

March 29, 2011 Superfund Site Status Report

# **BLACKBURN & UNION PRIVILEGES**

# Blackburn & Union Privileges Superfund Site

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# The Superfund Process: from Discovery to Cleanup



**Lewis Pond/Neponset River/  
Former Mill Tailrace  
Sediment/Soil Remediation Area**

**Area of Containment  
Soil Remediation Area**

**On-Site Groundwater/  
Former Mill Tailrace  
Surface Water Remediation Area**

**East of South Street  
Soil Remediation Area**



# SITE BACKGROUND & CHEMICAL USAGE

## ✘ Key Industrial Activities

- + Various uses circa 1700 to 1915
- + Manufacture of asbestos clutch & brake linings (1915-1935)
- + Cotton mercerizing (1946-1984)
- + Foundry Operations – East of South Street (Current)

## ✘ Key Chemical Usages

- + Metals (additives in manufacturing)
- + Acids & bases (cotton manufacturing)
- + Organic compounds (dyes, coal burning, petroleum products)
- + Asbestos (clutch and brake linings manufacturing)

# REMOVAL ACTION

- ✘ 1992/1993 - Asbestos “Removal Action”
- ✘ Asbestos Encapsulated in On-Site, Deed Restricted, Area of Containment
- ✘ Neponset River culvert installed

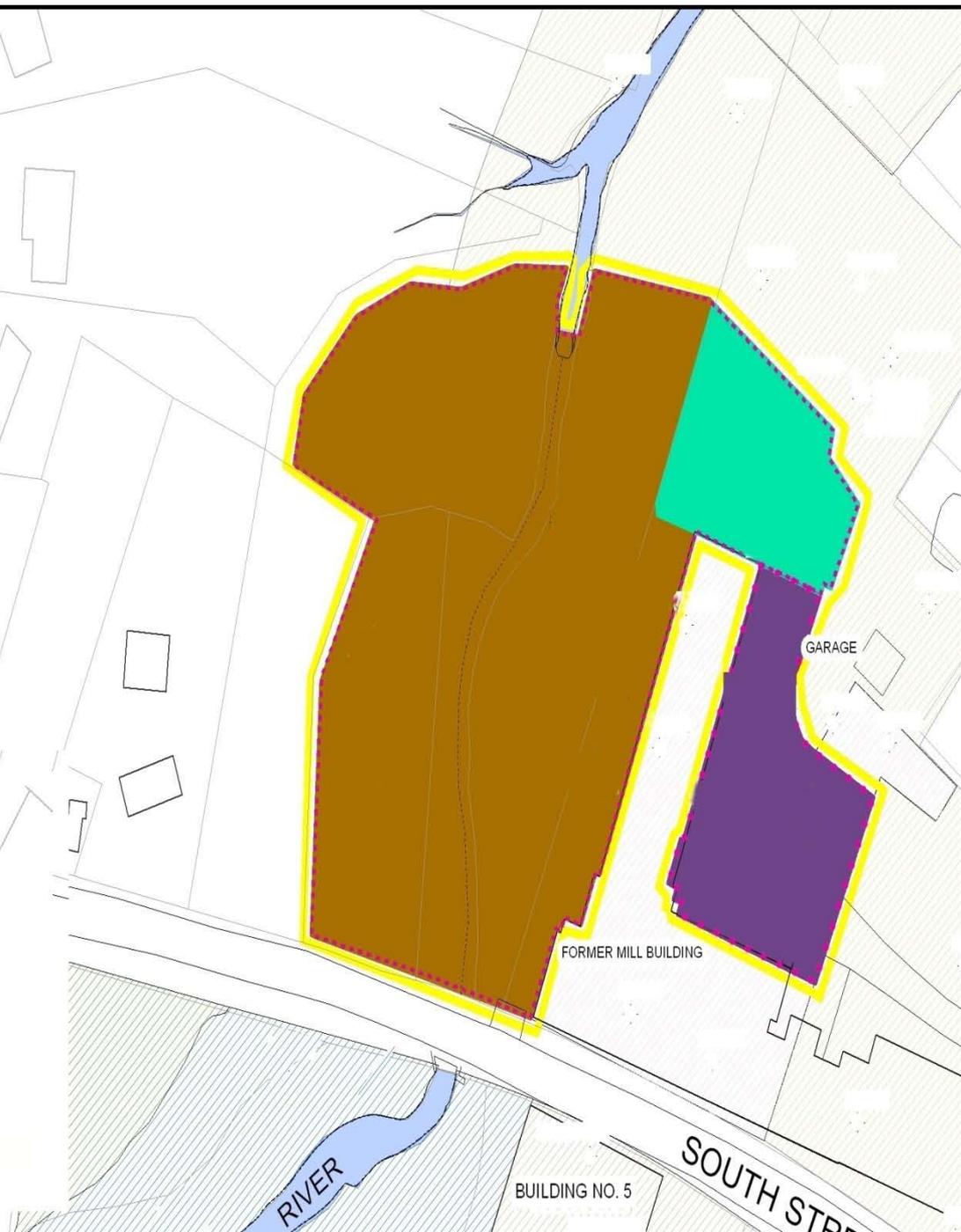




LAMPLIGHTER LANE

**LEGEND:**

-  SOIL-COVERED AOC
-  ASPHALT-COVERED AOC
-  SETTING BASIN #2 CONTAINMENT CELL
-  AREA OF CONTAINMENT CLEANUP AREA



# SUPERFUND MILESTONES

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- ✘ 1994 - Site added to Superfund Program
- ✘ 1999 - Administrative Order by Consent for Remedial Investigation/Feasibility Study
- ✘ 2000 – 2005 Phase 1A, 1B Remedial Investigation

# SUPERFUND MILESTONES

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- ✘ 2006 Additional Asbestos Sampling
- ✘ 2007 Asbestos Activity Based Sampling
- ✘ 2008 Cleanup plan selected in 'Record of Decision'
- ✘ 2009 Removal Action in Former Mill Building
- ✘ 2010 Consent Decree with PRPs to perform the cleanup described in the Record of Decision

# CONSENT DECREE NEGOTIATIONS

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Settlement reached with Responsible Parties

Entered in 12/10 by Federal District Court

- ✘ Tyco Healthcare Group LP (Covidien)
- ✘ WR Grace & Co.-Conn. (successor to Dewey and Almy)
- ✘ Shaffer Realty Nominee Trust
- ✘ BIM Investment Corporation

# CONSENT DECREE REQUIRES

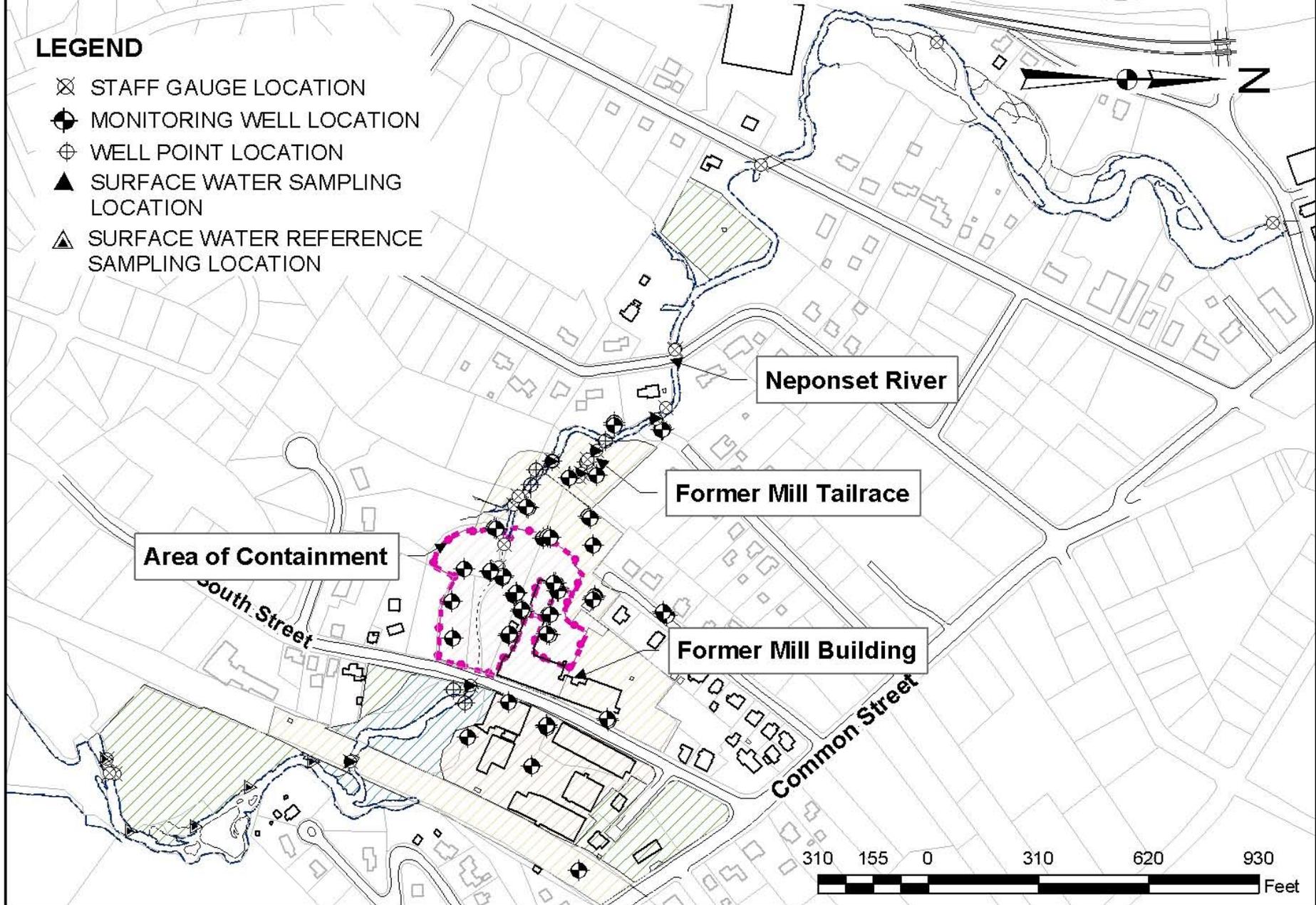
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- ✘ Responsible Parties finance and conduct \$13 million cleanup selected by EPA in 2008
- ✘ Pay EPA past costs and future oversight costs
- ✘ EPA and DEP supervise Responsible Parties' work

# SURFACE WATER AND GROUNDWATER EXPLORATION LOCATIONS

## LEGEND

- ⊗ STAFF GAUGE LOCATION
- ⊕ MONITORING WELL LOCATION
- ⊕ WELL POINT LOCATION
- ▲ SURFACE WATER SAMPLING LOCATION
- △ SURFACE WATER REFERENCE SAMPLING LOCATION

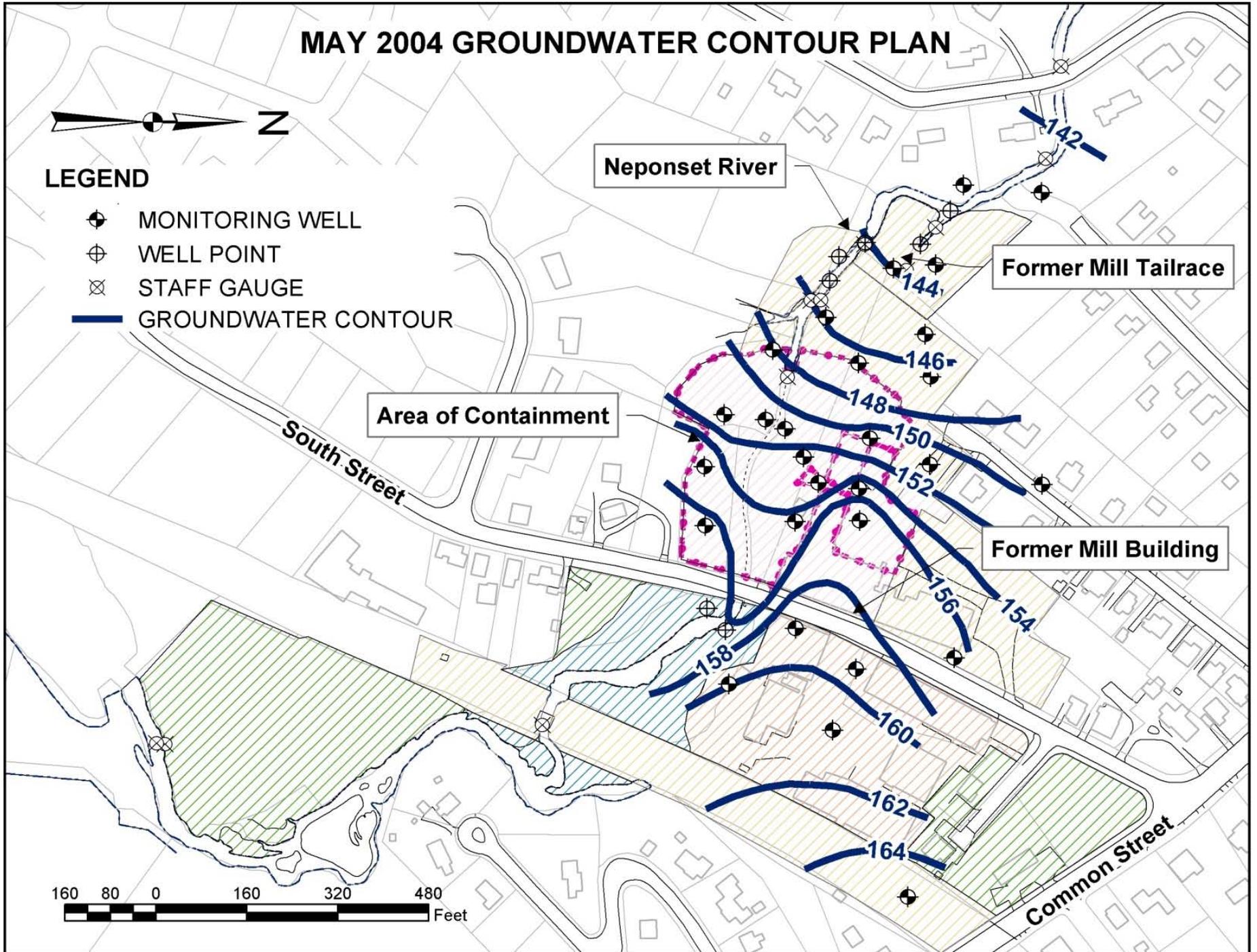


# MAY 2004 GROUNDWATER CONTOUR PLAN



## LEGEND

- MONITORING WELL
- WELL POINT
- STAFF GAUGE
- GROUNDWATER CONTOUR



# GROUNDWATER & SURFACE WATER CONTAMINANTS

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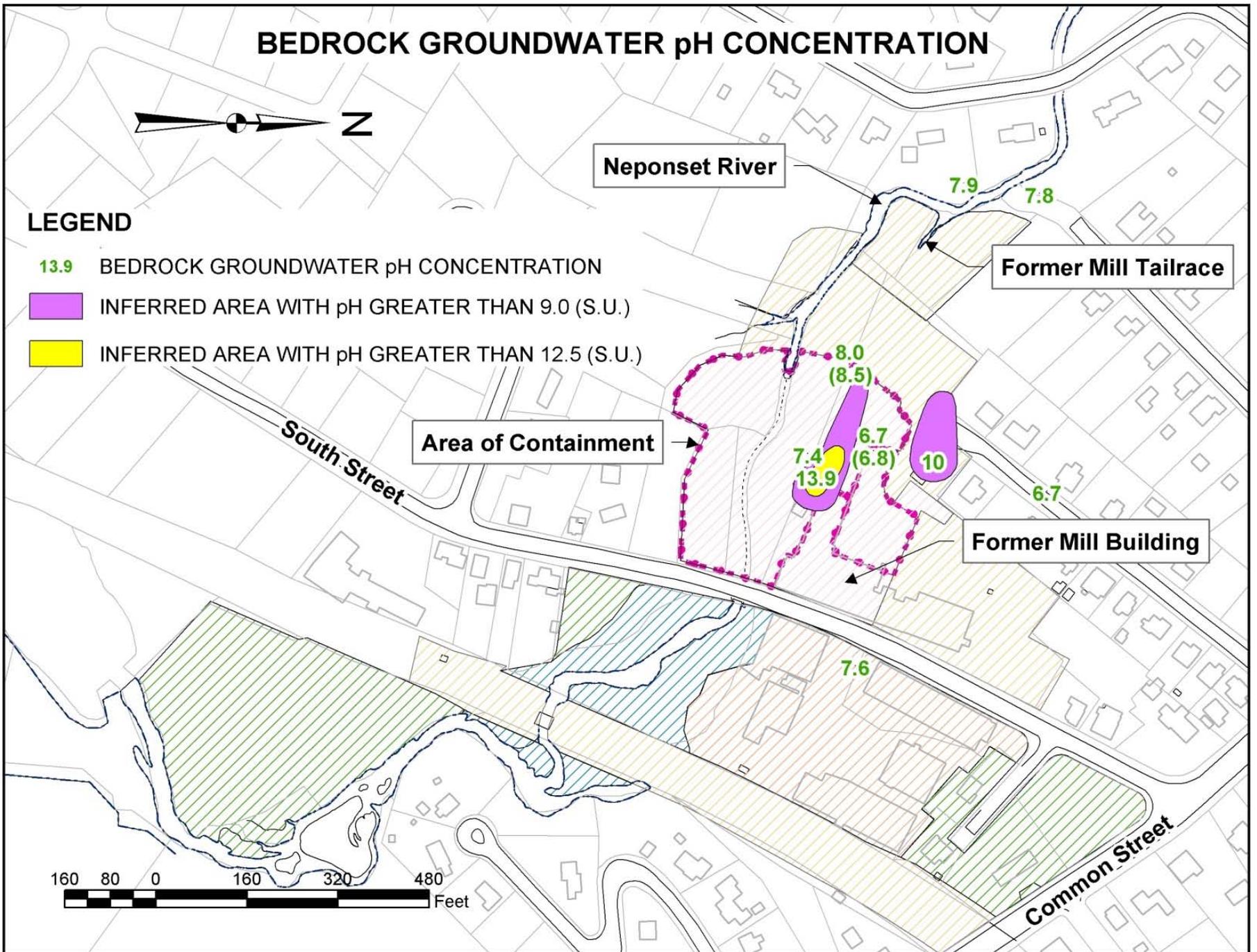
- × Elevated pH
- × Metals
- × PAHs
- × VOCs

# BEDROCK GROUNDWATER pH CONCENTRATION



## LEGEND

- 13.9 BEDROCK GROUNDWATER pH CONCENTRATION
- INFERRED AREA WITH pH GREATER THAN 9.0 (S.U.)
- INFERRED AREA WITH pH GREATER THAN 12.5 (S.U.)



# DEEP GROUNDWATER pH CONCENTRATION



## LEGEND

- 12.8 DEEP GROUNDWATER pH CONCENTRATION
- INFERRED AREA WITH pH GREATER THAN 9.0 (S.U.)
- INFERRED AREA WITH pH GREATER THAN 12.5 (S.U.)

Neponset River

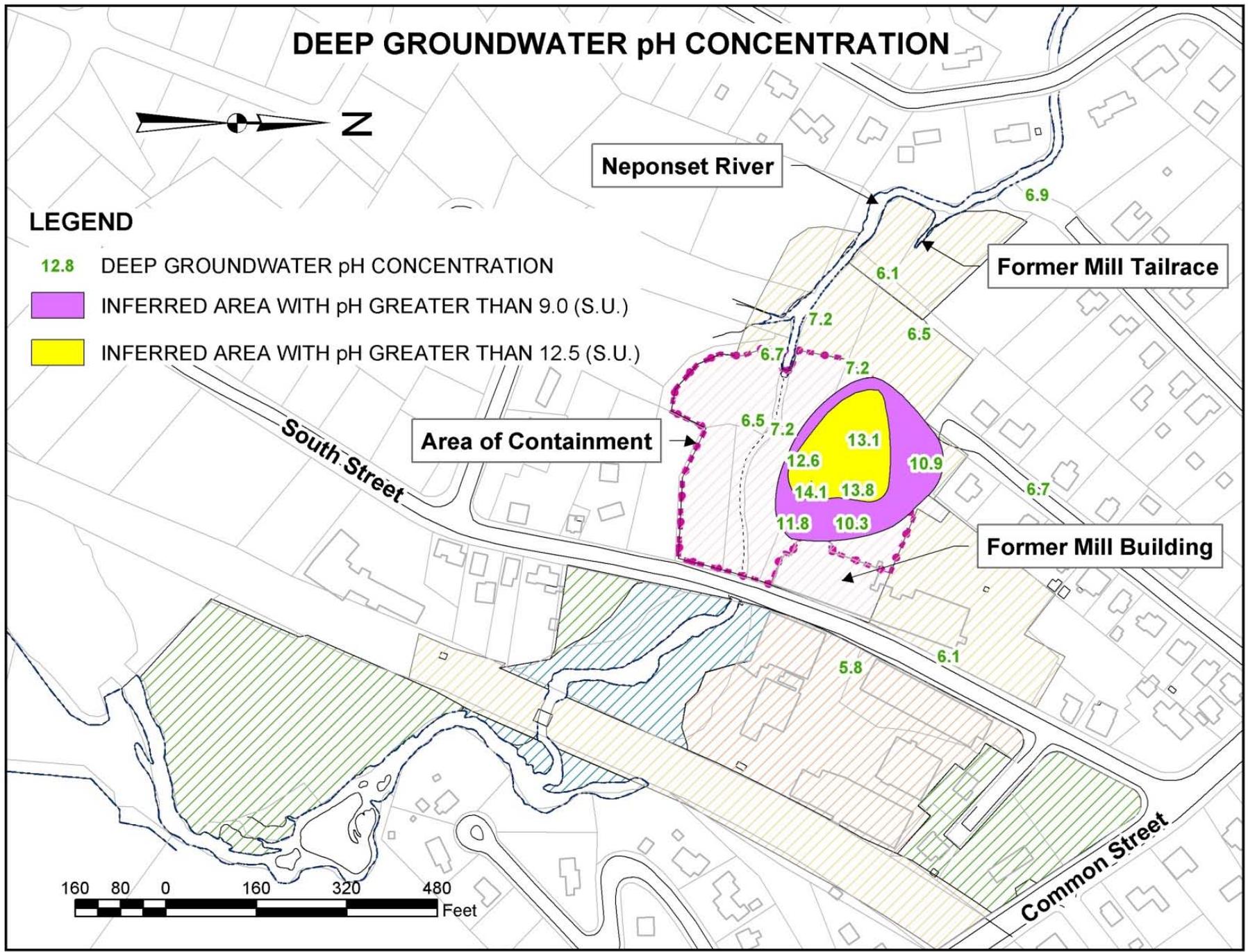
Former Mill Tailrace

Area of Containment

Former Mill Building

South Street

Common Street



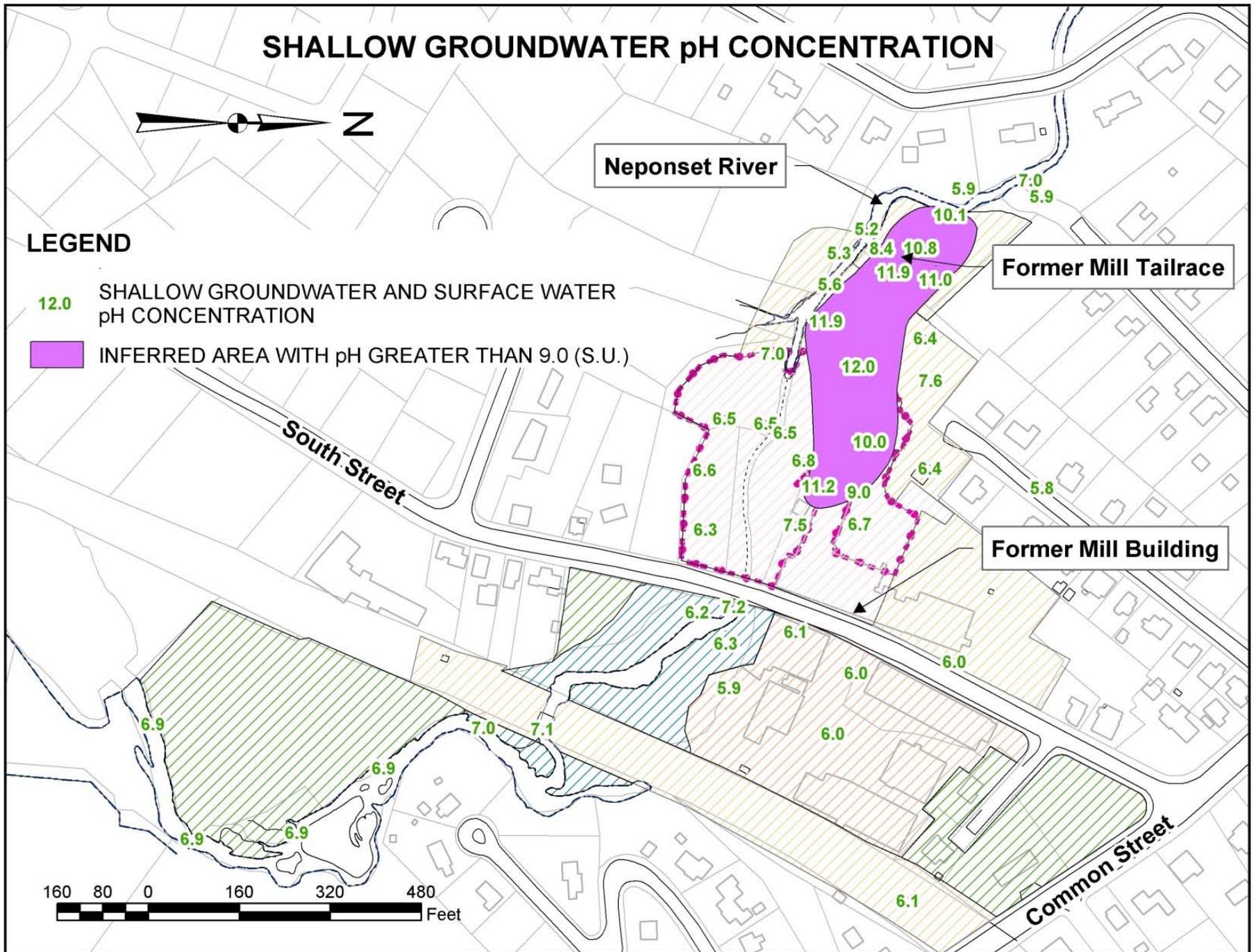
# SHALLOW GROUNDWATER pH CONCENTRATION



## LEGEND

12.0 SHALLOW GROUNDWATER AND SURFACE WATER pH CONCENTRATION

 INFERRED AREA WITH pH GREATER THAN 9.0 (S.U.)



# GENERAL CONCLUSIONS

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- ✘ Groundwater impacted by sodium hydroxide (high pH), metals, VOCs, and PAHs
- ✘ Impacted groundwater generally limited to the AOC and down gradient areas, but does not underflow the Neponset River.
- ✘ Walpole's water supply wells, Zone II WHPA's, Aquifer Protection Districts are not threatened by impacted groundwater emanating from the Site.

# SEPTEMBER 2008 CLEANUP PLAN

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- ✘ Treatment of Shallow Groundwater
- ✘ Soil Excavation & Disposal East of South St.
- ✘ Maintenance of Cover/Culvert West of South St
- ✘ Sediment Dredging from Tailrace & Lewis Pond
- ✘ On-Site Properties Deed Restrictions
- ✘ Groundwater Migration Monitoring



**LEGEND:**



AREA WITH GROUNDWATER AND SURFACE WATER CONTAMINANT CONCENTRATIONS GREATER THAN CLEANUP GOALS



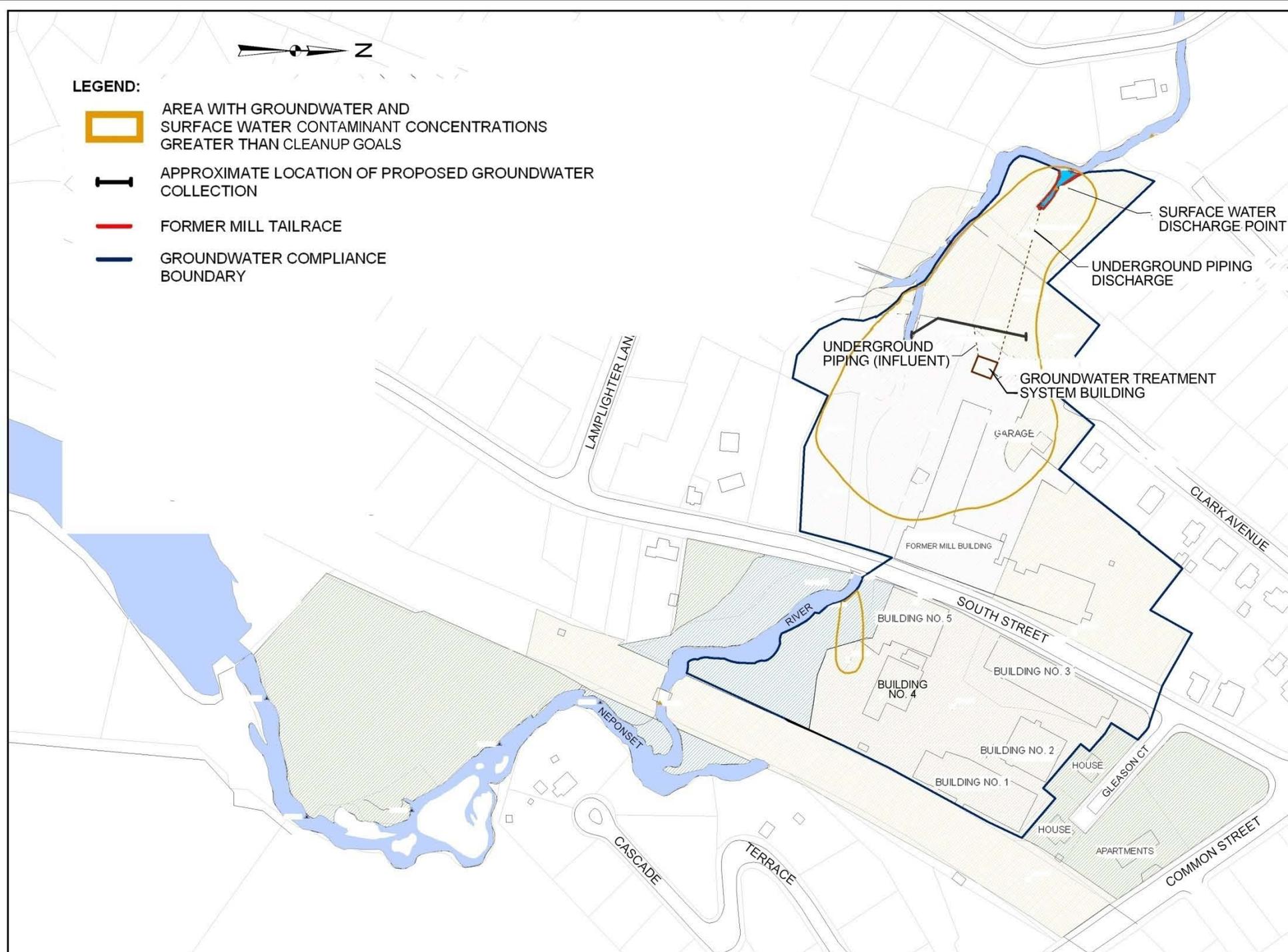
APPROXIMATE LOCATION OF PROPOSED GROUNDWATER COLLECTION



FORMER MILL TAILRACE



GROUNDWATER COMPLIANCE BOUNDARY



SURFACE WATER DISCHARGE POINT

UNDERGROUND PIPING DISCHARGE

UNDERGROUND PIPING (INFLUENT)

GROUNDWATER TREATMENT SYSTEM BUILDING

GARAGE

FORMER MILL BUILDING

BUILDING NO. 5

BUILDING NO. 4

BUILDING NO. 3

BUILDING NO. 2

BUILDING NO. 1

HOUSE

HOUSE

APARTMENTS

LAMPLIGHTER LAN

CLARK AVENUE

RIVER

SOUTH STREET

NEPONSET

CASCADE

TERRACE

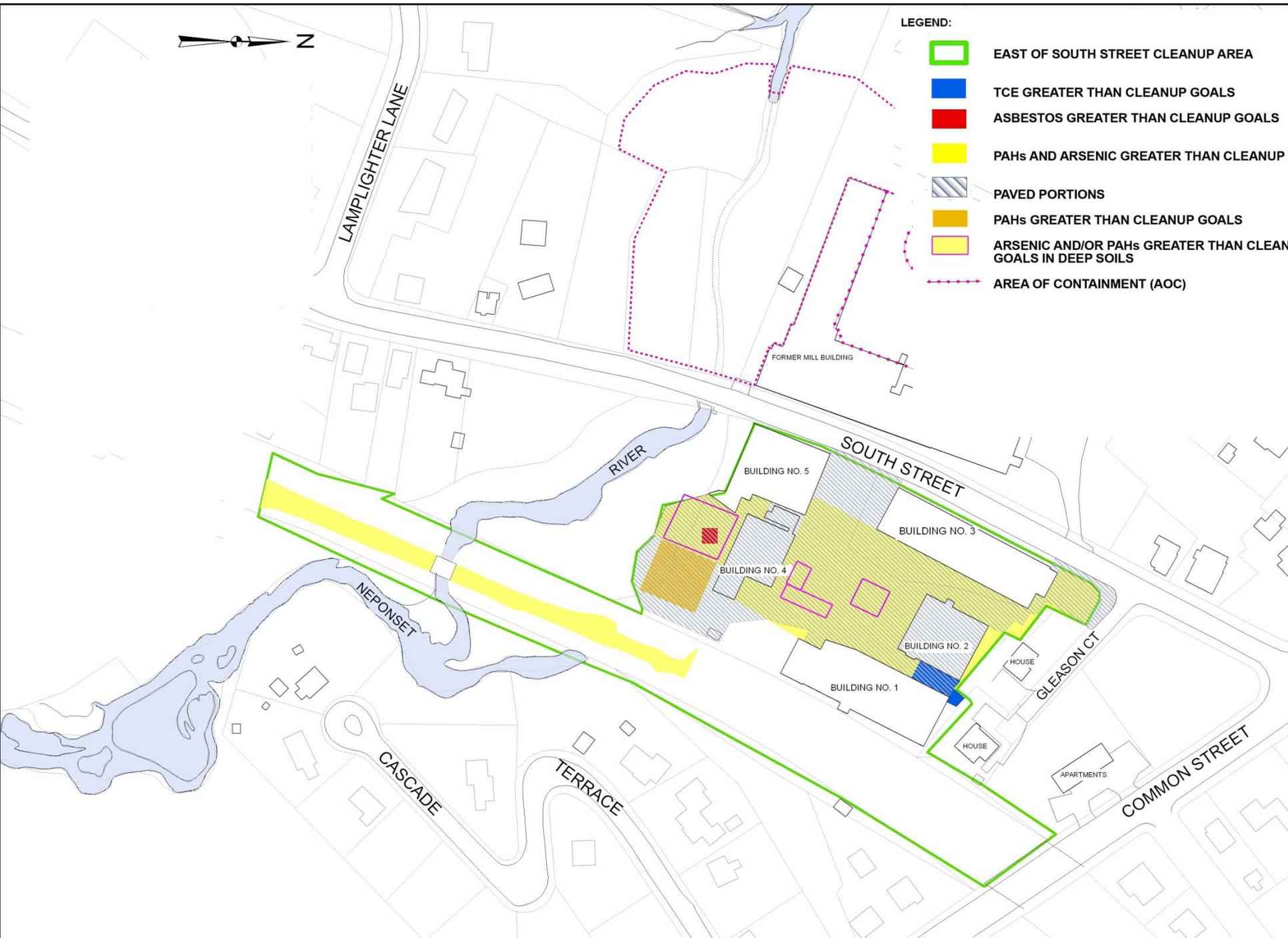
GLEASON CT

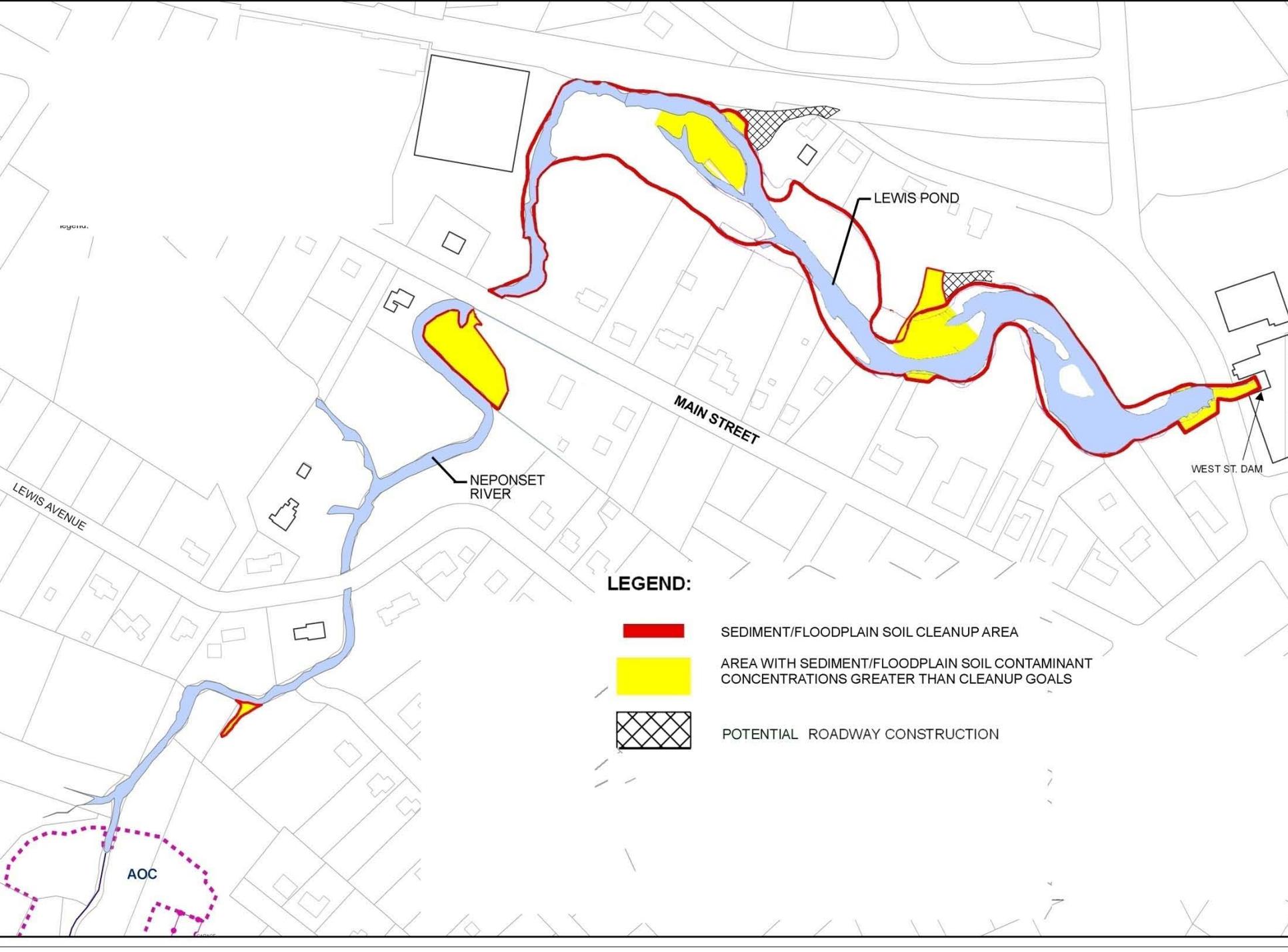
COMMON STREET



LEGEND:

-  EAST OF SOUTH STREET CLEANUP AREA
-  TCE GREATER THAN CLEANUP GOALS
-  ASBESTOS GREATER THAN CLEANUP GOALS
-  PAHs AND ARSENIC GREATER THAN CLEANUP
-  PAVED PORTIONS
-  PAHs GREATER THAN CLEANUP GOALS
-  ARSENIC AND/OR PAHs GREATER THAN CLEANUP GOALS IN DEEP SOILS
-  AREA OF CONTAINMENT (AOC)





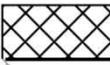
**LEGEND:**



SEDIMENT/FLOODPLAIN SOIL CLEANUP AREA



AREA WITH SEDIMENT/FLOODPLAIN SOIL CONTAMINANT CONCENTRATIONS GREATER THAN CLEANUP GOALS



POTENTIAL ROADWAY CONSTRUCTION

# REMOVAL ACTION: 2009

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- ✘ 100+ Containers of hazardous materials removed from Former Mill Building
- ✘ Approximately 30 tons of asbestos removed from Former Mill Building



170

80







EYE HAZARD  
WARRANTY  
BY THE  
MANUFACTURER



09/30/2009 12:09



09/10/2008 03:16 PM

# ACTIVITIES IN 2011 & 2012

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- × Short Term Response
- × On-site contaminated soil sampling
- × Groundwater extraction and treatment systems engineering studies
- × Sampling in Lewis Pond and the tailrace area on-site
- × Sediment excavation and dewatering techniques evaluation
- × AOC/culvert engineering analysis
- × Sampling in Neponset River downstream of Lewis Pond
- × Surface Water and Groundwater Monitoring

# ACTIVITIES IN 2011 & 2012

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## Short Term Response

- + Sampling and cleanup on residential lot downstream of Site
- + Preparation of mailing list for Lewis Pond
- + Coordination with owner of Lewis Pond Dam

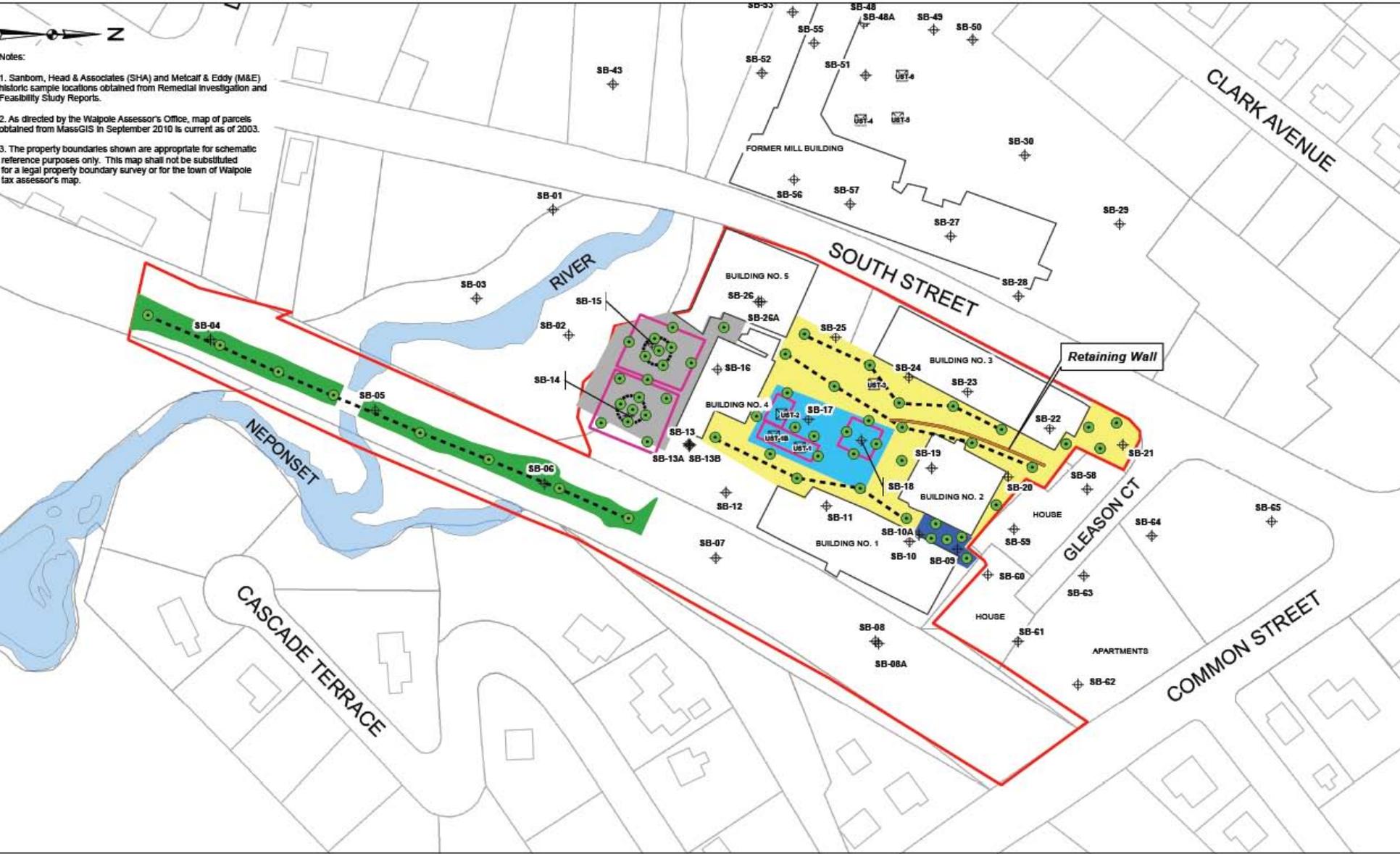
# ACTIVITIES IN 2011 & 2012

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## On-site contaminated soil sampling

- + Focused on area east of South Street
- + Contaminants of Concern include arsenic, lead, PAHs, asbestos, and trichloroethylene.
- + Objective is to refine volume estimates for design
- + West of South Street: determine if 'burrito' (settling basin #2) contains hazardous waste to determine if it may remain in place permanently.

# Pre-Design Soil Sampling East of South Street



- Notes:
1. Sanborn, Head & Associates (SHA) and Metcalf & Eddy (M&E) historic sample locations obtained from Remedial Investigation and Feasibility Study Reports.
  2. As directed by the Walpole Assessor's Office, map of parcels obtained from MassGIS in September 2010 is current as of 2003.
  3. The property boundaries shown are appropriate for schematic reference purposes only. This map shall not be substituted for a legal property boundary survey or for the town of Walpole tax assessor's map.

# ACTIVITIES IN 2011 & 2012

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## Groundwater extraction and treatment systems engineering studies

- + Collect hydraulic data needed to design collection system for the West of South Street area
- + Collect treatability data need to design treatment system
- + Study options for discharge of treated water



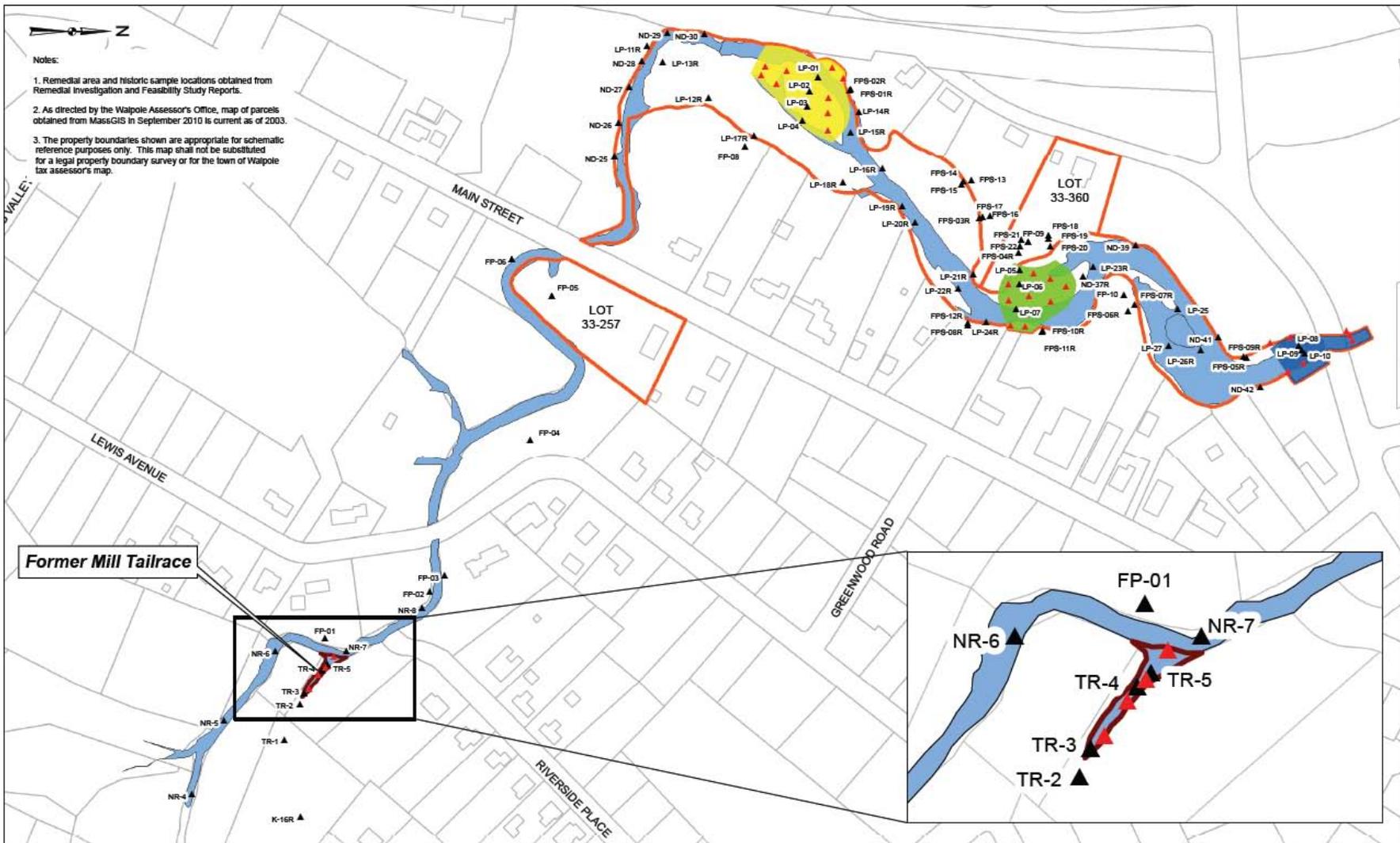
# ACTIVITIES IN 2011 & 2012

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## Sediment Sampling in Lewis Pond and the Tailrace Area On-site

- + Refine volume estimates by further sampling
- + Evaluate sediment dredging and dewatering techniques

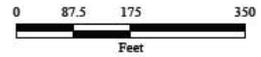
# Pre-Design Sediment Sampling Between South Street and Lewis Pond



- Notes:**
1. Remedial area and historic sample locations obtained from Remedial Investigation and Feasibility Study Reports.
  2. As directed by the Walpole Assessor's Office, map of parcels obtained from MassGIS in September 2010 is current as of 2003.
  3. The property boundaries shown are appropriate for schematic reference purposes only. This map shall not be substituted for a legal property boundary survey or for the town of Walpole tax assessor's map.

Former Mill Tailrace

- Legend**
- ▲ Historic Samples
  - ▲ Proposed Sample Locations
  - Neponset River
  - Former Mill Tailrace
  - Lewis Pond Area #1
  - Lewis Pond Area #2
  - Lewis Pond Area #3
  - Remediation Areas



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**WOODARD & CURRAN**

SEDIMENT/FLOODPLAIN SOIL INVESTIGATION

BLACKBURN & UNION PRIVILEGES  
 SUPERFUND SITE  
 WALPOLE, MA

SEDIMENT AND FLOODPLAIN SOIL WORK PLAN

JOB NO: 223203  
 DRAWN BY: BVA  
 DATE: SEPTEMBER 2010

FIGURE B-1

# ACTIVITIES IN 2011 & 2012

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## AOC/Culvert Engineering Analysis

- + Re-evaluate flood modeling to confirm culvert can withstand 100 year flood event
- + Evaluate the stability of the AOC/culvert with regard to other modes of failure
- + Propose corrective measures, if necessary
- + Re-evaluate Long Term Operation and Maintenance Plan for the property

# ACTIVITIES IN 2011 & 2012

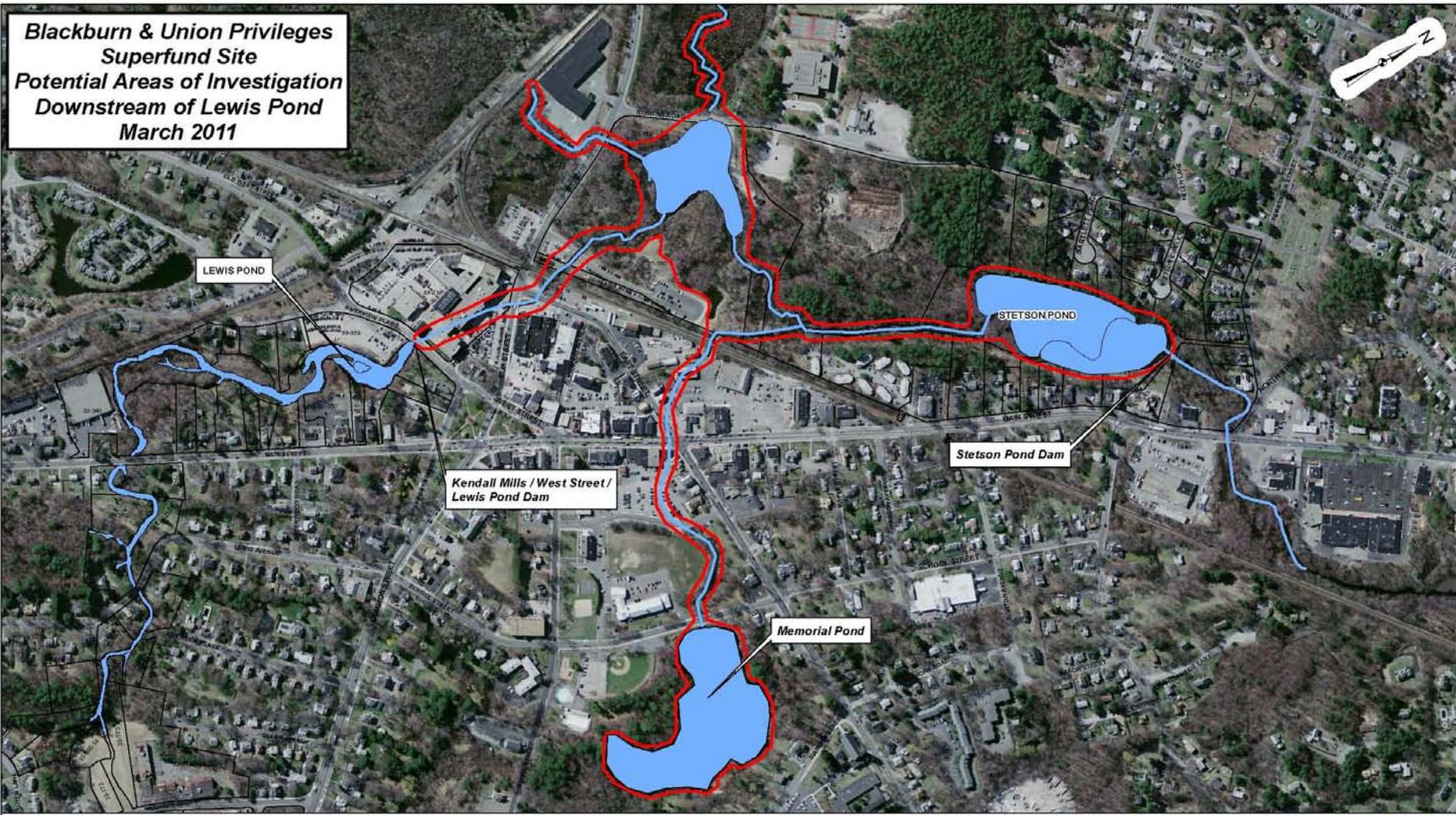
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## Sampling in Neponset River downstream of Lewis Pond

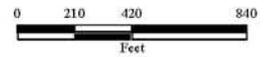
- + Assess the potential for contaminant transport downstream of Lewis Pond to Stetson Pond Dam.
- + Identify suspected depositional areas for sampling

# Pre-Design Sediment Sampling Downstream of Lewis Pond

**Blackburn & Union Privileges  
Superfund Site  
Potential Areas of Investigation  
Downstream of Lewis Pond  
March 2011**



- Legend**
- 33-150 Assessor Map-Lot
  - Surface Water
  - Downstream of Lewis Pond Investigation



# ACTIVITIES IN 2011 & 2012

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## Surface Water and Groundwater Monitoring

- + Prepare plan for annual monitoring
- + Carry out monitoring until the construction is complete

# NEXT STEPS

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- ✘ Approve Design Workplans - Spring 2011
- ✘ Responsible Parties Perform Studies-Summer /Fall 2011
- ✘ Develop Engineering Designs
  - + 30% Design due 300 days from Design Work Plan Approval
  - + Currently estimated as early 2012

# NEXT STEPS

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- + 100% Design – more detail than 30%
  - × Due 180 days from approval of 30% design
  
- + Town full involvement in process
  - × In meetings with regulators and responsible parties
  - × Review of design documents including, for example:
    - ★ plans and specs,
    - ★ trucking plans,
    - ★ air monitoring,
    - ★ security,
    - ★ operations and maintenance plans