

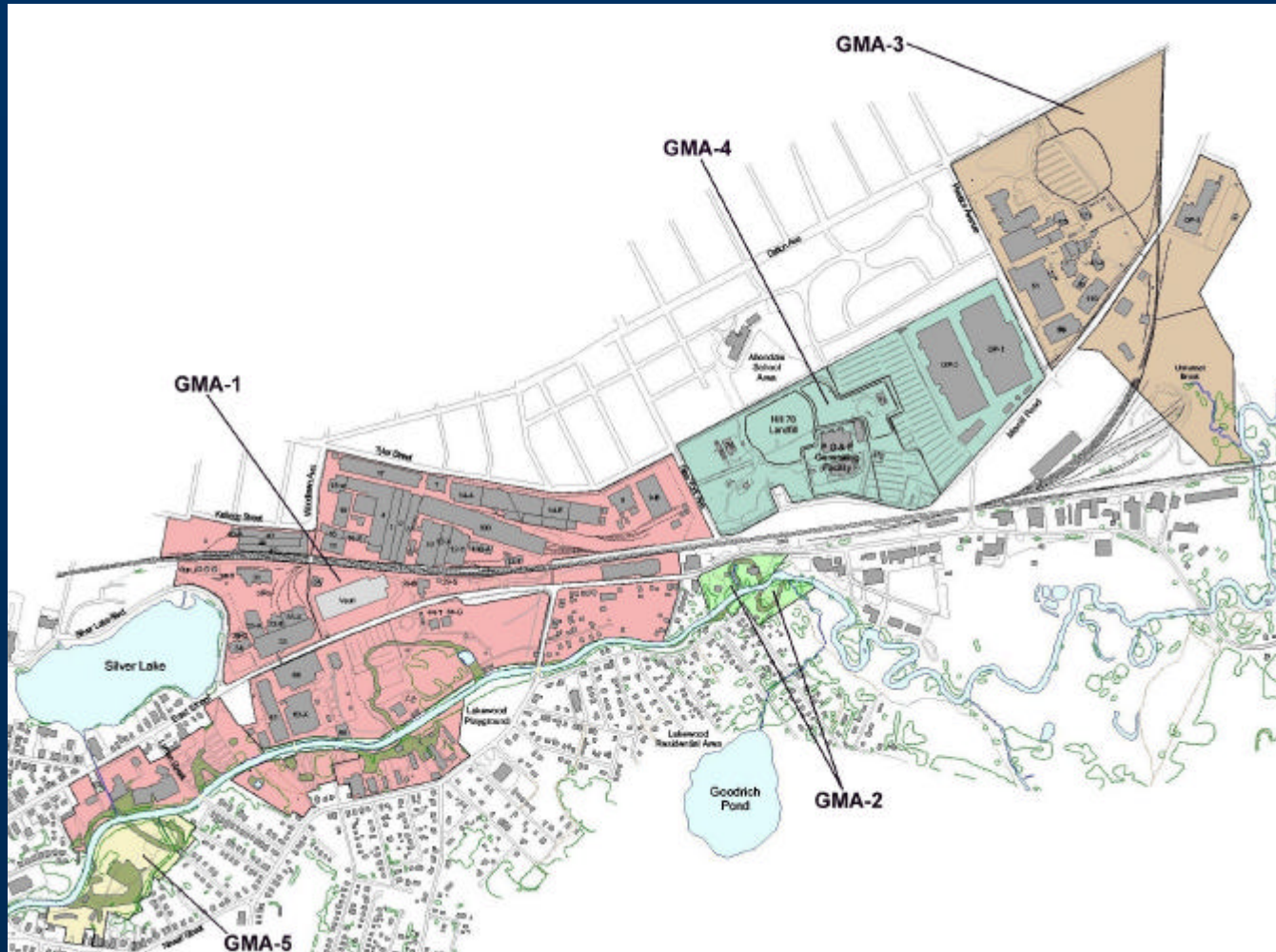


Overview of NAPL and Groundwater Programs

Mike Nalipinski
EPA New England

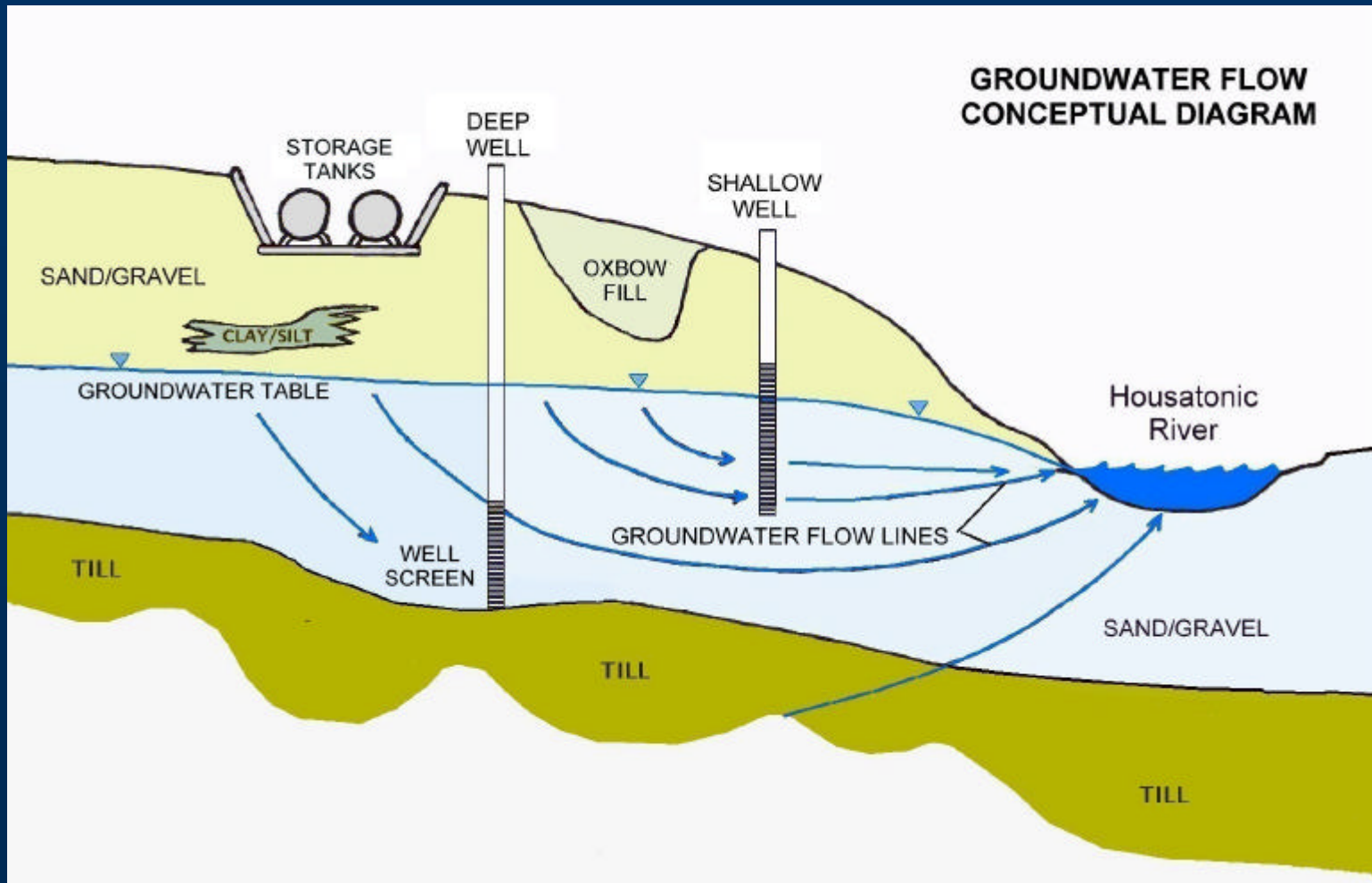


Groundwater Management Area (GMA) Map



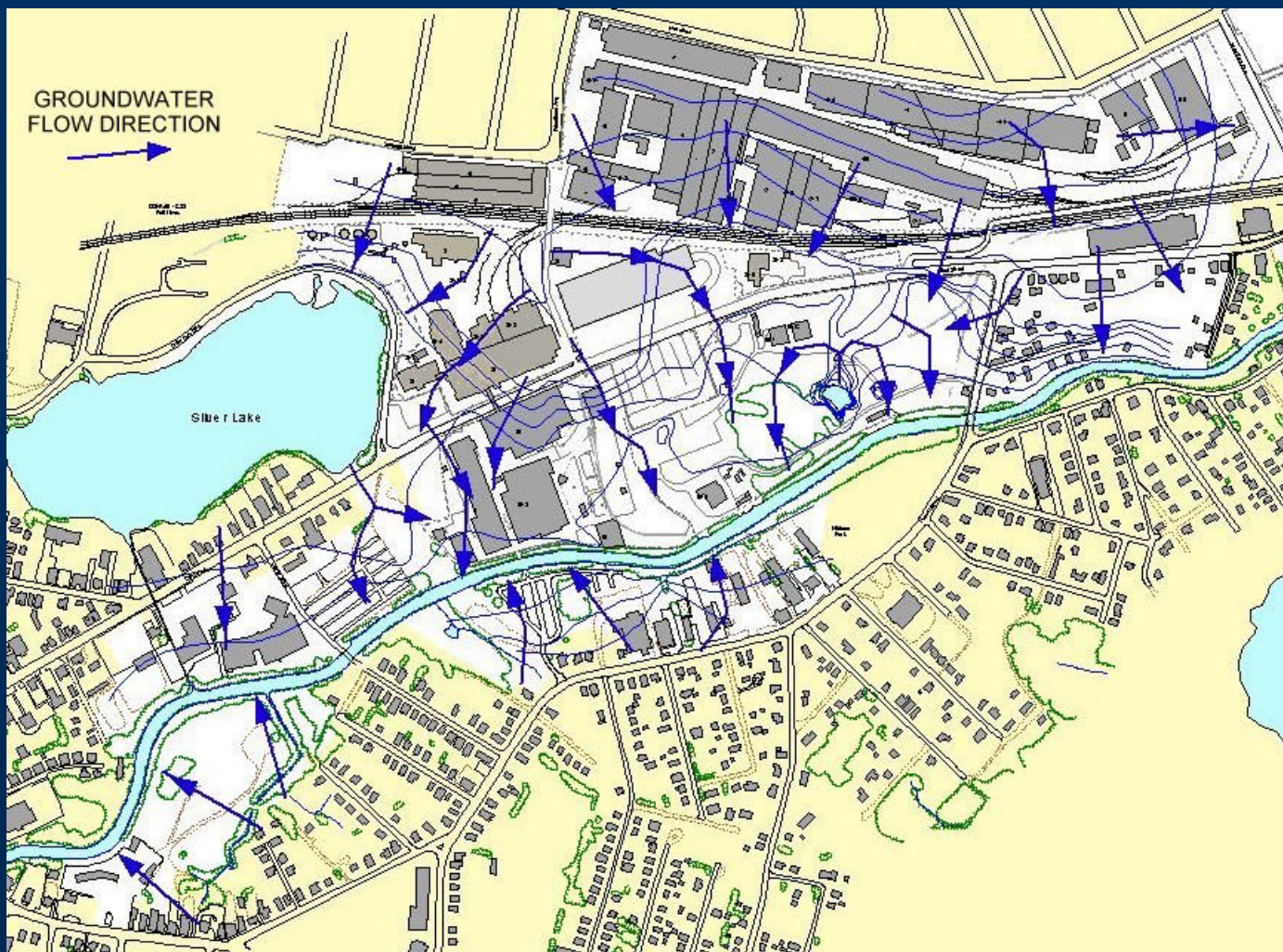


Generalized Groundwater Flow Diagram





Generalized Groundwater Flow Map for GMA-1





Non-Aqueous Phase Liquids (NAPLs)

- Definition: Hydrocarbon Liquids (Commonly Called Oils) That Do Not Readily Mix With or Dissolve in Water (Non-Aqueous).
- Dense NAPLs (DNAPLs) Tend to Sink in Water.
- Light NAPLs (LNAPLs) Tend to Float on Water.





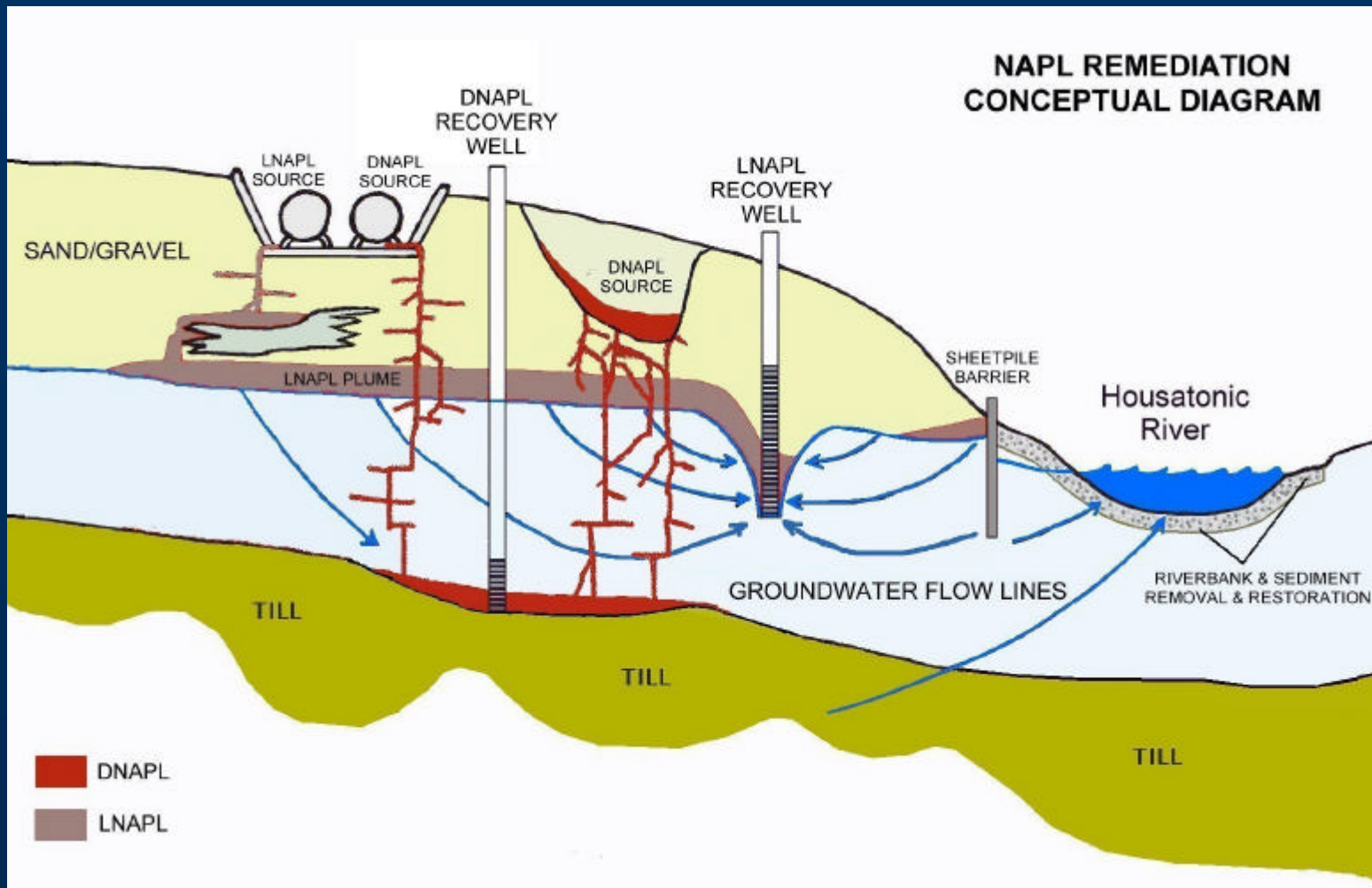
NAPLs at the GE - Housatonic River Site

- **Pyranol: Mixture of PCBs (Aroclors 1254 or 1260) with Trichlorobenzene. Acts as a DNAPL.**
- **Aroclor 1260: PCB oil. Acts as a DNAPL.**
- **10C Insulating Oil: Petroleum distillate (mineral oil). Acts as an LNAPL.**
- **Coal Tar: Manufactured Gas Plant sludge and liquids. Acts as an LNAPL or DNAPL.**



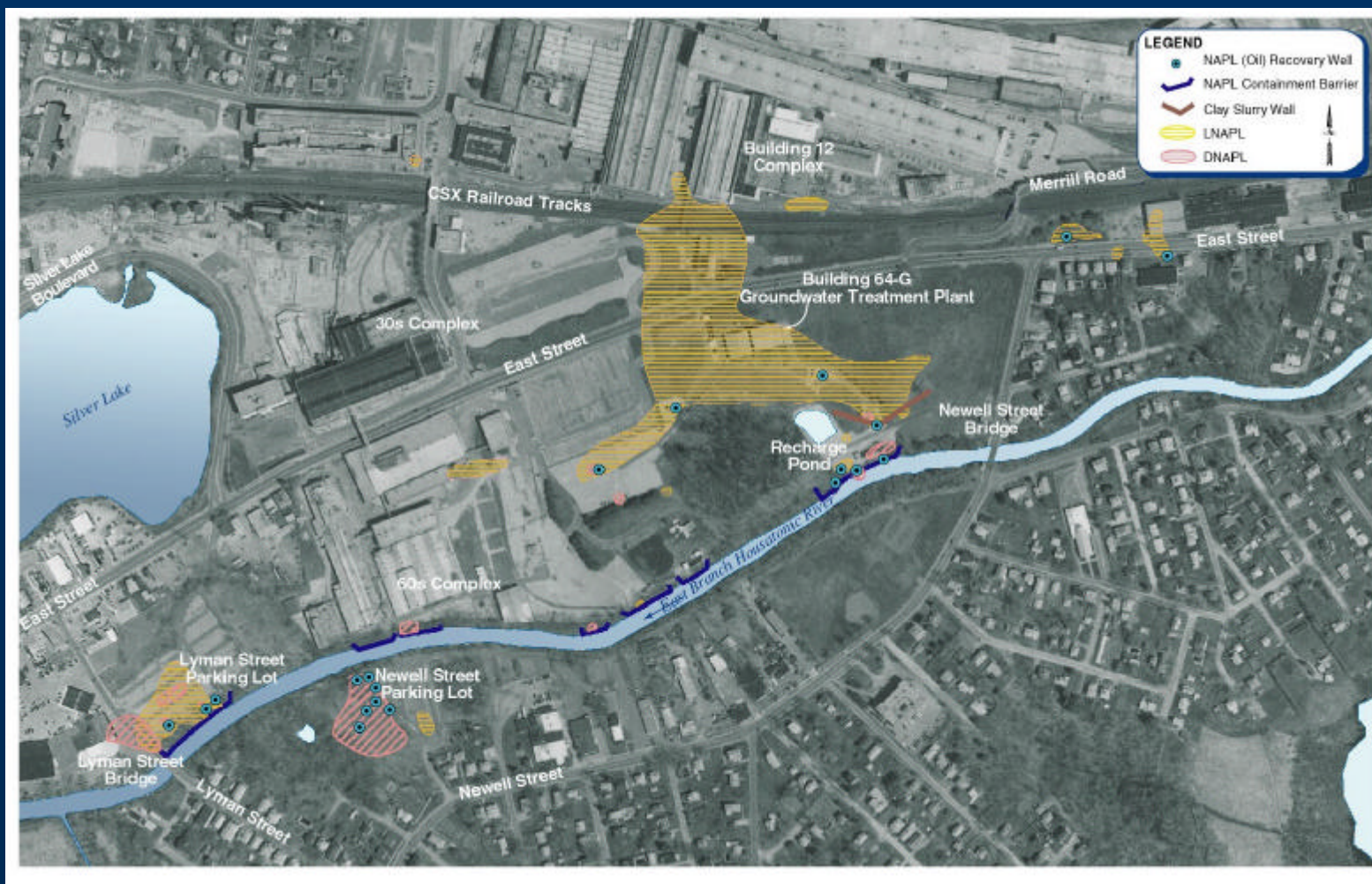


NAPL Conceptual Diagram



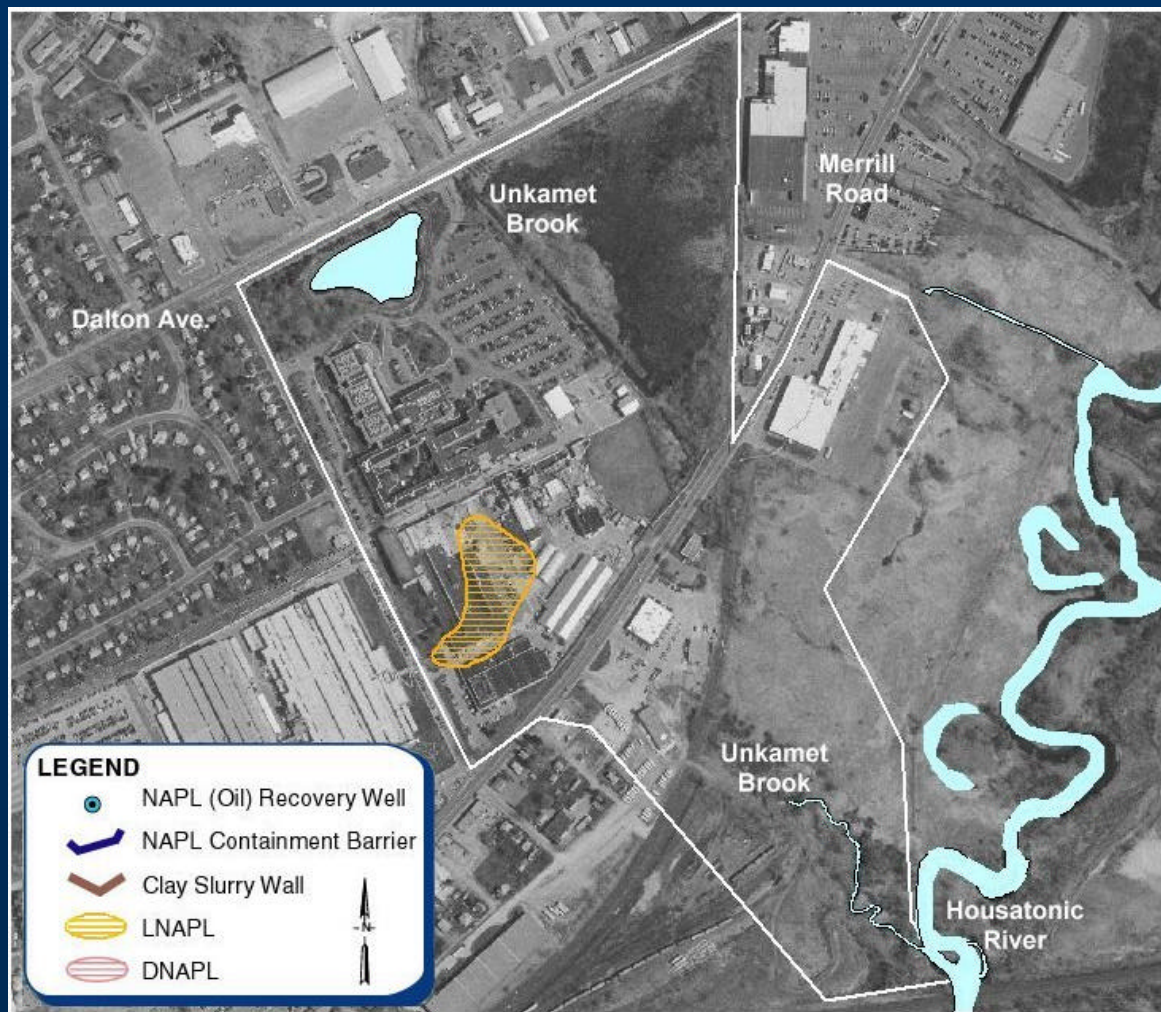


Approximate Extent of LNAPL & DNAPL – Spring 2001





Approximate Extent of LNAPL at Unkamet Brook Area





NAPL Performance Standards

- No Discharge of NAPL to Surface Water or Sediments Around or Under Barriers.
- Eliminate NAPL from Wells Near River and Lake Banks.
- Reduce NAPL in all Wells to Minimize Potential NAPL Migration to Surface Water and Help Achieve Groundwater Standards.
- Demonstrate that NAPL Near Buildings Doesn't Adversely Affect Indoor Air Quality.



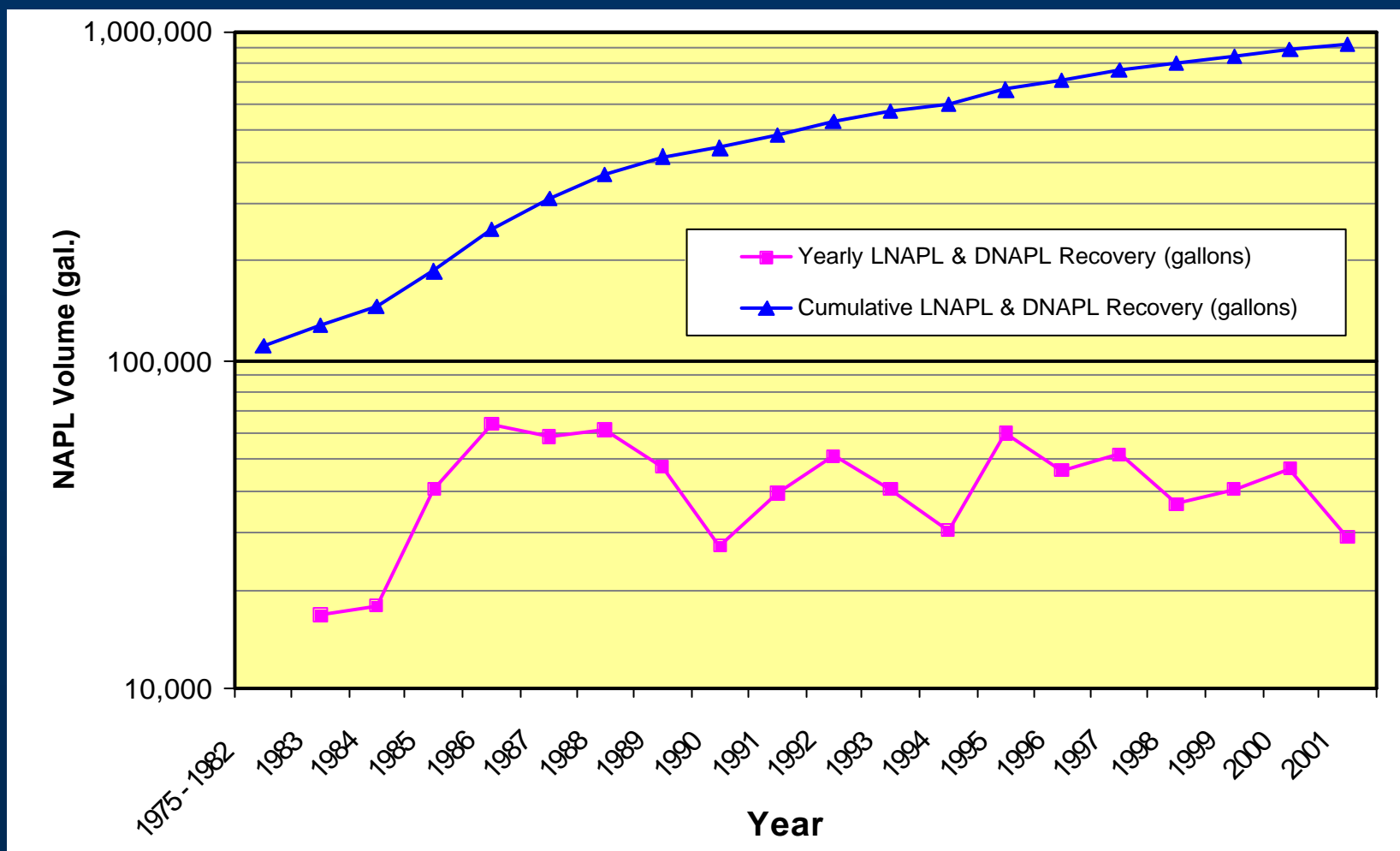


Sheetpile Containment Barrier & NAPL Recovery Well





Summary of GMA-1 NAPL Recovery by GE





Groundwater Treatment Plant and Recovery Well 64-R





NAPL Remediation Animation, 1986 - 2000

