



Environmental Compliance on Brownfield Industrial Demolition Projects

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Hazardous Building Materials Survey

Typical Sources:

- n Light Bulbs and Ballasts
- n Switches and Thermostats
- n Batteries
- n Signage
- n Chillers and Air Conditioners
- n Transformers
- n Elevators
- n Motors
- n Drums and Containers



Hazardous Building Materials Survey

Typical Issues:

- n Lead-Based Paint
- n Asbestos
- n PCBs
- n Mercury
- n Freon/Refrigerants
- n Oils and Lubricants
- n Stored Chemicals
- n Chemical Spills
- n Animal Wastes – Birds, Rodents



PCBs in Building Materials

PCBs can be found in:

- n Transformers and Electrical Equipment
- n Lube oils
- n Paint (typically “colors” and “locations”)
- n Caulk
- n Wire Insulation
- n Other materials, from spills



PCBs in Building Materials

Categories (federal TSCA):

- n PCB Bulk Product Waste
 - n Manufactured Products \geq 50 mg/kg
 - n (e.g., Paint, Caulk)
- n Excluded Bulk Product
 - n Manufactured Products $<$ 50 mg/kg
- n PCB Remediation Waste
 - n Result of Spills and Releases



PCBs in Building Materials

Determining Bulk Product vs Remediation Waste:

- n Process knowledge
- n Sampling strategy

- n PCBs a result of a spill?
- n An ingredient of the material?
- n Need a combination of bulk and wipe samples



PCB Management - Building Impacts

Regulated Primarily Under TSCA

- n Very Prescriptive Regulations
- n Interpretations can vary between USEPA Regions
- n Recommend Early Evaluation and Appropriate Regulatory Involvement
- n Recommend *Self-Implementing Cleanup Plan*



PCB Management - Building Impacts

Regulated Primarily Under TSCA

- n Bulk Product is managed as found
- n Excluded Bulk Product can be scrapped
- n Other rules apply to Bulk Product after decontamination



PCB Management - Building Impacts

Examples:

- n Caulking/Wiring Materials
- n Will building be demolished or restored?
- n Paint on Steel or concrete
- n Will materials be removed?
- n Cost to dispose vs decontaminate/scrap



PCB Management - Spill Impacts

Spill Cleanup: Federal (TSCA) vs State

- n TSCA Soil Remediation
 - n 1 mg, HO/U
 - n Others for Occupancy and Access Conditions
- n ALARBCA
 - n Adopts USEPA RSLs
 - n Most Default RSLs (by Aroclor) <TSCA
 - n Includes protection of GW category
 - n Various regulatory programs



PCB Case Study No. 1: Power Plant, Region 4

Schedule Impact



PCB Case Study No. 1: Power Plant, Region 4

Schedule Impact



PCB Case Study No. 2: Chemical Plant, Region 9

PCB Project



PCB Case Study No. 2: Chemical Plant, Region 9

PCB Project



Asbestos

What's Left to Say?

Most requirements involving asbestos in demolition are well-understood . . .

Asbestos



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Asbestos

Reminders:

- n Any Structural Demolition or Renovation Requires NESHAP Notification
- n No visible emissions are allowed
- n Wet Demolition isn't allowed except in specific circumstances
- n Alabama: State-level accreditation/certifications



Asbestos

Reminders:

- n Asbestos still used in certain building products
 - n Cement sheets and shingles
 - n Millboard
 - n Pipeline wrap
 - n Roofing felt and coatings
 - n Vinyl floor tile
 - n Cement pipe

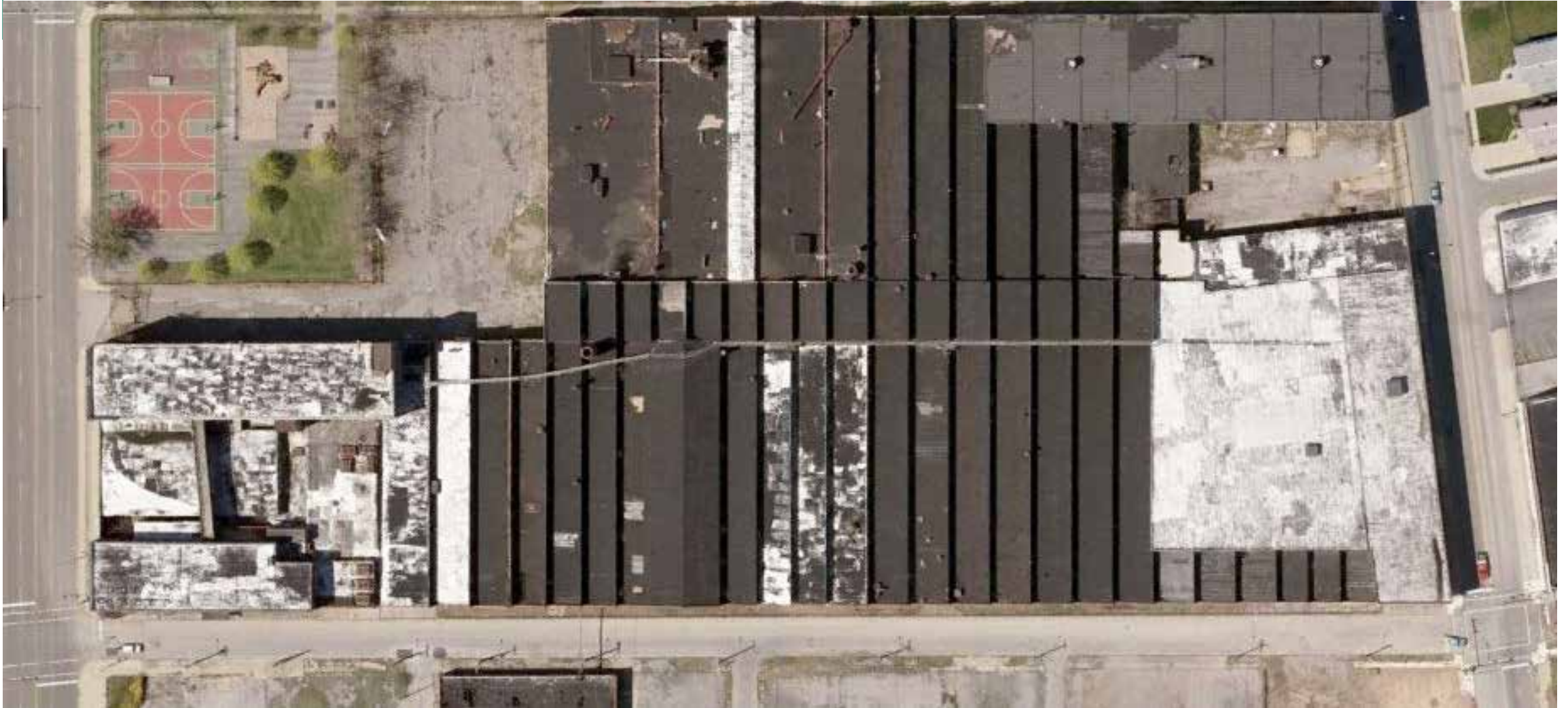
- n Possible for newer buildings to require abatement prior to demolition



Asbestos Case Study: Manufacturing Plant, Region 2



Asbestos Case Study: Manufacturing Plant, Region 2



Asbestos Case Study: Manufacturing Plant, Region 2



Asbestos Case Study: Manufacturing Plant, Region 2



Asbestos Case Study: Manufacturing Plant, Region 2



Thank you



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