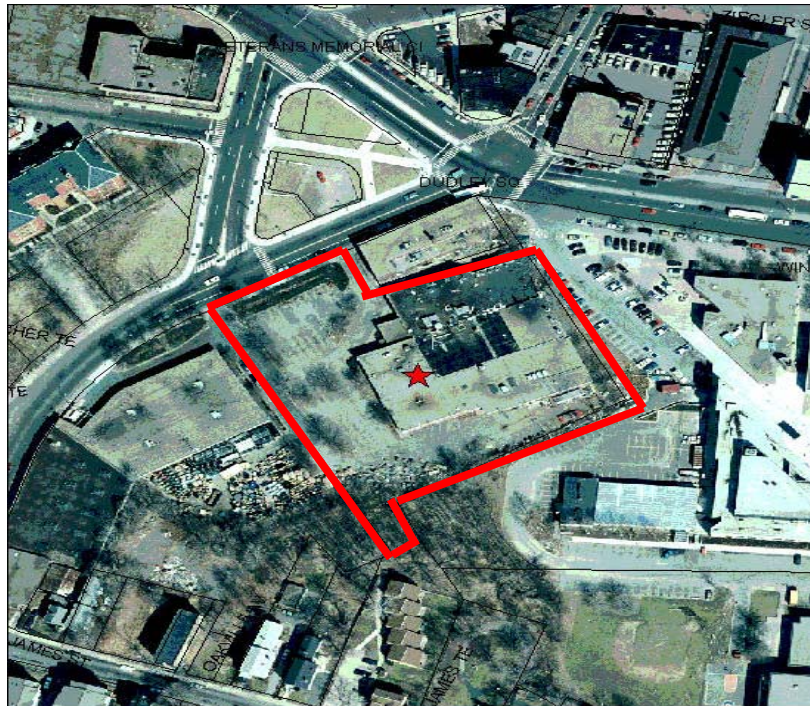




City of Boston  
Thomas M. Menino, Mayor

# Modern Electroplating Site Update



Dudley Vision  
Advisory Task  
Force  
September  
2008  
Meeting

**DUDLEY  
SQUARE  
VISION**

# Modern Electroplating “Uncontrolled Waste Site”

- Key elements that define a “site” relative to MA DEP and US EPA
  - Source (the hazardous material)
  - Release (the leak, spill, improper disposal)
  - Targets (the sensitive receptors)

# History of Modern Electroplating

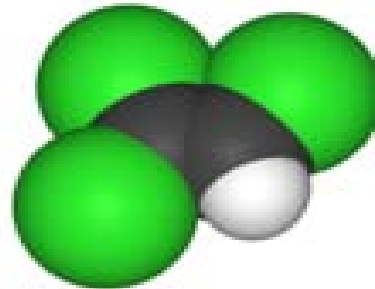
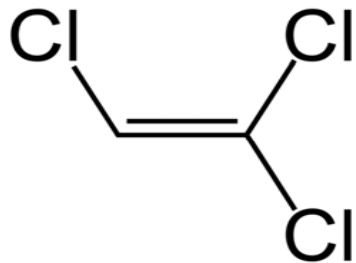
- The company operated an onsite electroplating facility from 1955 to 1994.
- 1994 MWRA and the MA DEP order the facility to cease operations and remove and dispose of all wastes present at the property.
- Owners attempt to close the facility disposing of 22,000 gallons of waste.
- 1995 Owners run out of money and abandon facility. MA DEP RTN # 3-11352 is opened.

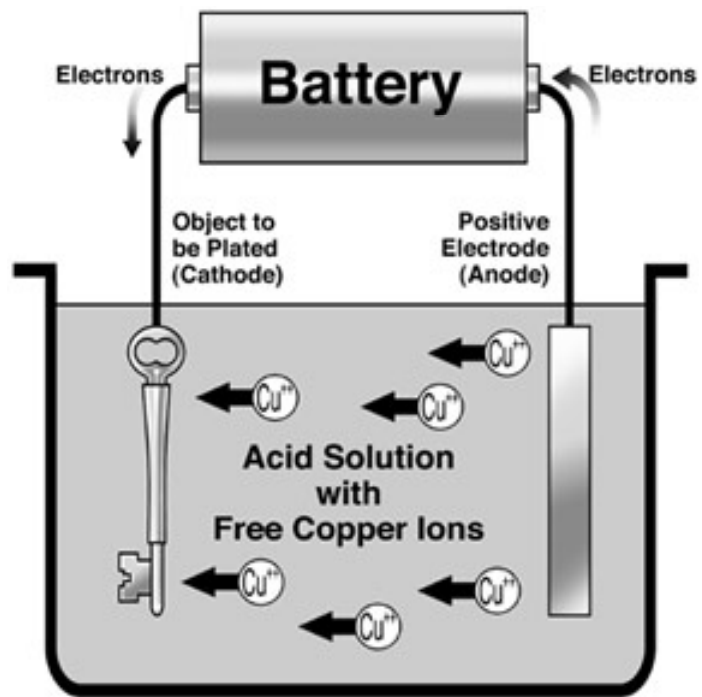
# History of Modern Electroplating Continued

- 1995 MA DEP and US EPA conduct emergency response actions at a cost of \$1.3 million dollars.  
Imminent hazard is avoided.
- City of Boston forecloses 9/21/1999

# What is electroplating?

- Electroplating is the production of a surface coating of one metal upon another by electrodeposition.
- Materials Used (**Source**):
  - Metals
  - Solutions
    - Acids and Bases, Salts
    - Degreasers (such as TCE/Trichloroethylene)







# Release

- Past
  - Poor Management Practices
    - Leaks
    - Spills
    - Improper Disposal
    - No Maintenance
- Current
  - Abandoned materials
  - Soils
  - Continued leaching
  - Plume



# Affected Media

- Groundwater
  - Plume of Metals and Organic Compounds (TCE)
- Soil
  - Metals, Organic Compounds
- Indoor Air (Vapor Intrusion)
  - Vapor from Organic Compounds



# Targets

- Onsite/Offsite
  - Groundwater
    - Vapor Intrusion (Building Occupants)
    - Drinking Water (Potential)
    - Environmental (Harbor, Surface Water, Wetlands..etc)
- Onsite
  - Soil
    - Transient Population (Workers, Trespassers)
    - Residents

# Regulatory Framework

- State - Massachusetts Contingency Plan (MCP)
- US EPA – Comprehensive Environmental Response, Compensation, Liability Act -CERCLA (Superfund)
- Brownfields Regulation

– Definition:

The term `brownfield site' means:

Real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

## To meet the criteria for an eligible Brownfields Project we must:

- Cleanup the site in accordance with MA DEP regulations
- Demonstrate that the proposed project adds to economic or physical revitalization by:
  - The creation of new, permanent jobs;
  - Producing affordable housing benefits;
  - Preserving historic buildings;
  - The creation of or revitalization of open space; or
  - Providing some other public benefit to the community in which the site is located.

## Municipality As Potential Responsible Party (PRP)

- Municipalities are exempt from certain liability under Brownfields legislation providing that the following are true:
  - The property was taken via tax foreclosure;
  - The municipality is actively engaged in divesting itself of the property; and
  - The municipality is taking all necessary steps to secure the property and prevent exposure to the contamination.

# MCP FLOWCHART

## Front End

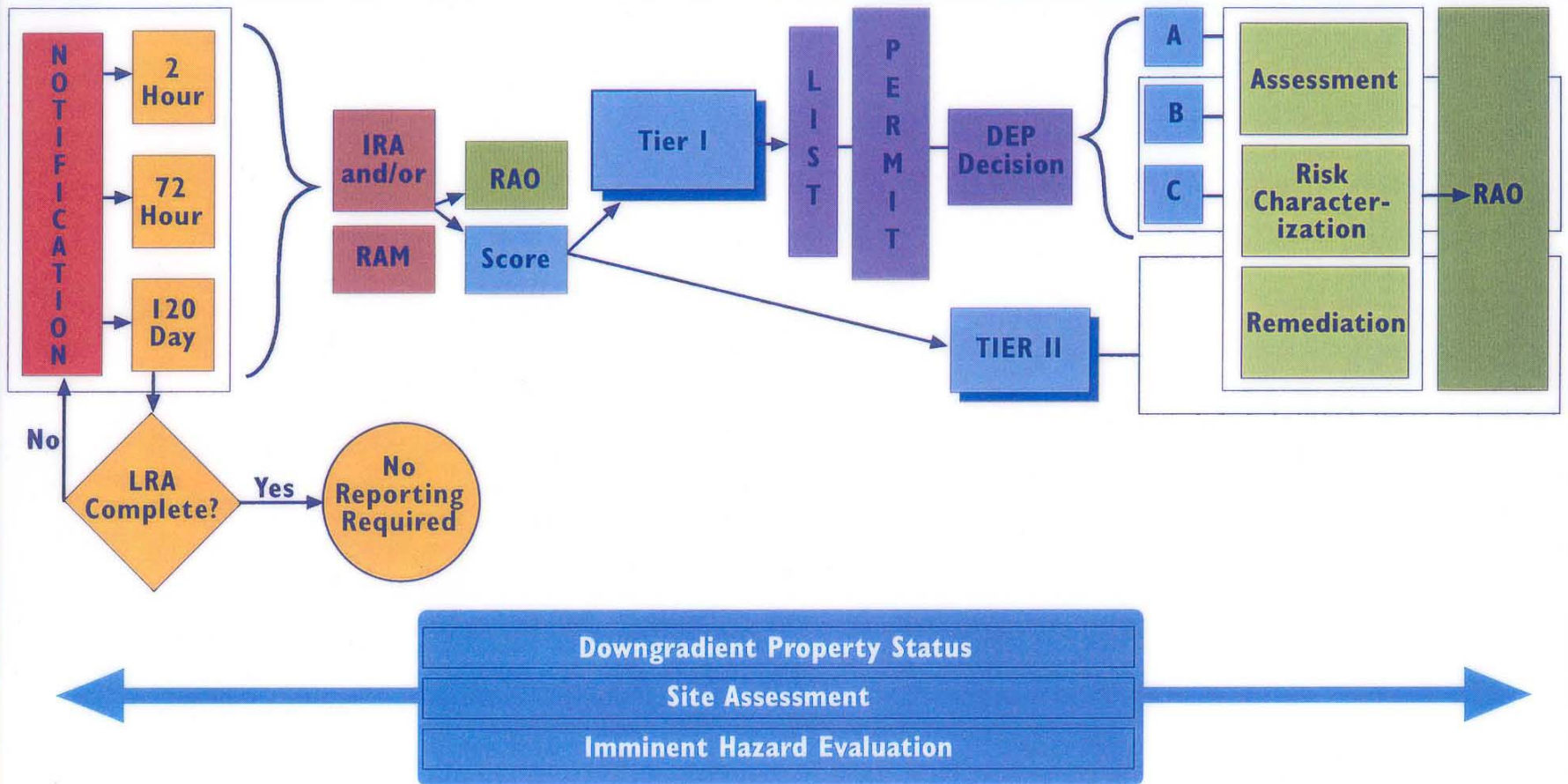
## Comprehensive Response Actions

Reporting Trigger

Up to 1 Year

Up to 5 Years

Public Involvement Activities May Take Place at Any Point In This Process



RAO - Response Action Outcome  
 LRA - Limited Removal Action  
 IRA - Immediate Response Action  
 RAM - Release Abatement Measure

# Where are we?

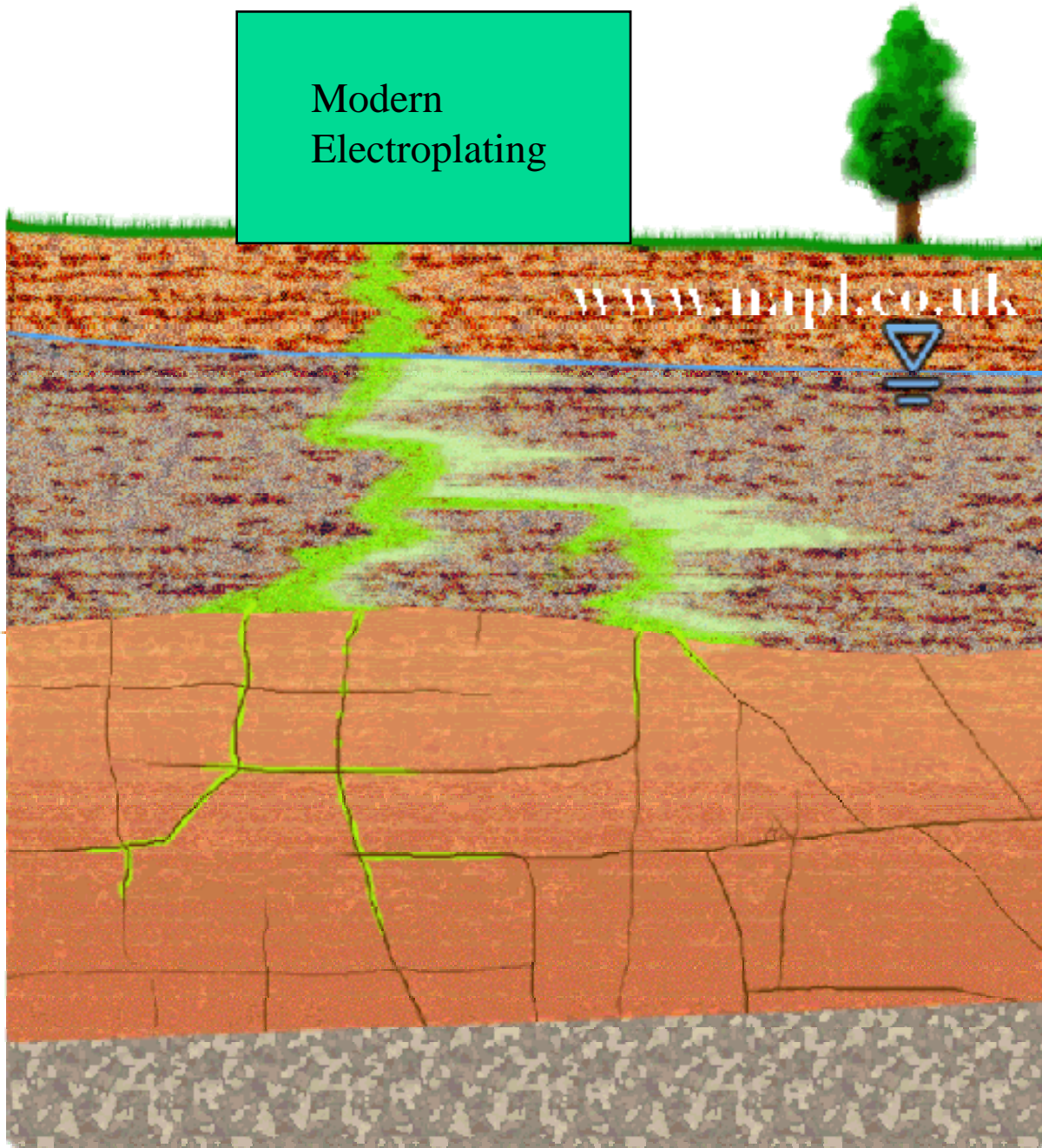
- June 2008 - Weston & Sampson produce Phase I Initial Site Assessment and Tier Classification
  - Prior report and data analysis
  - Fieldwork
    - Subsurface Investigation
    - Chemical Analysis (GW, Soil, Air)
  - Tier Classification Numerical Scoring
    - Score = 331
      - Since the Score is less than 350, the site is classified as Tier II (LSP oversight allowed)



# Where and what is the contamination?

- Two major areas of contamination
  - Soil and Groundwater underlying the floor  
Trench
    - Metals/ Cadmium, Chromium, Nickel
    - Cyanide
      - » Relatively Immobile
  - Groundwater - Overburden and Bedrock
    - Organic Solvents - Trichloroethylene (TCE)
      - » Dense Non-Aqueous Phase Liquid (DNAPL) moving laterally and vertically

Modern  
Electroplating



DNAPL

# Next Steps to Redevelopment

- Demolition of the building
  - Concerns
    - Abandoned materials (**Source**)
      - Vats, trenches, concrete, asbestos
- Soil (**Source**) Removal
  - Completed as a Release Abatement Measure (RAM)  
Plan - to be submitted within 3 months
- Activity Use Limitation (AUL)
  - Engineering Controls for Vapor Intrusion
- Phase II or Response Action Outcome (RAO) submitted to MA DEP by June 30, 2010

# Towards the RAO

## Controlling **Source-Migration-Targets**

- All remediation attempts to:
  - Remove Source Material
    - Scoop Up, Insitu Treatment, Monitored Natural Attenuation
  - Eliminate Migration
    - Encapsulate, Fixate, Block It
  - Reduce Threats to Targets
    - Relocate, Provide Alternatives Potables, Engineering Controls, AULs

# RAM Plan Current Specifications

- Excavation of soil sources of contamination
- Reuse of clean concrete, and approved low level contaminated concrete
- Backfilling and grading with 1-2 feet of clean fill
- Insitu groundwater treatment pilot test to reduce VOC levels in groundwater in the area of the degreaser