

# **Public Involvement Meeting**

## **October 3, 2002**

*Former Raytheon Facility*  
*430 Boston Post Road, Wayland, Massachusetts*

# Purpose of Meeting

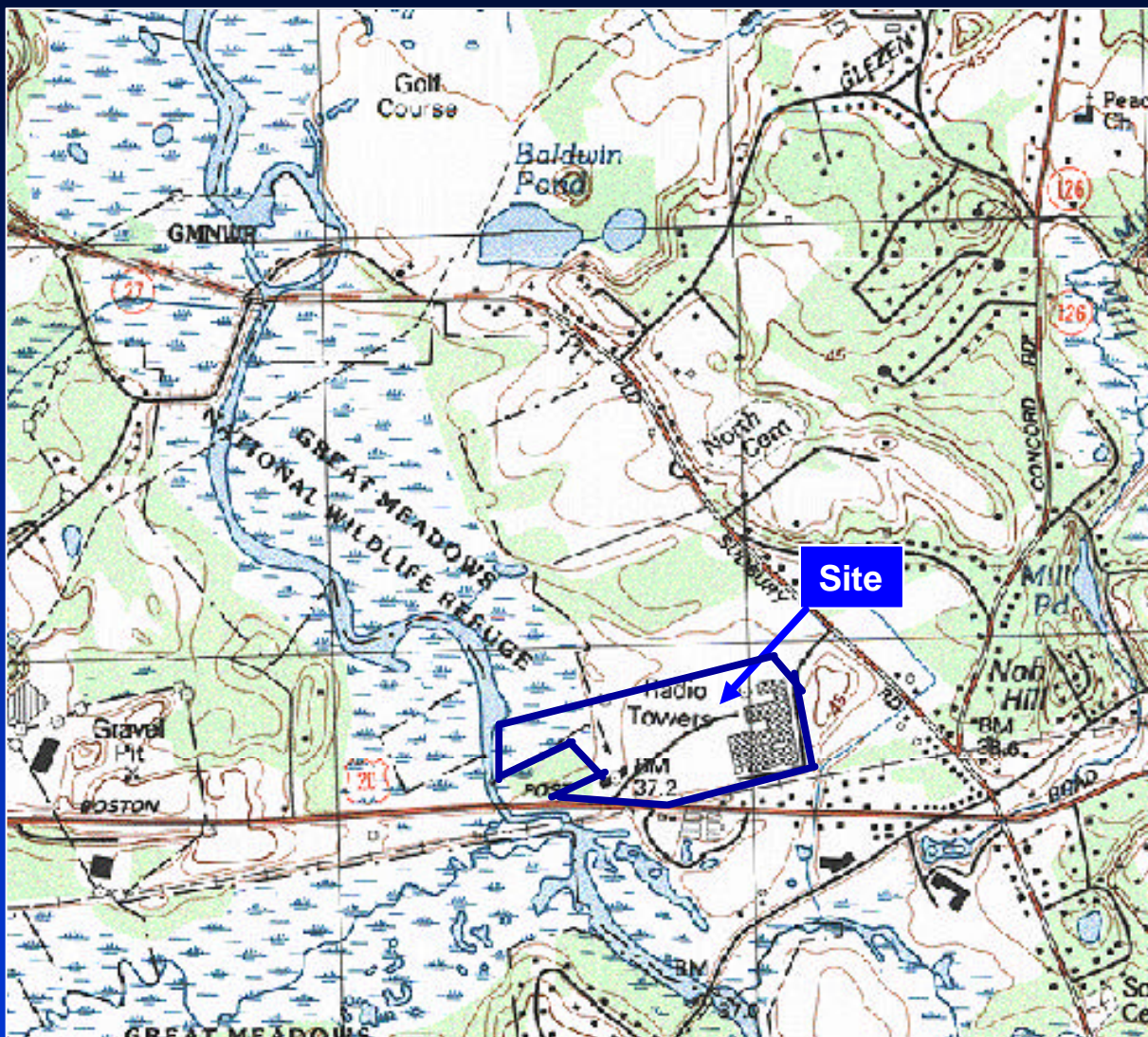
## **PART I: Draft Application for Risk-Based Disposal Approval Document**

- wetland soil/sediment assessment activities
- Toxic Substance Control Act (TSCA) report

## **PART II: Modification to Release Abatement Measure (RAM) Plan**

## **PART III: Site update on current assessment activities (Scope of Work)**

- soil
- groundwater
- additional assessment activities



Locus Map

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**PART I**  
**WETLAND REMEDIATION  
AND RESTORATION**

# Regulatory Overview

- Wetland contaminants include PCBs, PAHs and heavy metals in soil/sediment
- PCBs regulated by the US EPA under the Toxic Substance Control Act (TSCA)
- Draft “Application for Risk-Based Disposal Approval”
- Subject to extensive permitting and public comment opportunities



# Previous Wetland Soil/Sediment Investigations

- > 100 Analyses of Samples Since 1991
- Impacts concentrated near Outfall (OF-1)
- Area of stunted growth coincides with metal concentrations
- Contaminants in sediments at depths 0 - 12 inches

- Sampling Locations
- Approximate Location of Buffer Zone



# Phase II Wetlands Findings

- Approximately 0.6 acres of stunted growth related to historic contaminant releases
- PCBs, PAHs and heavy metals soil/sediment pose a condition of “significant risk” to human health and the environment
- Wetland area requiring cleanup to abate “significant risk” includes the area of stunted vegetative growth
- Additional comprehensive response actions required

# Summer 2002 Wetland Soil/Sediment Investigations

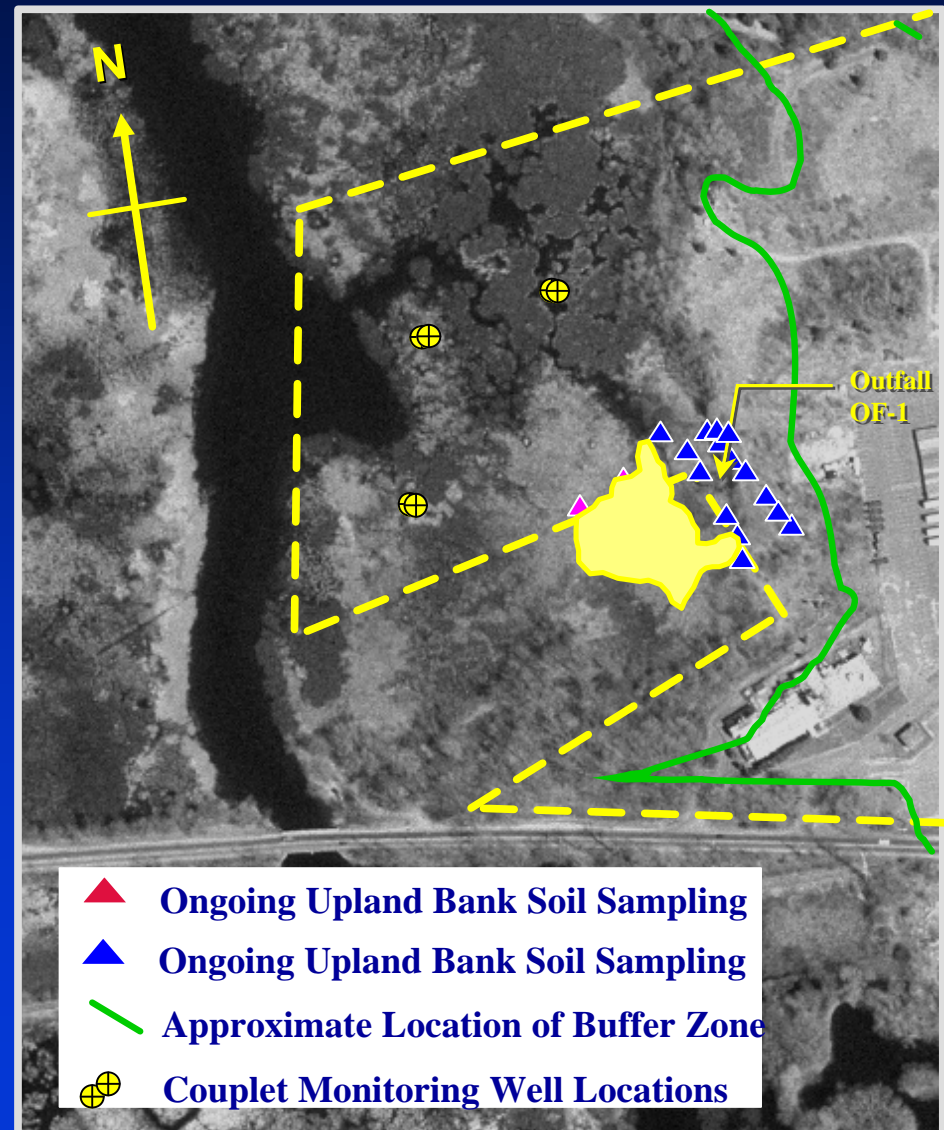
**Raytheon**

TASK	PROPOSED	ACTUAL	ANALYSES
Upland Soil Borings	12	15	screened VOCs, PP13 Metals
Monitor Well Instalation	6	6	VOCs, PAHs, PCBs, PP13 Metals
Sediment Sampling	6	6	VOCs, PCDDs, PCDFs, cyanide, boron, fluoride, ammonia, phosphorous, nitrate, chloride, aldehydes, alcohols, glycols
Waste Characterization	2	2	TCLP VOCs, TCLP SVOCs, TCLP Metals, TCLP Pesticides, TCLP Herbicides
Groundwater Monitoring	7	7	VOC, PP13 Metals, PCBs, PAHs



# Key Findings

- **Wetland sediment**
  - trace VOCs and metals
  - ND for TCLP analyses
- **Upland soil**
  - anomalous arsenic
  - appears attributable to pressure treated lumber
- **Groundwater in wetland**
  - trace concentrations



# Development of Cleanup Goals

- **Be protective of human health and the environment**
- **Meet state and federal regulatory requirements governing wetland cleanup**
- **Identify a balanced cleanup approach**
  - remove the contaminants of concern
  - minimize the destruction of the existing wetland habitat during remediation
- **Net Environmental Benefit Analysis**

# Net Environmental Benefit Analysis

- **Net Environmental Benefit Analysis (NEBA) is a process to establish a cleanup level that minimizes damage and maximizes the benefit to the environment**
  - NEBA = (positive effects) – (negative effects)
  - weighs damage of wetland excavations vs. benefit of wetland cleanup
- **NEBA recently provided as an appendix to Draft Application for Risk-Based Disposal Approval**

# Remedial Scenarios

	EXCAVATION AREA	IMPACT	BENEFIT
<b>Scenario 1</b>	0.6 acres – Area of Stunted Growth	Area provides only fraction of wetland services	Positive
<b>Scenario 2</b>	1.6 acres - Area of Stunted Growth + Risk Management Area	Area provides limited wetland Services	Positive
<b>Scenario 3</b>	5.3 acres – EPA Level of 1 ppm PCBs	Functioning wetland outside Area of Stunted Growth + Risk Management Area	Negative

# PIP Schedule for Draft Application

**Raytheon**

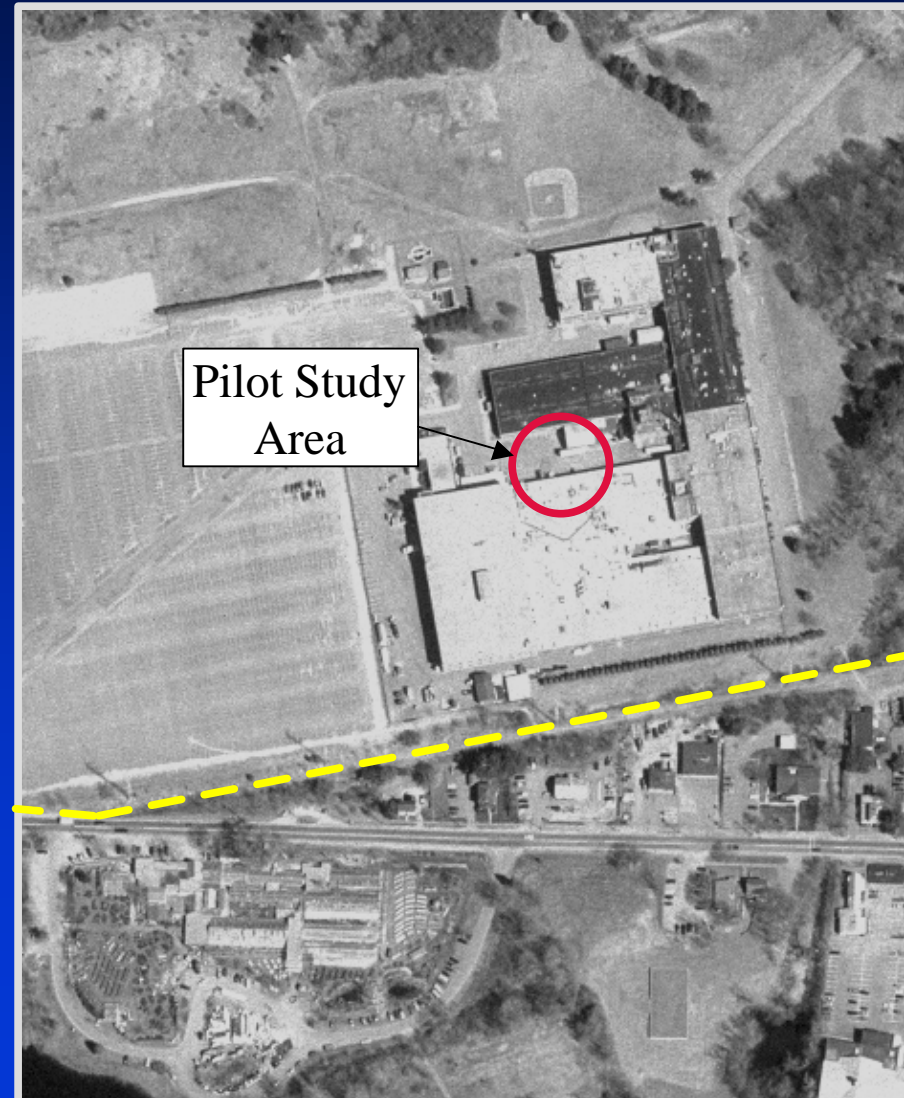
- Initial PIP comments thru October 16, 2002
- Additional comment period through EPA permitting process
- All documents are available in repositories and web page

**PART II**  
**MODIFICATION TO**  
**RAM PLAN**



# RAM Plan Modification

- Expansion of existing pilot study
- Install 5 additional monitoring wells
- Inject additional oxidant
- Post injection groundwater monitoring
  - weekly field parameter monitoring
  - quarterly VOC monitoring



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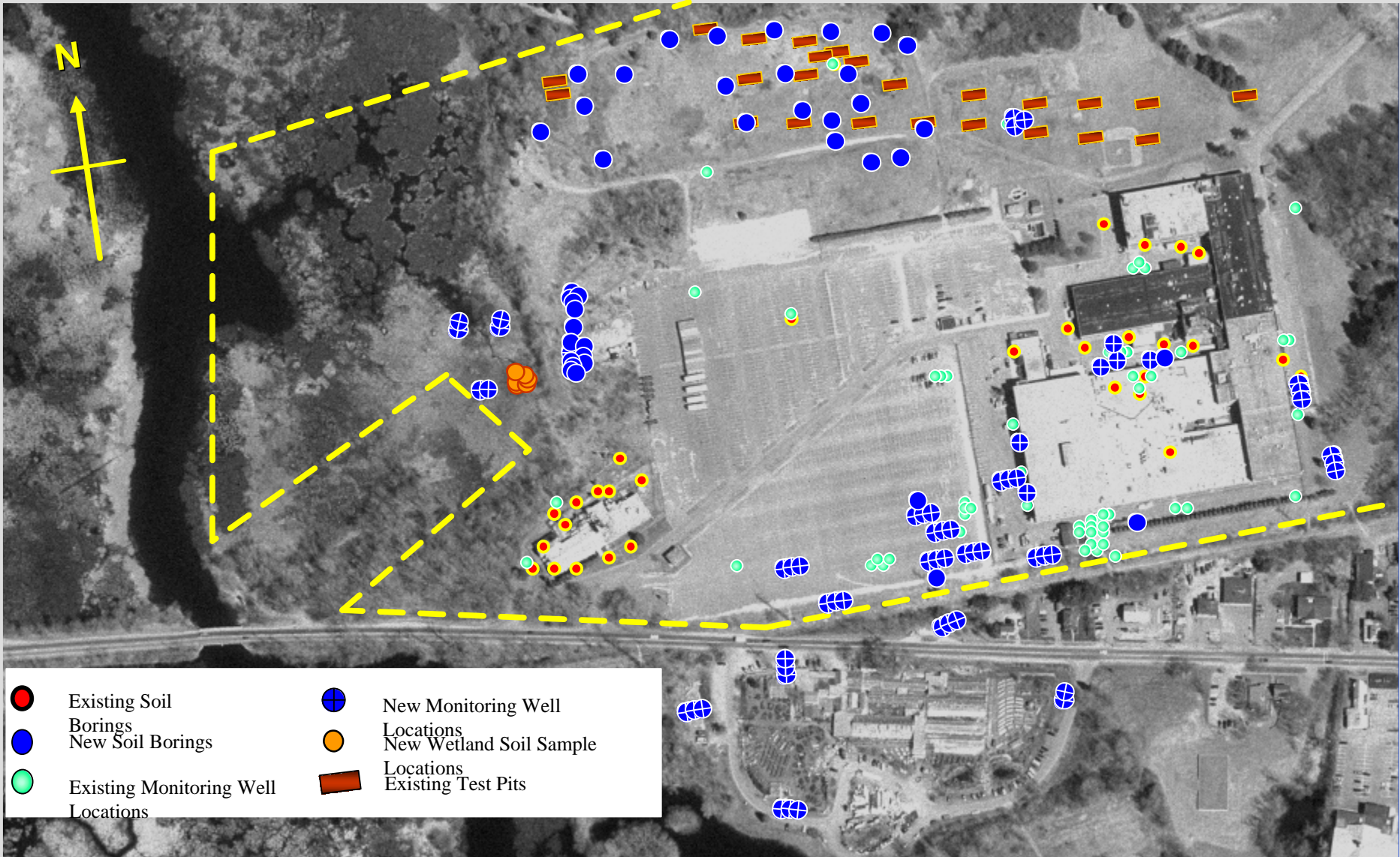
**PART III**  
**CURRENT ASSESSMENT  
ACTIVITIES**

# Southern & Eastern Portion of Site

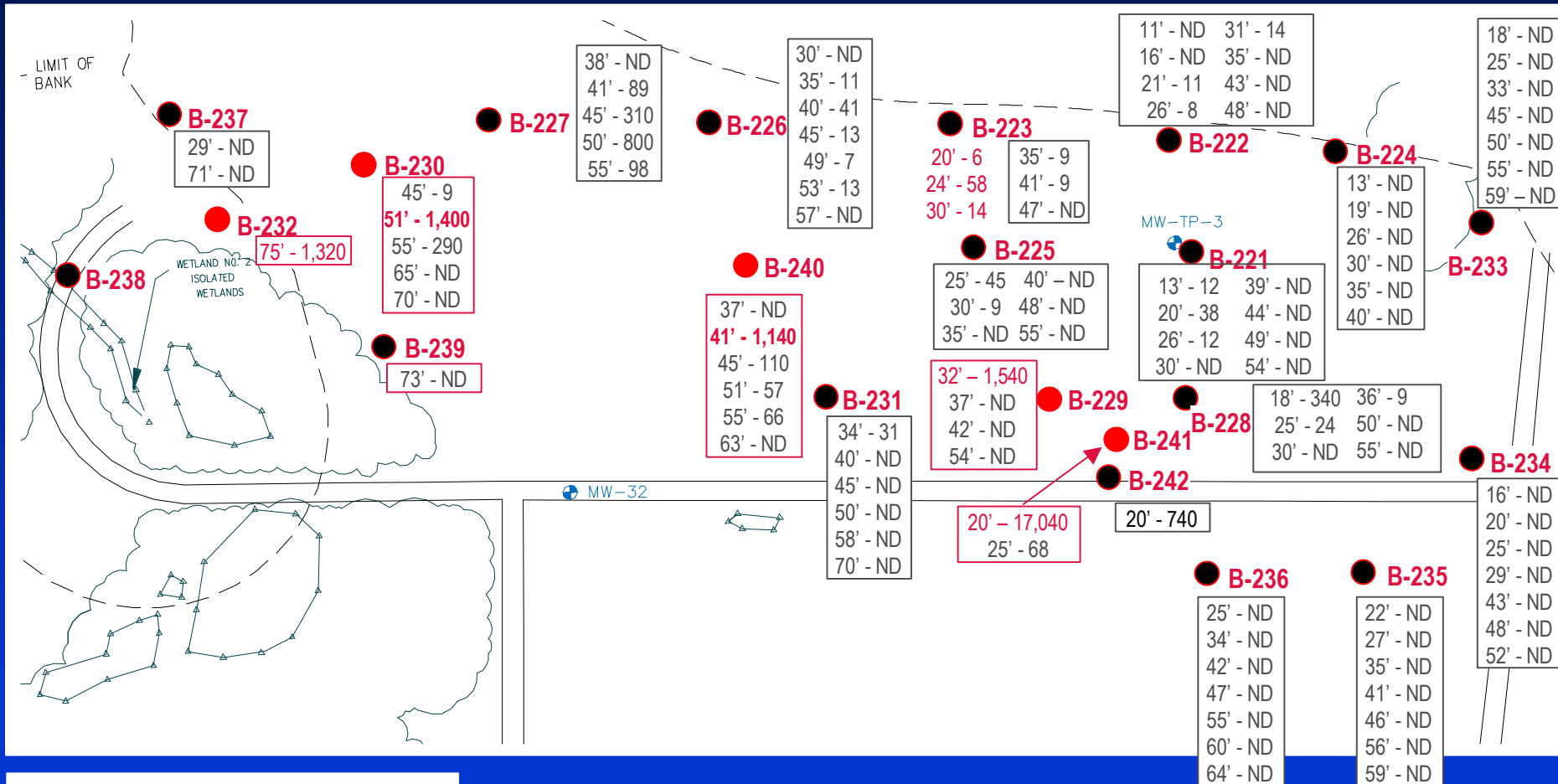
TASK	PROPOSED	ACTUAL	ANALYSES
Vertical Profiling	10	10	VOCs
Installed Monitoring Wells	48	50	VOCs
Soil Borings	10	10	VOCs
Groundwater Monitoring	13	13	VOCs, PCDDs, PCDFs, cyanide, boron, fluoride, ammonia, phosphorous, nitrate, chloride, aldehydes, alcohols, glycols
Soil Analysis	14	14	VOCs

# Northern Portion of Site

TASK	PROPOSED	ACTUAL	ANALYSES
Vertical Profiling	6	22	VOCs
Installed Monitoring Wells	11	3 (27 pending)	VOCs
Soil Borings	0	18	VOCs
Groundwater Monitoring	7	7	VOC
Soil Analysis	0	18	VOCs



# Vertical Profiling – TCE Concentrations

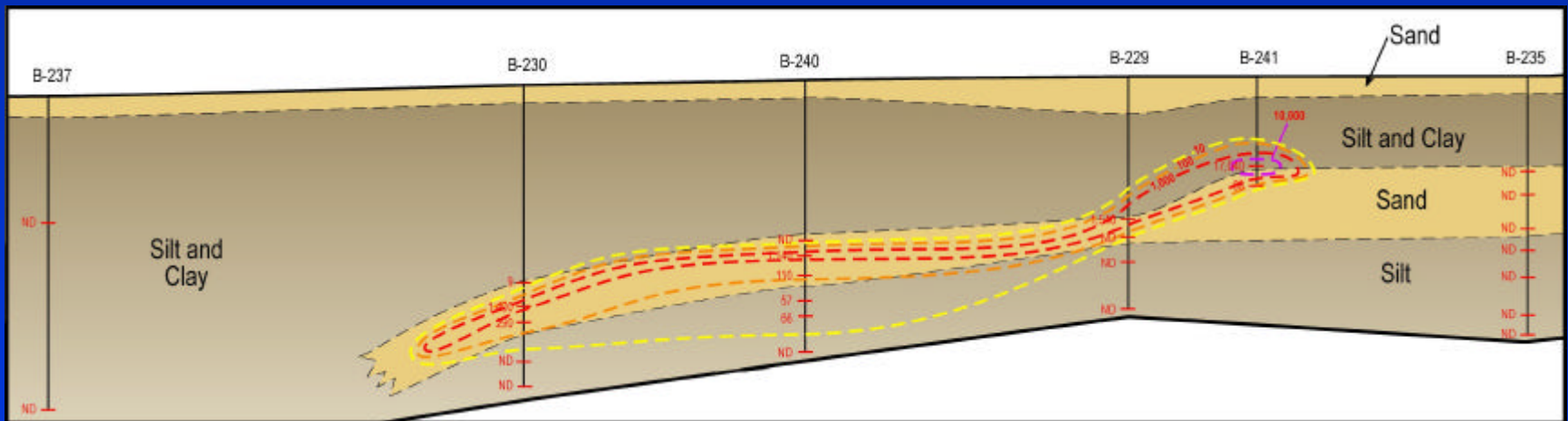
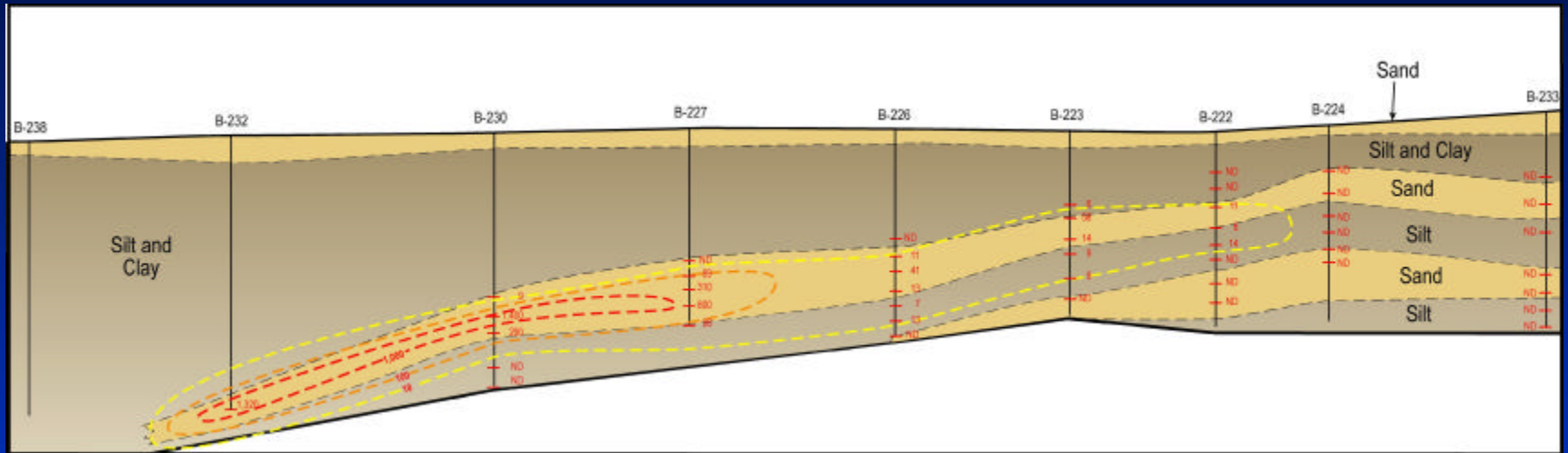


## Legend

● B-221 Waterloo Profiler Borings



# Northern Site Cross Sections **Raytheon** Showing TCE Concentrations

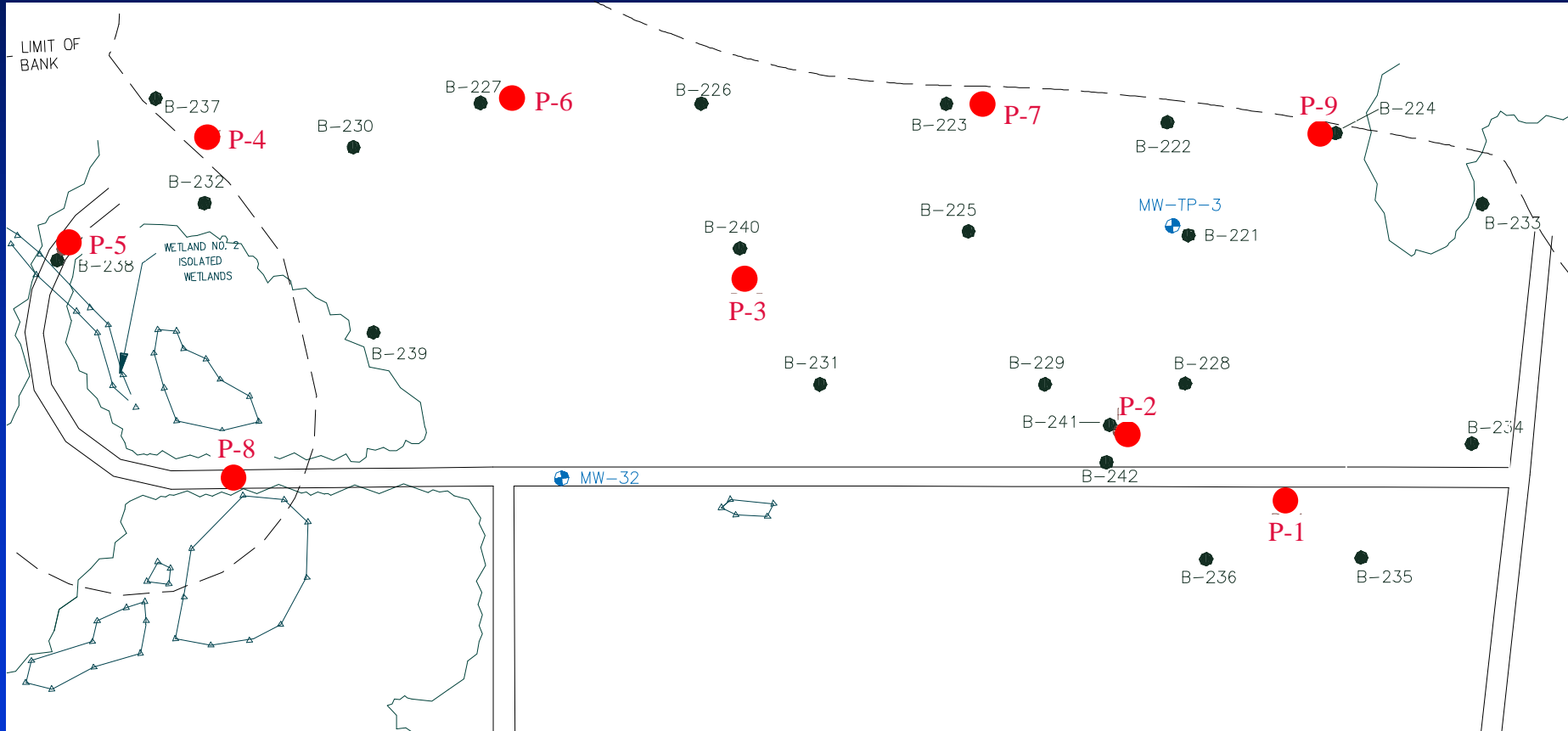


# Northern Portion Proposed Activities

**Raytheon**

- **Install 9 monitor well clusters onsite**
  - proceed under existing scope of work
- **Conduct off-site property investigation**
  - advance Waterloo Profiler borings & analyze groundwater samples
  - install additional monitor well clusters
  - involve PIP throughout process

# Proposed Monitoring Well Locations



# Regional Aerial Photograph Showing DEP's Well Locations



# **On-Line Document Repository**

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- **Web site containing electronic copies of documents stored in public repository**
- **URL: [www.ermne.com](http://www.ermne.com)**
- **Username: Raytheon**
- **Password: Wayland**

# Q & A