

# Identifying Risks due to Historical Dry Cleaners

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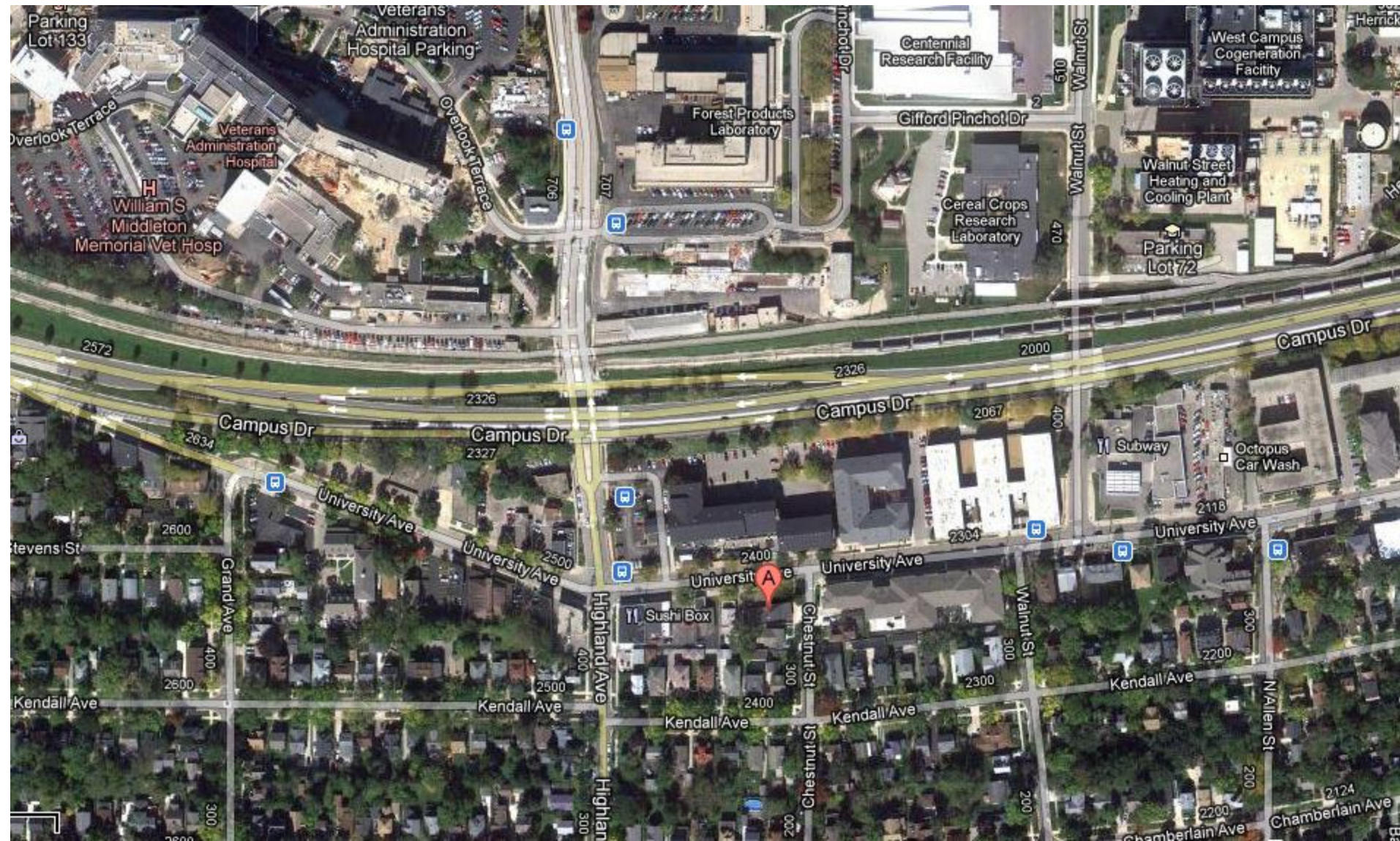




# Holistic approach to managing historical releases

- Our paradigm of discovering and cleaning up sites one-by-one may not adequately address the environmental risk that historical chemical release sites represent

# Historical dry cleaner & redevelopment





PCE - ND  
soil, gw

PCE  
Soil = 500 ppb  
(21.5' bgs)  
GW = 2730 ppb

PCE  
Soil = 817,000 ppb

PCE  
Soil = ND

Manhole  
PCE = 13,000 ppb  
(soil)

PCE  
Soil gas = 41,000  
ug/m<sup>3</sup>

Miller's Liquor  
(DC 1959 - 1982)  
DERF Site

Korean Restaurant  
(DC 1967 - 1975)

CAMPUS DRIVE

UNIVERSITY AVE

UNIVERSITY AVE

LAND AVE

CHESTNUT ST

WALNUT ST

GB1

GB2

GB3

GB4



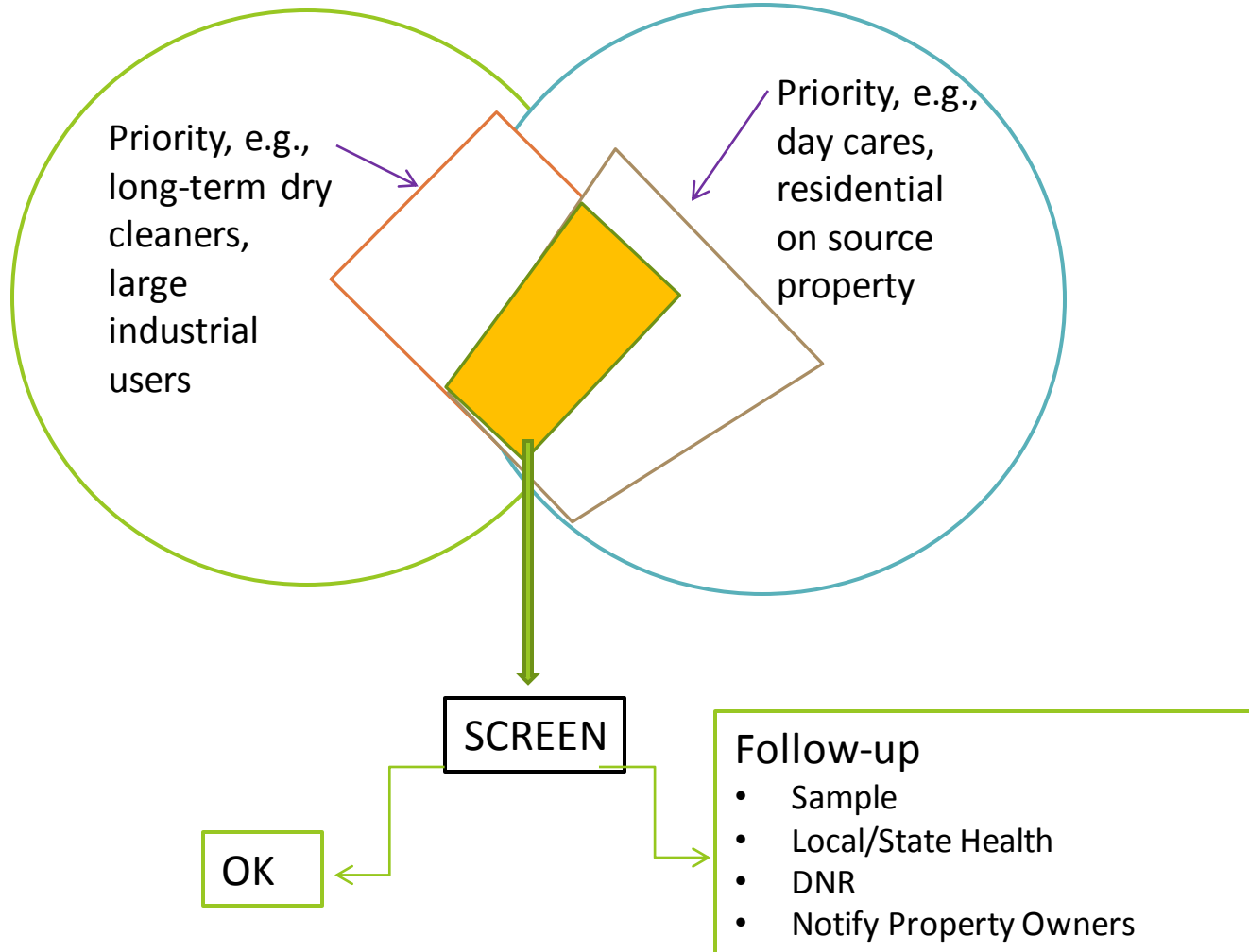
# VIPPI: Toolbox of Best Management Practices

- VIPPI: Vapor Intrusion Prevention Partnership Initiative
- Goal: create procedures that municipalities can choose from to use address historical contamination in their community

# VIPPI Screening Approach

Contaminant Source &  
Inventory (CSI)

Target Population



# VIPPI Case Example: Historical Dry Cleaners

- 230 dry cleaner sites in DERF program (statewide)
- 21 located in Dane County (6 closed)






# ID Historical Dry Cleaner sites: Phone and City Directories

- City of Madison Phone Books/Directories available at the local library
- **1946 to 2010**, surveyed phone directories every 3-5 years, for “cleaners”. Excluded “laundromats”.
- **265** unique addresses in Madison and nearby suburbs of Monona, Middleton
- **21** of these sites flagged in BRRTs as dry cleaners





# Known vs. Unknown Historic Dry Cleaning Sites

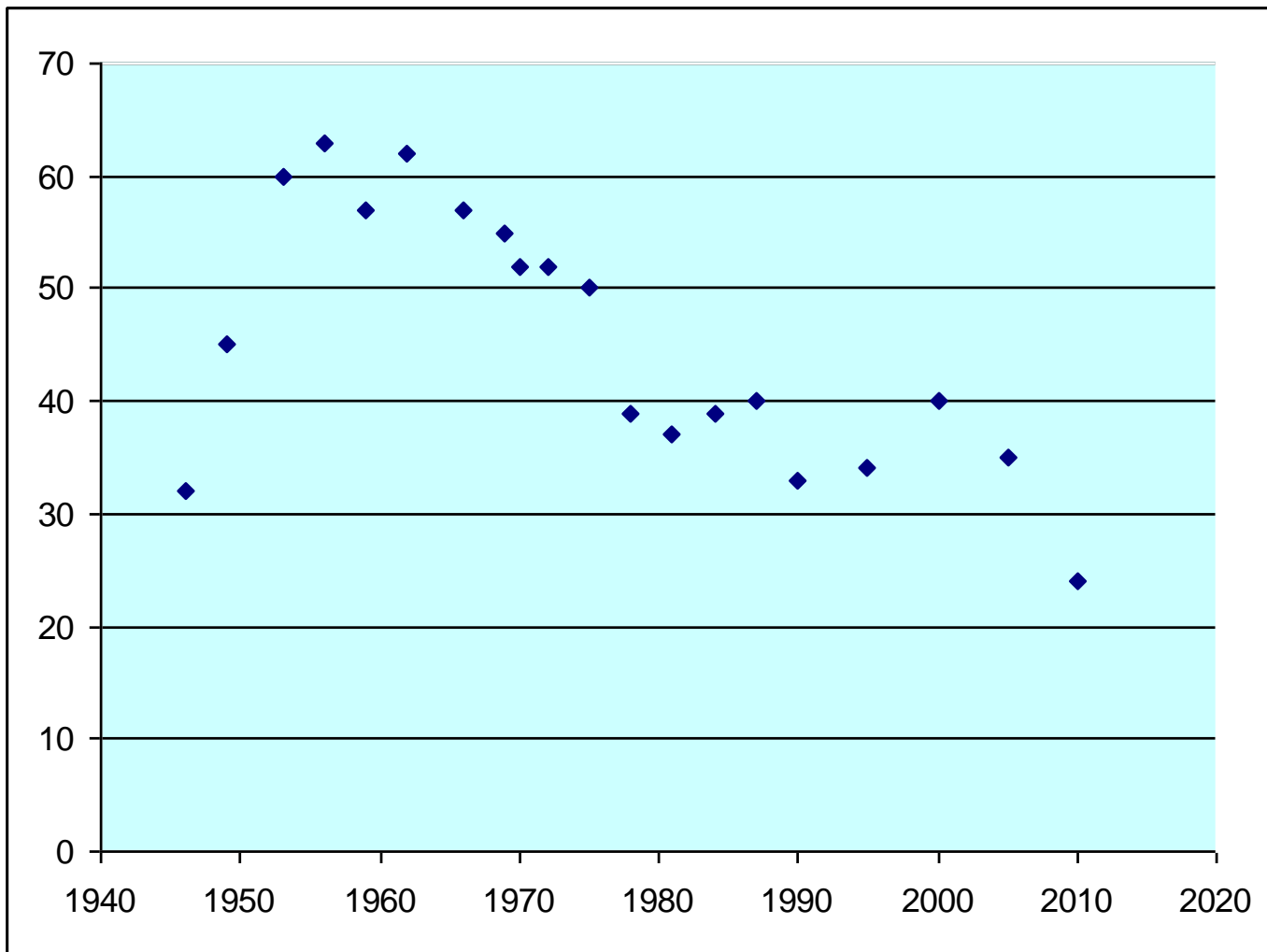
City	Years	Addresses	BRRTS
Appleton	1974	27	5
Chippewa Falls	1972	18	0
Fond du Lac	1977	9	3
Kenosha	1968	27	8
Lake Geneva	1974	10	0
Manitowoc	1967	10	2
Marinette	1973	9	1
Milwaukee	1970	300+	57
Racine	1972	35	8
Sheboygan	1984	11	3
Waukesha	1978	27	5



# Caveats for the identified historical dry cleaners

- May not have done dry cleaning at every location (dry stores or drop locations)
- Don't know if PCE was used at the location
- Few of these sites have been tested for environmental contaminants, so we don't know if they are contributing to any problems

# Madison Cleaner Sites by Year





# Follow-up

- Discussions with City of Madison
  - engineering, health, water utility
- Information needs
  - ~ 240 possible dry-cleaning sites not investigated
  - Which properties had on-site dry-cleaning?
  - Which properties are contaminated?
- Screening
  - Property Transactions
  - Engineering: construction, redevelopment
  - Water utility investigations - Well 15
  - Other funding sources



# Passive Vapor Sample Study at Former Dry Cleaner Sites

- Dec. 2013 – Spring 2015
- ~30 sites selected from 240 historical dry cleaners
- ~100 – 125 Beacon BeSure™ samplers expected to installed
- To date: completed screening of 25 sites

# Passive Soil Gas Sample Results at a Former Dry Cleaner Facility - Example #1



# Passive Soil Gas Sample Results at a Former Dry Cleaner Facility – Example #2





## Follow-up on Passive Screening Study

- Difficult to correlate passive sampler results and groundwater results from this very limited study.
- Additional investigation, including outreach to neighbors near historical dry cleaner, will occur in neighborhood where high PCE/TCE was identified.





# VIPPI Status

- DNR and Dept. of Health Services have created basic outline and expectations for each element of VIPPI “toolbox”
- Want to work with external partners to continue development
- Looking for grant opportunities to help municipalities pilot VIPPI concepts



# QUESTIONS?

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