SFEP PCBs in Caulk Project

Developing a Process to Manage PCBs in Caulk during Building Demolition/Renovation in the San Francisco Bay Area

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Overview of Presentation

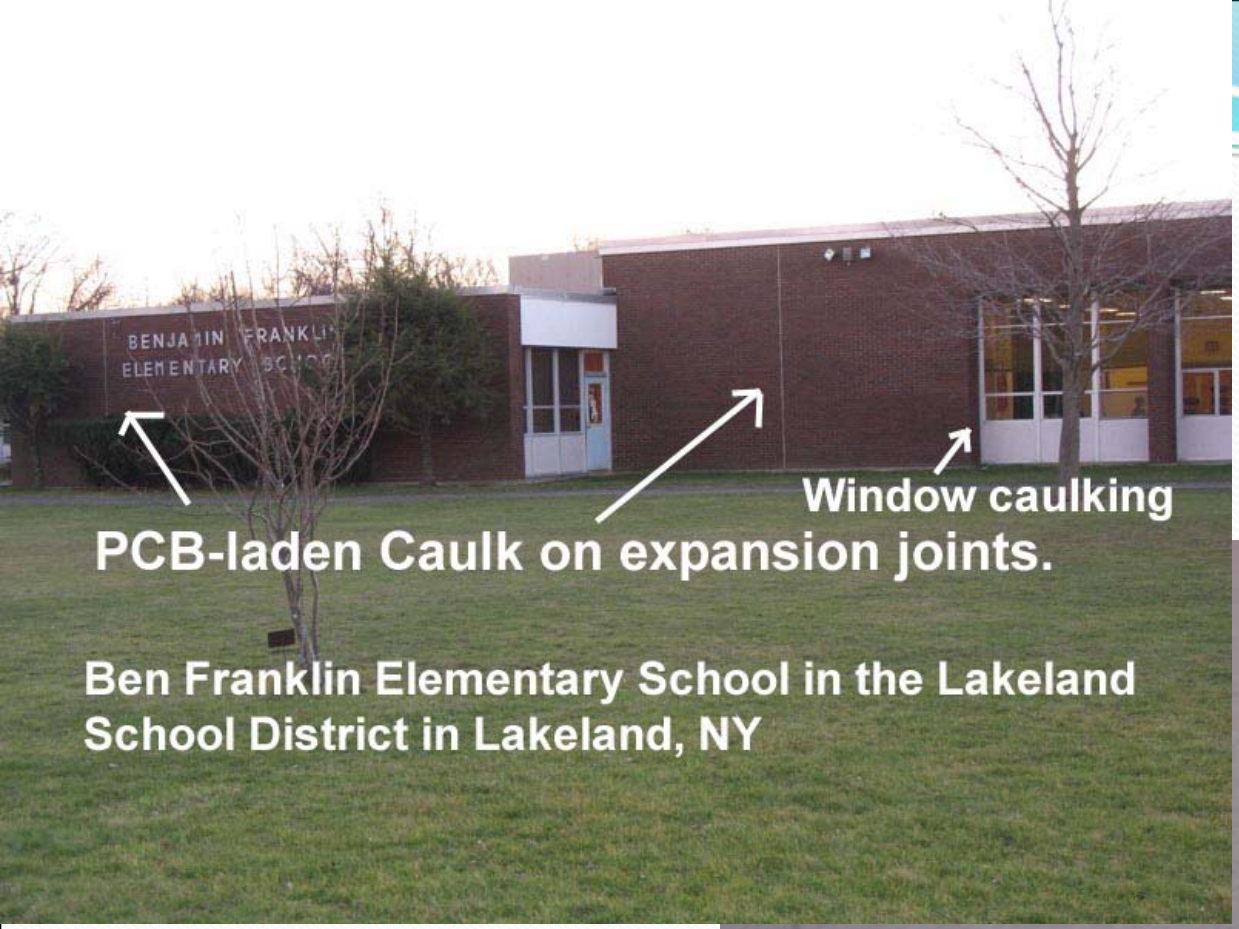
- Background of PCBs in caulk
- PCBs and health and the environment
- Local and federal PCB requirements
- PCB in Caulk Project objectives
- Stakeholder participation
- Next steps
- Resources

Background on PCBs in Caulk

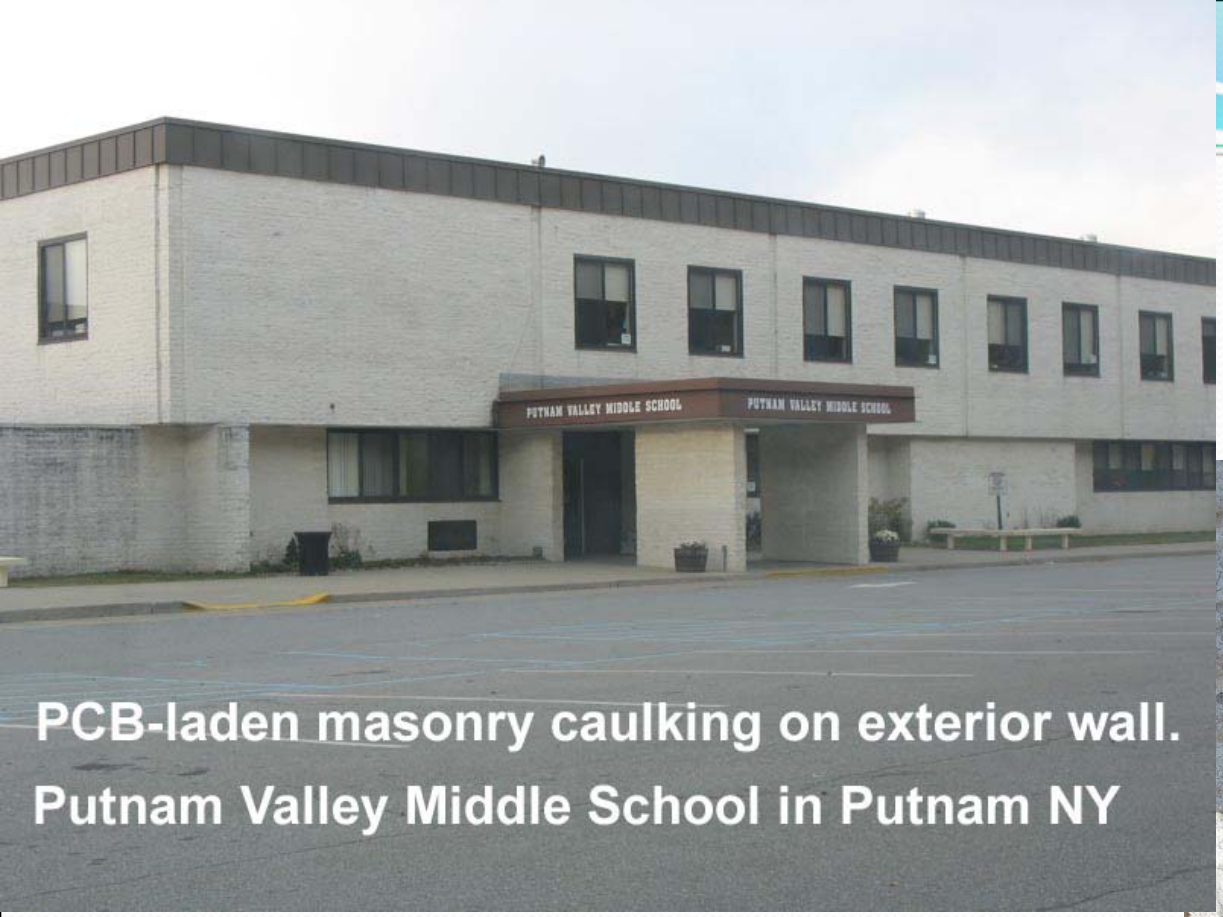
- Caulk is a flexible material used to seal gaps to make windows, door frames, masonry and joints in buildings and other structures watertight or airtight.
- Between 1929 and 1957, Monsanto Chemical Company manufactured PCBs for use in "open system" products, which were directly exposed to the air
  - These products included caulk, grout, paint, and other coatings and sealants
  - PCBs were added because they imparted flexibility

Background on PCBs in Building Materials (cont.)

- Congress banned manufacture and most uses of PCBs in 1976 and they were phased out in 1978
- Caulk containing PCBs was used in many buildings built and renovated between 1950 and 1978 in the U.S.

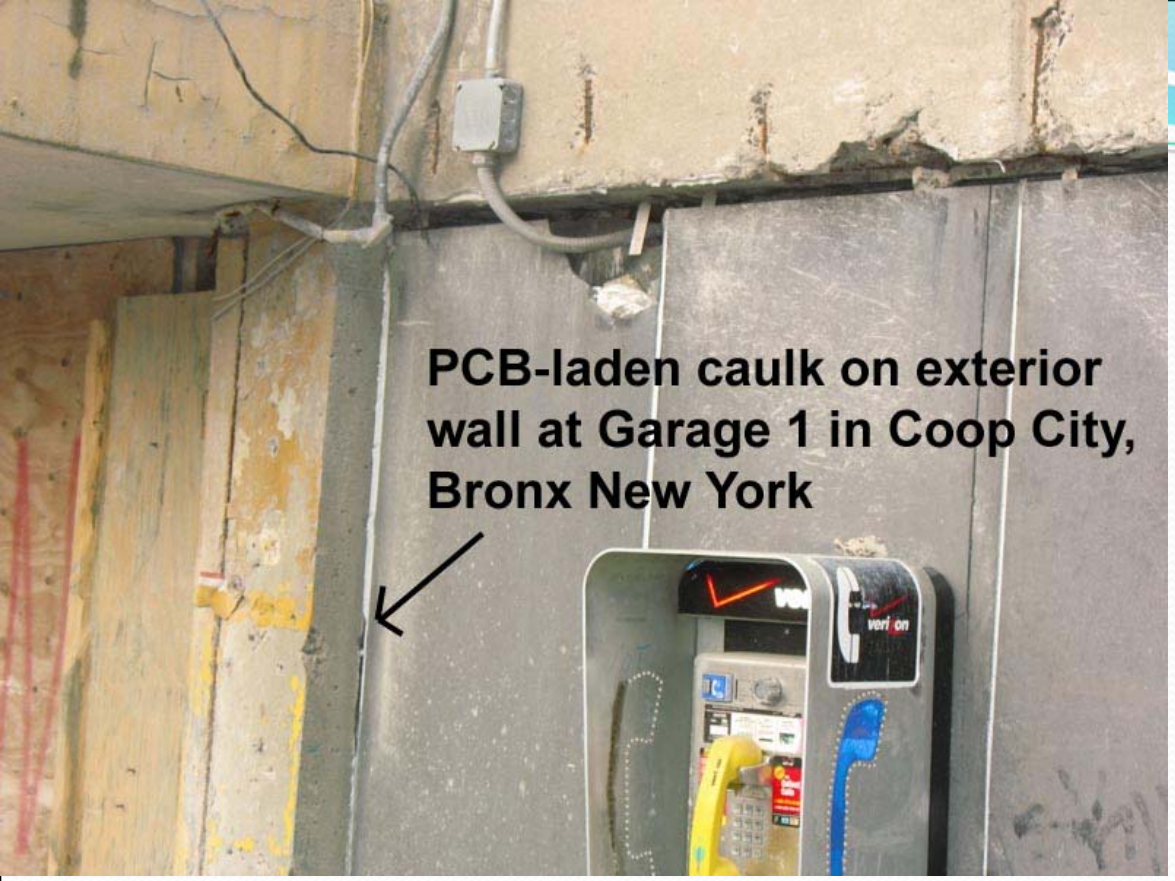


School – New York



PCB-laden masonry caulking on exterior wall.
Putnam Valley Middle School in Putnam NY

School – New York



Garage – New York

University Building - Boston, Massachusetts

Estimates vary on the amount of PCBs in caulk

- USEPA estimates concentrations may be as high as 100,000 parts per million (ppm)
- Two U.S. studies found between 0.6 to 60,000 ppm
- Two Swiss studies found between 47,000 to 550,000 ppm

How PCBs are Mobilized

- As caulk decays (crumbles) PCBs migrate into air and dust inside and outside of buildings
- When structures containing PCB caulk are remodeled or demolished, caulk pieces and particles are released onto the ground and can be washed off by urban runoff
- While few data on runoff quantities are available, a Swedish study found that significant quantities of PCBs were released into soil and water runoff during remodeling of a building with PCB-containing joint sealants

PCBs and Health

- Health effects have been associated with exposure to PCBs
  - Acne-like skin conditions in adults and neurobehavioral and immunological changes in children
- Effects of exposure depend on dose, duration, and personal traits
- Largest exposure of PCBs is dietary – what you eat
  - The state and federal government set limits and advisories on PCB concentrations in drinking water and food

Source: ASTDR

http://www.atsdr.cdc.gov/toxfaqs/TF.asp?id=140&tid=26

Water Quality Impairments due to PCBs

- The San Francisco Bay has been identified as impaired due to elevated levels of PCBs in sports fish
- Currently 20 kg/yr of the 33 kg/yr of PCBs entering the Bay are estimated to be from all sources to stormwater runoff
- The PCB TMDL allocates stormwater runoff 3 kg/yr of the total 10 kg/yr allocation

Municipal Regional Stormwater Permit (MRP)

- Requires monitoring, pollution prevention activities, and associated reporting for all Bay Area permittees
- Encourages collaboration on monitoring and studies between permittees
- Monitoring is intended to identify sources, pathways, loading, and processes leading to contaminant impacts in the Bay

MRP (cont.)

- MRP requires pilot projects to refine several PCB controls, including managing PCB-containing materials and waste during building demolition and renovation
- The permittees are required to develop a sampling and analysis plan to evaluate PCBs at a minimum of 10 demolition sites distributed throughout the Bay Area
- Requires that BMPs and ordinances/policies be developed, that inspectors be trained and deployed and that BMP pilot tests be conducted at 5 sites

EPA Rules and Proposed Rulemaking

- Current Rules
  - EPA prohibits use of most PCBs at ≥50 ppm
    - PCB caulk is not excluded from this prohibition
  - Building owners are not required to look for PCB caulk
  - Once removed, the known PCB-laden caulk waste must be managed as hazardous or toxic waste
- EPA is considering an update to its rules regarding PCBs and is seeking public input on several issues
  http://yosemite.epa.gov/opei/rulegate.nsf/byRIN/2070-AJ38

Proposed EPA Rulemaking

- EPA identified that use of caulk exceeding the 50 ppm threshold may be widespread
  - Wants comments on the appropriateness for the 50 ppm level for products like caulk
  - Interested in exploring incentives or programs that might facilitate organizations with limited budgets removing regulated PCBs from their facilities
- Changes in the rules regarding excluded projects could remove a barrier to conducting investigations and pilot projects

Caulk Project Objectives

I. Develop Bay Area specific BMPs to prevent the release of PCBs from building materials at demolition/renovation, including window replacement
II. Develop a Model Implementation Process
III. Develop a training program for municipal inspectors

Best Management Practice Objective

- Focus on methods to identify, handle, contain, transport, and properly dispose of PCB-containing building materials
  - Identify and describe candidate BMPs
  - Qualitatively rank BMPs
  - Recommend selected BMPs
  - Describe necessary steps required to implement BMPs including roles of regulatory and municipal agencies

Model Implementation Process Objective

- Define BMP triggers and develop model municipal regulatory controls and policies
  - Identify a tentative set of tools
    - Build on current practices, and identify new tools needed
  - Identify typical Bay Area municipal processes for approval/permitting of demolition/remodeling projects and window replacement projects
  - Create model tools and processes to assist municipalities prevent the release of PCBs from building materials at building demolition/renovation

Training Program Objective

- Develop a model program to train and deploy municipal staff (such as hazardous material or building inspectors) to ensure proper implementation of the BMPs and compliance with the program

Project Schedule 2010

Task (Deliverables noted in sub-tasks)	Jul-10		Aug-10					Sep-10				Oct-10					
	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 5	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2
Task 1: Meetings with Stakeholder Workgroup																	
Task 1.2: Stakeholder Presentation (Mtg 1)	15-Jul																
Task 1.2: Stakeholder Presentation (Mtg 2) See Note 1								Meeting Window									
Task 1.2: Stakeholder Presentation (Mtg 3) See Note 1																	
Task 2: Conduct Research																	
Task 2.2: Conduct and summarize research in draft Technical Memo		2-Aug															
Comments (see note 2)				13-Aug													
Task 2.3: Revise Technical Memo							31-Aug										
Task 3: Model Implementation Process																	
Task 3.2: Develop Draft Preliminary MIP													15-Oct				
Comments (see note 2)															30-Oct		
Task 3.3: Final Preliminary MIP																	15-Nov
Task 4: Best Management Practices																	
Task 4.2: Develop Draft Preliminary BMPs									15-Sep								
Comments (see note 2)											30-Sep						
Task 4.3: Final Preliminary BMPs													15-Oct				
Task 5: Training Program																	
Task 5.2: Draft Preliminary Training Program													15-Oct				
Comments (see note 2)															30-Oct		
Task 5.3: Final PreliminaryTraining Program																	15-Nov
Task 9: Municipal Fact Sheet																	
Task 9.1 Draft Fact Sheet							1-Sep										
Comments (see note 2)																	
Task 9.2 Final (see note 4)											Note 4						
		Consultant Team Preparation Time						Project Team/Stakeholer Review Period or Action									

Project Schedule 2010-2011

Task (Deliverables noted in sub-tasks)	Dec-2010 through Aug-2011									Sep-11				Oct-11	
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2
Task 6: Assist with Pilot Implementation															
Pilot Project Data Gathering	Field pilot window														
Receive results of field implementation (see note 2)								30-Jul							
Task 6.2: Summarize findings										1-Sep					
Task 7: Finalize Documents															
Task 7.1: Draft Revised BMPs											15-Sep				
Task 7.1: Draft Revised MIP											15-Sep				
Task 7.1: Draft Revised Training Program											15-Sep				
Comments (see note 2)													30-Sep		
Task 7.2: Final Revised BMPs															17-Oc
Task 7.2: Final Revised MIP															17-Oc
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Project Schedule and Products

- 1st Stakeholder Meeting (7/15/10)
- Technical Memo (draft 8/2; final 8/31/10)
  - Summary of research on existing regulatory controls related to managing wastes during building, demolition/remodeling programs and current level of implementation
- Draft Municipal Fact Sheet (9/1/2010)
  - Fact sheet for municipal staff to use when considering hosting or sponsoring a pilot project
- 2nd Stakeholder Meeting (est. 9/2010)

Project Schedule and Products (cont.)

- MIP (draft 10/15; final 11/15/10)
- BMP Report (draft 9/15; final 10/15/10)
- Training Program (draft 10/15; final 11/15/10)
- 3rd Stakeholder Meeting (est. 2011)
- Field Pilots by ABAG and Stakeholders (12/2010-7/2011)
  - Summary of Lessons Learned in the Field (9/1/2011)
- Revised BMP Report, MIP, and Training Program (draft 9/15/; final 10/17/2011)

Opportunities for Stakeholder Involvement

- Participate in Stakeholder meetings
  - Up to three will be held during the course of the project
  - Benefit – Stay informed, contribute ideas to shape the project
- Volunteer for Focus Group
  - Facilitate information gathering
  - Serve as sounding board for ideas
  - Review draft work products as they are developed
  - Benefit – help to shape a new regulatory procedure; help to shape field practices that will affect your industry

Opportunities for Stakeholder Involvement

- Consider conducting a pilot project in your jurisdiction
  - The MRP requires 10 pilot implementation sites
  - Help Bay Area municipalities comply with the MRP
  - Help “reality-check” new tools and management practices as they are developed
  - Test run the processes in your jurisdiction

Questions for Stakeholders

- Who is not here that should be involved?
- Who/What department in your organization handles demolitions and renovations?
- What regulatory mechanisms/models do you think are worth adapting from existing management approaches for other contaminants?
- What current practices could be employed to manage the mobilization of PCBs during demolition and renovation?

Questions for Stakeholders

- What would be the best way to handle PCBs in caulk in existing buildings?
- What current practices could be employed to manage the mobilization of PCBs during demolition and renovation?
- What information do you need to agree to be involved in a pilot project?
  - What will you be asked by your decision makers?

- Other questions we should be considering?

Next Steps

- Complete sign-up cards if you are interested in participating on a focus group and reviewing draft documents
- Next Stakeholder Meeting is planned for September 2010
- Opportunity to Comment on EPA PCB proposed rules
  - Public meeting scheduled for July 22, in San Francisco
    - Interested in attending? RSVP ASAP to Smith.JohnH@epamail.epa.gov
  - Comments are due August 20, 2010

Project and PCB Resources

- SFEP PCBs Project
  http://www.sfestuary.org/projects/detail.php?projectID=29
- PCBs background and links:
  http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/about.htm
  http://www.atsdr.cdc.gov/toxfaqs/TF.asp?id=140&tid=26
- PCBs and caulk (information on minimizing exposure, testing methods, and suggestions for school administrators and contractors working in older buildings): http://www.epa.gov/pcbsincaulk/
- PCBs in San Francisco Bay fish, other sources of PCBs in local water bodies and the Total Maximum Daily Load (TMDL) plan to address these problems:
  http://www.swrcb.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/sfbaypcbstmdl.shtml

Thank You!

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