Down gradient
  - Depths
    - Surface
    - Subsurface (~ 2 ft bgs)



# Soil Gas and Indoor Air

- **Rationale**
- **Equipment Utilized**
- **Field implementation**
  - Locations – potential migration pathways
    - Sumps
    - Floors drains
    - Floor cracks
  - Depths
    - Soil gas – vadose zone
    - Indoor air – breathing zone or lower



# Evaluation of Groundwater Data

- Compare groundwater constituents to NJDEP screening criteria
- Evaluate proximity to buildings
  - 100' – Volatile organic compounds (VOCs)
  - 30' – Petroleum hydrocarbons (fuel related)

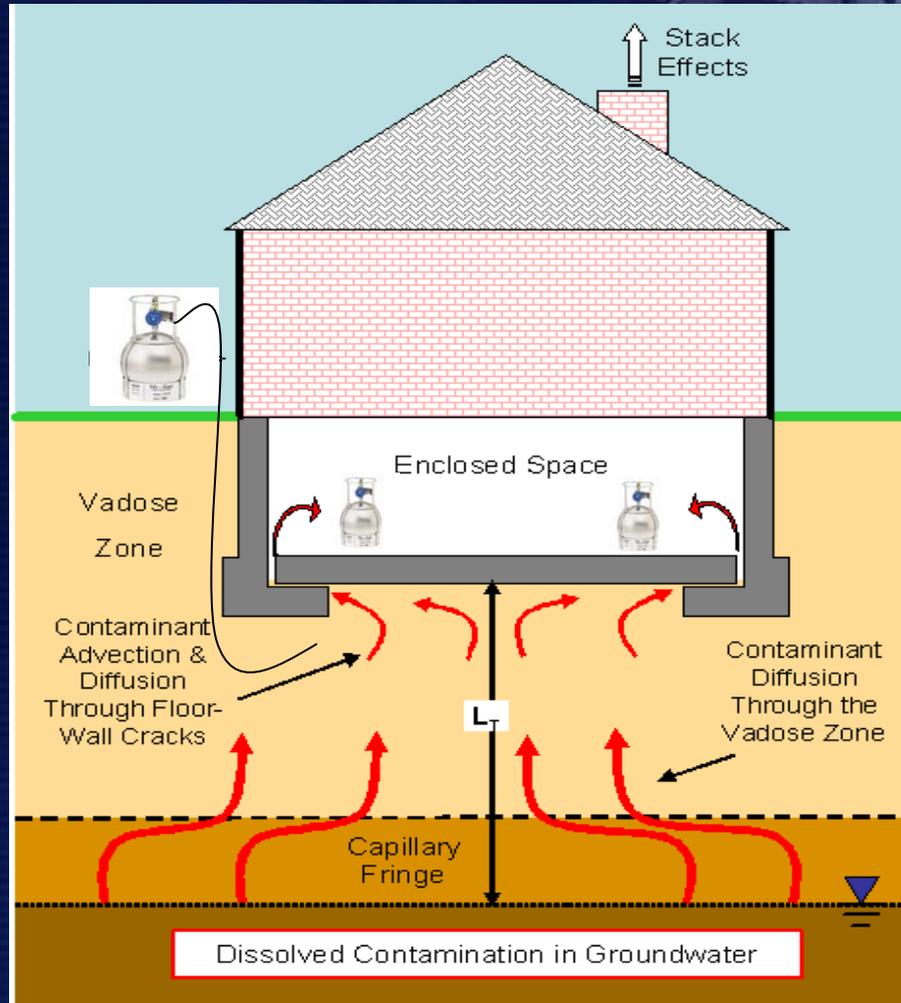
GW Detections  
above GWSL

Critical Distance

100' CI-HCs; 30' HCs

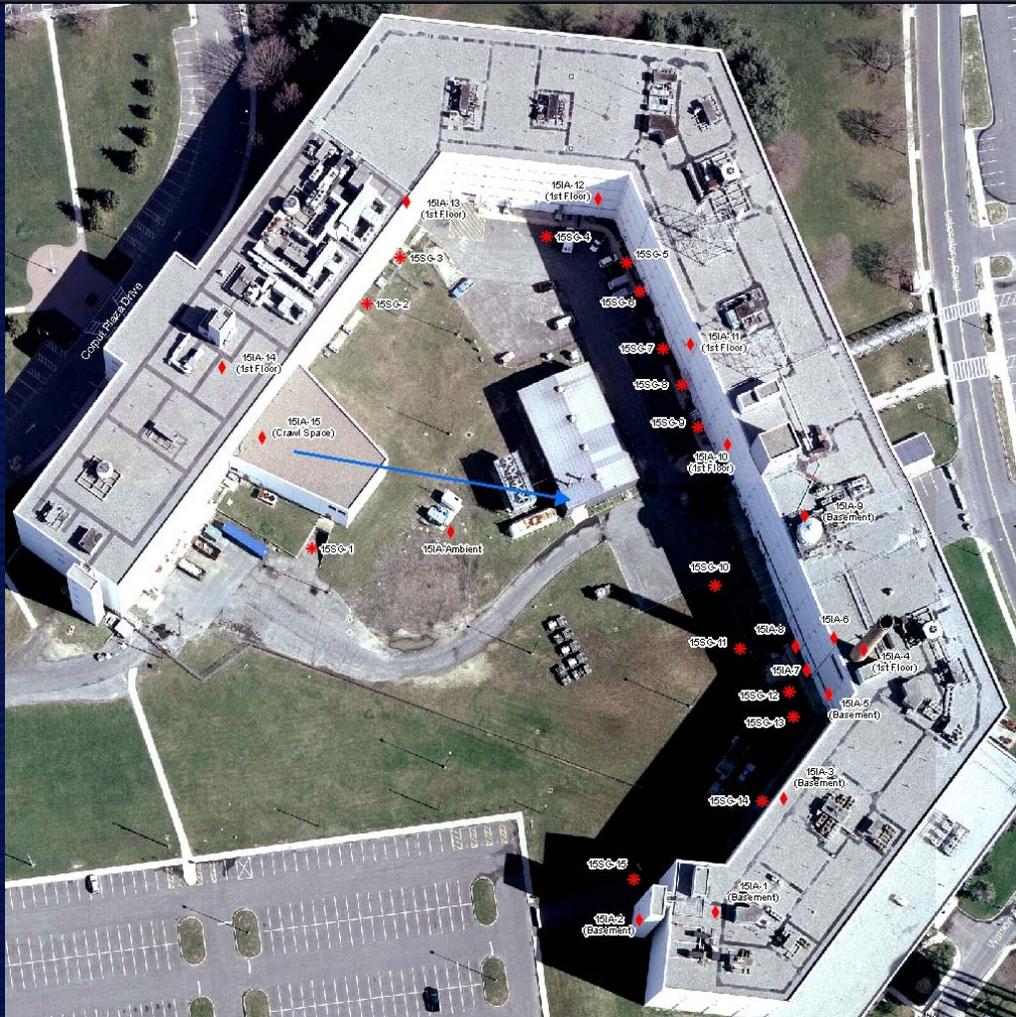


# Development of Sampling Plan



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# Parcel 15 - Bldg 2700



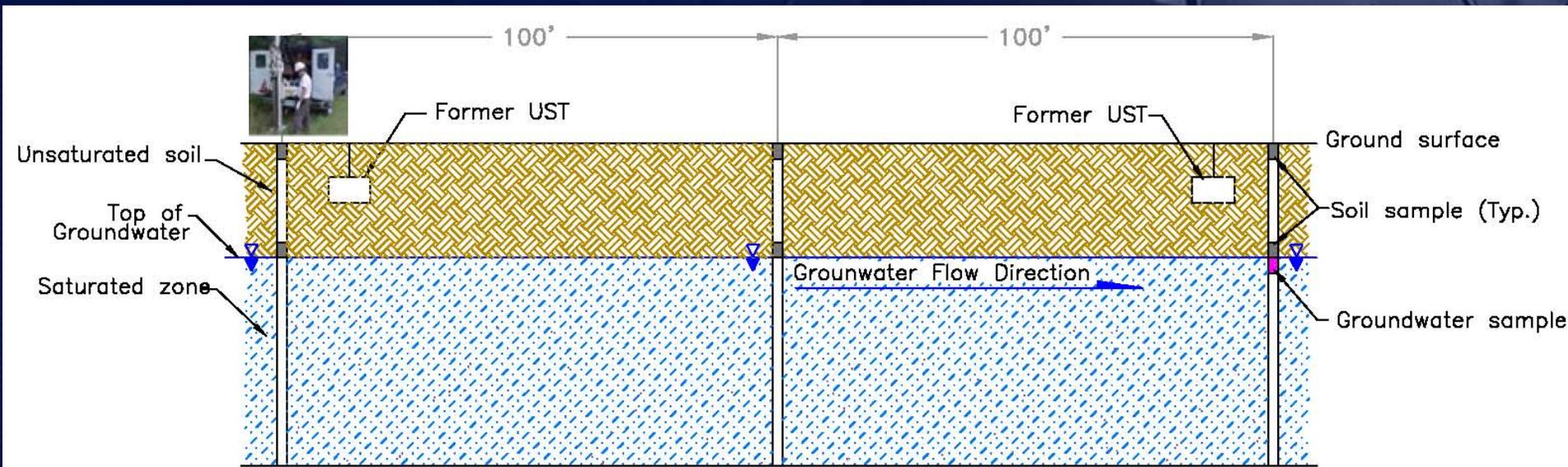
# Petroleum Related Investigations (Category 2)

- **Former USTs**
- **Field Sampling Summary**
  - Locations and media (geophysical surveys, soil, groundwater)
  - Field Screening
- **Analytical Program Summary**
  - Analytes tested

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# Former UST Investigations



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# Parcel 13



Tracking Number



# Former Petroleum Storage (USTs) Investigations



Tracking Number

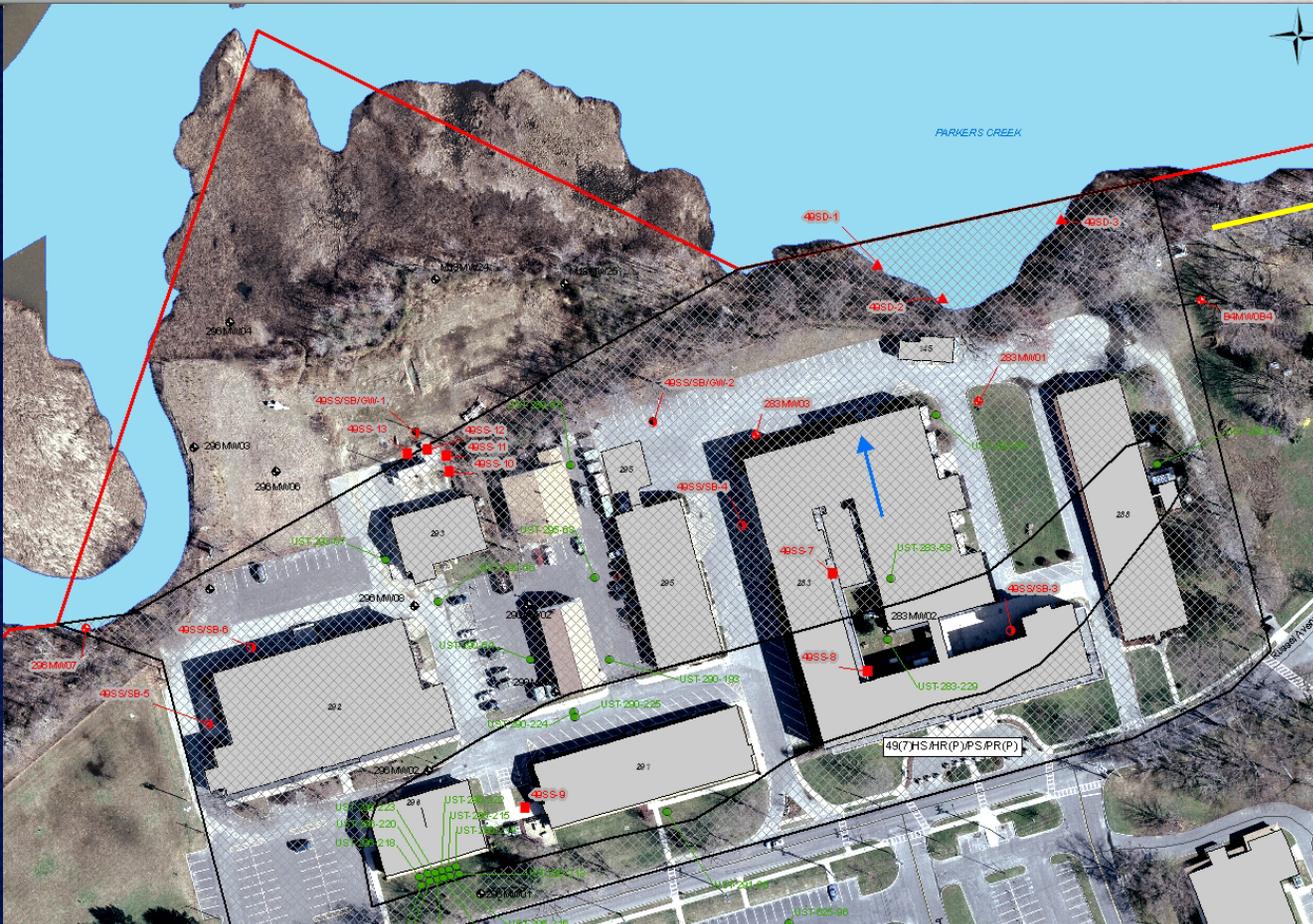


# Former Laboratory Facilities Investigations

- **Field Sampling Summary**
  - Locations and media (soil, sediment, groundwater, soil gas, indoor air)
  - Tailored to site specific historical uses
- **Analytical Program Summary**
  - Analytes tested
  - Tailored to site specific historical uses



# Parcel 49 - Building 283



Tracking

Parcel 15

Parcel 27

# Former Shops, Maintenance, and Industrial Facility Investigations

- **Field Sampling Summary**
  - Locations and media (soil, sediment, groundwater, soil gas, indoor air)
  - Tailored to site specific historical uses
- **Analytical Program Summary**
  - Analytes tested – tailored to historical uses
  - Tailored to site specific historical uses



# Parcel 83



# Former Shops, Maintenance, and Industrial Facility Investigations



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# “Other” Investigations

- **Former Pistol Range – Parcel 38**
- **Electrical Substations**
- **Sanitary System**
- **Hospital – Parcel 61**



# Parcel 38 - Former Pistol Range



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# Path Forward - Analysis and Reporting

- **Sample analysis**
  - NJDEP certified laboratory
  - Completed in January 2008
- **Site Investigation Report – ongoing**
  - Data Evaluation
  - Parcel by parcel evaluation/summary
  - Summary and Recommendations
  - Submittal to NJDEP Summer 2008

