PCBs and Demolition: MRP 3.0 Update

SMCWPPP C.6 Workshop – June 20, 2023

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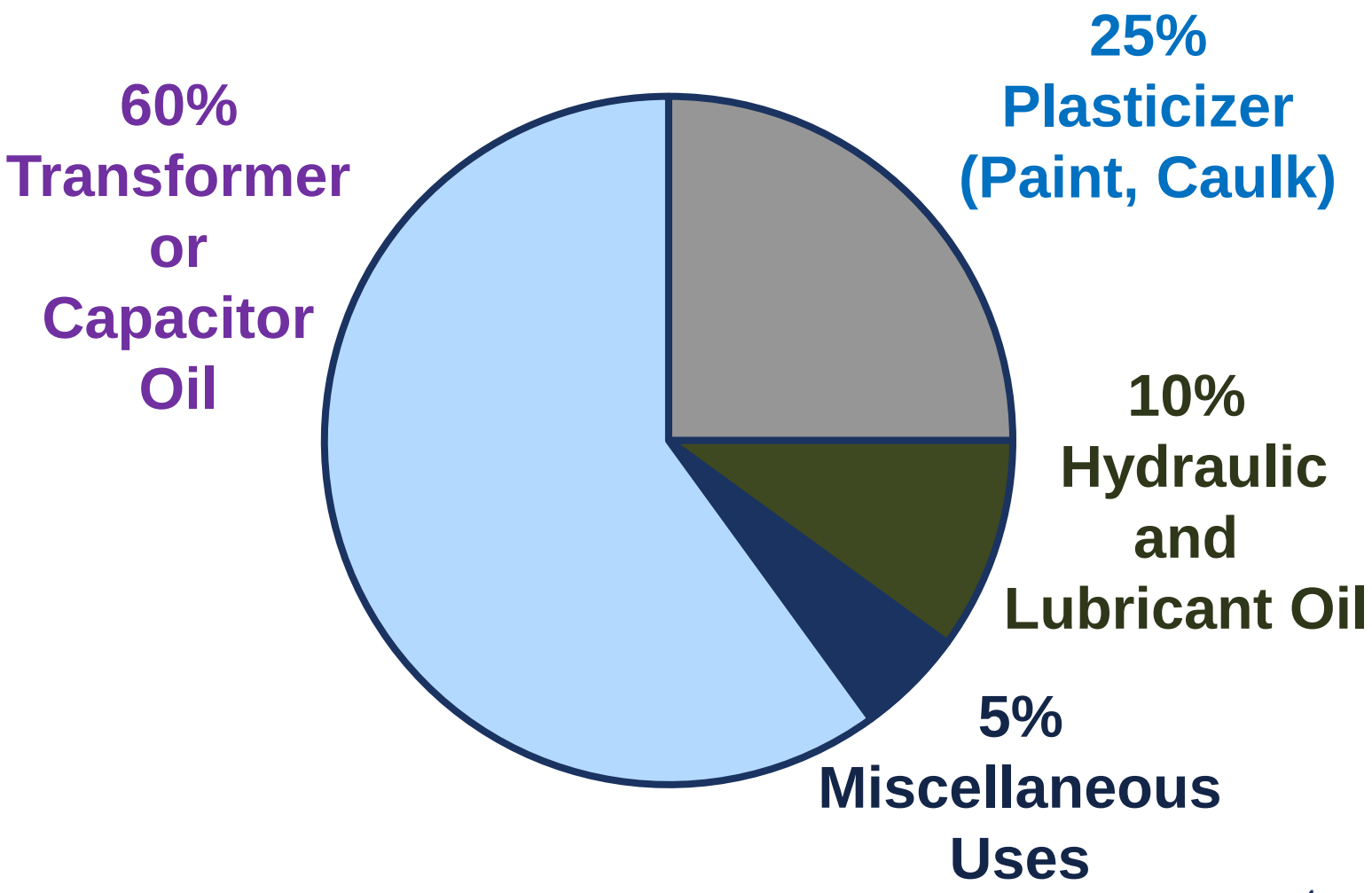
Goals for Today's Meeting

- Background: Why are PCBs a Problem?
- Review MRP 2.0 Requirements and Tasks
- Review MRP 2.0 BASMAA Tools and Guidance
- Overview of MRP 2.0 Demolition Permit Review Process
- Review MRP 3.0 Requirements Effective July 1, 2023
- Review MRP 3.0 BAMSC Tools and Guidance
- Overview of MRP 3.0 Demolition Permit Review Process
- Questions and Discussion

Background – Why are PCBs a Problem?

PCBs Were Manufactured From 1929 to 1979

Due to their chemical stability, PCBs were widely used during this period



PCBs in the Bay May Impact Human Health

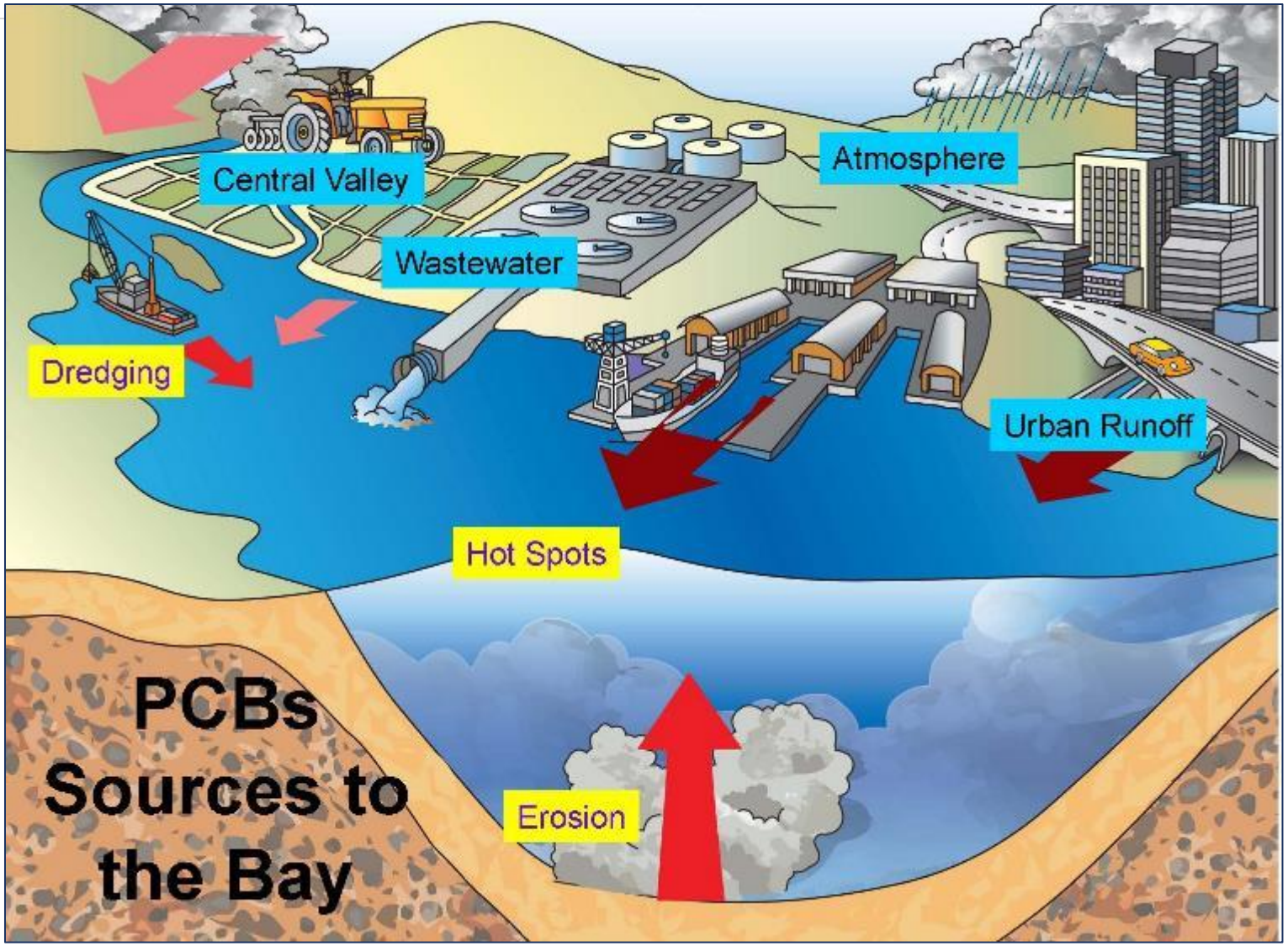
- San Francisco Bay is impaired by PCBs concentrations in fish
- Concentrations increase as you move up the food chain
- Exposure results in cancer risk and other health concerns

Many Bay Fish Are Not Safe to Eat

Fish consumption advisories led to the development of a pollution “diet” for PCBs known as a Total Maximum Daily Load (TMDL).

The SF Bay TMDL Identified Many Legacy Sources

- The TMDL analyzed all legacy sources
- Stormwater was identified as the largest source
  - TMDL seeks 90% reduction in stormwater sources
  - Building demolition was identified as a major source to urban stormwater



Numerous Actions Underway to Improve Water Quality in SF Bay

- **Industry** and the **military** are cleaning up “hot-spot” sites
- **Dredgers** are testing Bay sediments and properly disposing of materials with high levels of PCBs
- Municipal **wastewater treatment** plant operators are using advanced methods to test for PCBs in treated wastewater
- **Municipalities** are reducing PCBs in runoff by:
  - Identifying source properties for abatement
  - Developing green infrastructure
  - Developing programs to manage PCBs in building materials during demolition

Monitoring and data analysis will be used to review the underlying science and efficacy of this work.

MRP 2.0 Requirements and Tasks

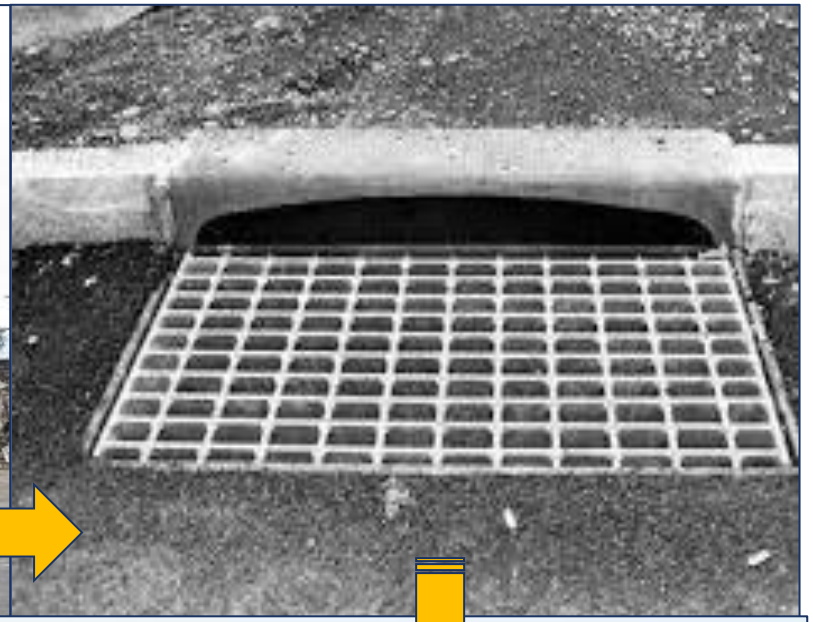
MRP Provision C.12.f: Manage PCBs-Containing Building Materials During Demolition

California Regional Water Quality Control Board
San Francisco Bay Region
Municipal Regional Stormwater NPDES Permit

Order No. R2-2015-0049
NPDES Permit No. CAS612008
November 19, 2015

- Developed protocol to manage PCBs-containing materials during demolition
  - Ensure PCBs are not discharged to storm drains when applicable buildings are demolished
  - Include a method for identifying applicable buildings prior to demolition
  - Provide for the necessary authority to implement the program
- Applicable to buildings constructed/remodeled between Jan 1, 1950 & Dec 31,1980
  - The requirements do not apply to wood frame buildings or single family residences
- Programs were implemented on July 1, 2019


Caulk along window frame
PCB-laden caulk along door frame



Each Program Requires the Following Components

Necessary Components of a Successful Program
A mechanism to establish municipal authority (e.g., ordinance, resolution or policy)
CEQA Notice of Exemption
Application package for demolition permit applicants (e.g., with forms, instructions and process flow chart)
A building survey protocol for applicants
A cost recovery mechanism to comply with MRP Provision C.12.f. (if desired)
A process to train relevant staff to implement the new program
A process to submit completed data forms to BASMAA and/or the countywide stormwater program

BASMAA prepared model documents to support all program components.

BASMAA (now the Bay Area Municipal Stormwater Collaborative) Developed Guidance and Materials

- Identified the high priority PCBs-containing building materials
- Developed a protocol for managing PCBs-containing materials during building demolition
- Developed model regulatory processes that can be incorporated into the building demolition permitting process

Key project elements were vetted through a Technical Advisory Group that included representatives from EPA, DTSC, the Regional Board, industry, and municipalities.

Bay Area Stormwater Management Agencies Association

Key Definitions

- **Demolition**
  - Demolition means the wrecking, razing, or tearing down of any structure. The definition is intended to be consistent with the demolition activities undertaken by contractors with a C-21 Building Moving/Demolition Contractor’s License
- **Priority Building Materials**
  - Priority building materials are: caulk; thermal or fiberglass insulation; adhesive mastics; and rubber window gaskets
- **Applicable Structures**
  - Applicable structures are defined as structures built or remodeled between 1950 and 1980, except that wood framed structures and single-family residential structures are not applicable structure regardless of the age of the building

Five Priority Building Materials




Caulk/Sealants/Adhesives:

- Caulk
- Rubber Window Gaskets
- Mastic

Insulation:

- Thermal
- Fiberglass

Note that fluorescent light ballasts, polyurethane foam furniture, and Askarel fluid used in transformers, all of which may contain PCBs, are typically managed during pre-demolition activities under current regulations and programs that require removal of universal waste and outdated transformers. For this process it is assumed that those materials will be evaluated and managed under those existing programs.

MRP 2.0 Municipal Tasks

1. Established legal authority by July 1, 2019
2. Notified applicants about new PCBs requirements
3. Reviewed applicant submittals
   - Confirmed permit application and information is complete before authorizing demolition
   - Worked with applicants to make corrections and get any missing information
4. Submitted data to SMCWPPP for compiling, processing and reporting on the PCBs data per MRP requirements

MRP 2.0 Implementation Process Overview

Municipality establishes PCBs building demo requirements

- adopts legal mechanism
- notifies applicants

Applicant conducts PCBs screening assessment

"Non-applicable structure" or PCBs <50 ppm*

Applicant submits self-certified form to municipality. No further requirements for the PCBs Demolition Program.

PCBs ≥50 ppm

Applicant reports concentration and estimates volume of PCBs-containing priority building materials and submits self-certified form to municipality. Applicant follows applicable federal and state laws.

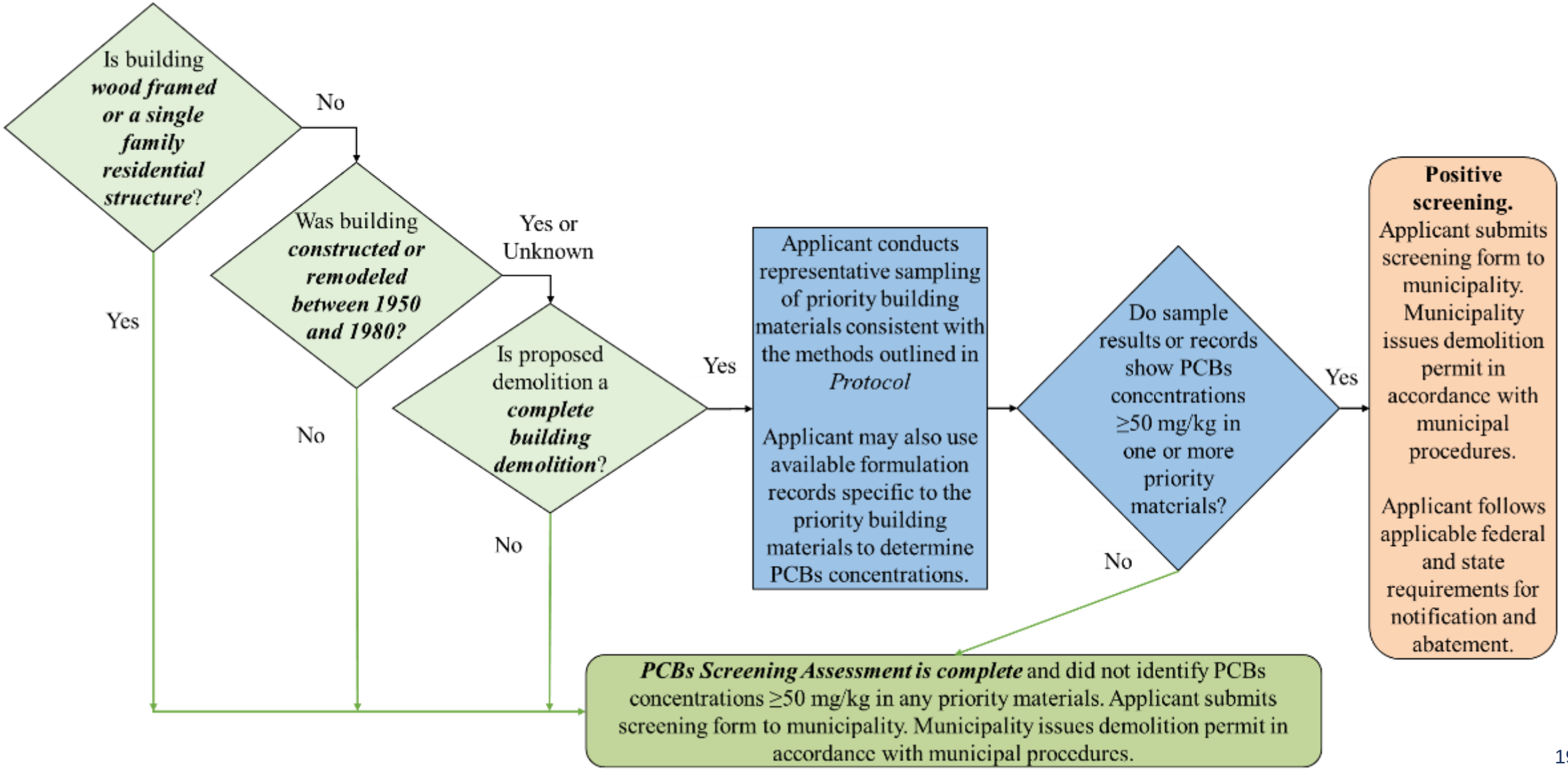
* Building owners may still have PCBs obligations under federal or state laws, but this is outside the PCBs Demolition Program

Applicant Role in the Process

- Completes and submits Assessment Form
  - Building is “screened out” – “non-applicable structure”; or PCBs <50 ppm
  - Building is “screened in” – found PCBs ≥50 ppm
- “Screened Out”
  - Demolition follows normal process
  - Building owners may still have PCBs obligations under federal or state laws, but this is outside the PCBs Demolition Program
- “Screened In”
  - Building owners follows state and federal laws regarding abatement and disposal of PCBs-containing materials and wastes

Steps For Applicants

What They Must Consider and Do Prior to Obtaining Demolition Permit



PCBs in Priority Building Materials: Model Screening Assessment Applicant Package

Managing PCBs–Containing Building Materials during Demolition: Guidance, Tools, Outreach and Training

Bay Area Stormwater Management Agencies Association

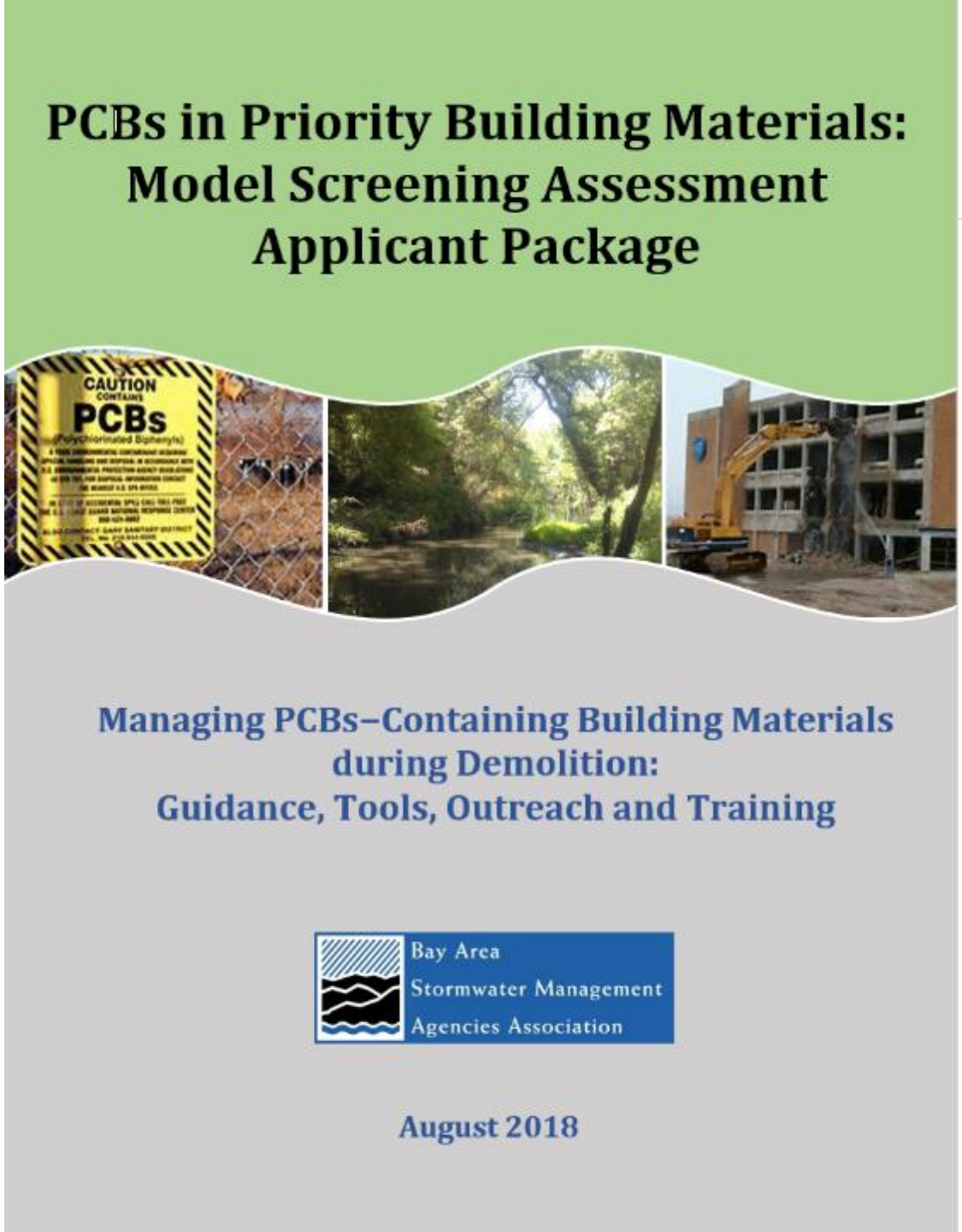
August 2018

Protocol for Evaluating Priority PCBs-Containing Materials before Building Demolition

Managing PCBs–Containing Building Materials during Demolition: Guidance, Tools, Outreach and Training

Bay Area Stormwater Management Agencies Association

August 2018

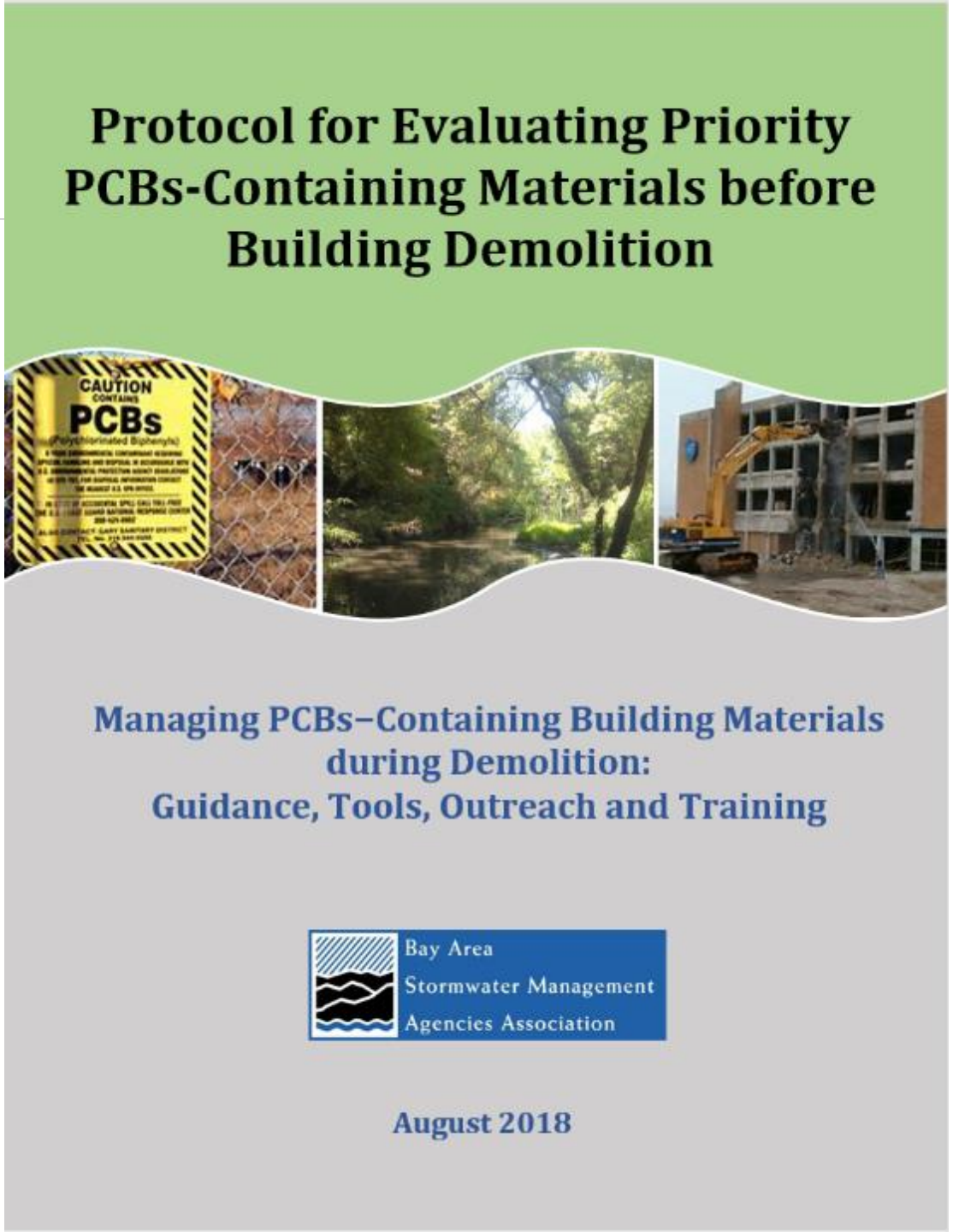


Applicant Package

- Process overview
  - Background information
- Applicant instructions
  - Direction on completing the form questions
- Process flow chart
- Assessment form (Application)
- Supporting information

Protocol for the PCB Evaluation Before Demolition

- Section 3.1: identifies priority materials to be tested
- Section 3.2: describes PCBs sampling procedures
  - Equipment
  - Frequency
  - Analysis and preservation
  - Quality Assurance and Quality Control Check List
- Appendix B: provides photo examples of the priority materials



Notices to applicants: This is not the only program regulating PCBs

Notices to Applicants Regarding Federal and State PCBs Regulations

Applicants that determine PCBs exist building materials must follow applicable federal and state laws. This may include reporting to U.S. Environmental Protection Agency (USEPA), the San Francisco Bay Regional Water Quality Control Board, and the California Department of Toxic Substances Control (DTSC). These agencies may require additional sampling and abatement of PCBs. Depending on the approach for sampling and removing building materials containing PCBs, you may need to notify or seek advance approval from USEPA before building demolition. Even in circumstances where advance notification to or approval from USEPA is not required before the demolition activity, the disposal of PCBs waste is regulated under TSCA and the California Code of Regulations. (See Note 1)

Note 1 - Federal and State Regulations

Building materials containing PCBs at or above 50 ppm that were manufactured with PCBs (e.g., caulk, joint sealants, paint) fall under the category of PCBs bulk product wastes. See 40 Code of Federal Regulations (CFR) 761.3 for a definition of PCBs bulk product wastes.

Building materials such as concrete, brick, metal contaminated with PCBs are PCBs remediation wastes (e.g., concrete contaminated with PCBs from caulk that contains PCBs). 40 CFR 761.3 defines PCBs remediation wastes.

Disposal of PCBs wastes are subject to TSCA requirements such as manifesting of the waste for transportation and disposal. See 40 CFR 761 and 40 CFR 761, Subpart K.

TSCA-regulated does not equate solely to materials containing PCBs at or above 50 ppm. There are circumstances in which materials containing PCBs below 50 ppm are subject to regulation under TSCA. See 40 CFR 761.61(a)(5)(i)(B)(2)(ii).

Disposal of PCBs wastes are subject to California Code of Regulations (CCR) Title 22, Section Division 4.5, Chapter 12, Standards Applicable to Hazardous Waste Generators.

California hazardous waste regulatory levels for PCBs are 5 ppm based on the Soluble Threshold Limit Concentration test and 50 ppm based on the Total Threshold Limit Concentration test, see CCR, Title 22, Section 66261.24, Table III.

Recommend Building Owners That Identify PCBs in Their Buildings Review EPA Information

EPA United States Environmental Protection Agency

Environmental Topics | Laws & Regulations | About EPA | Search EPA.gov

CONTACT US SHARE

Polychlorinated Biphenyls (PCBs)

- PCBs Home
- Learn about PCBs
- Policy and Guidance
  - Cleanup of PCB Waste
  - PCBs in Ships
- Disposal and Notifications
- PCBs in Building Materials
- Regional PCB Programs

PCB Facility Approval Streamlining Toolbox (FAST): Streamlining the Cleanup Approval Process

The PCB FAST is designed to help Responsible Parties (RPs) and regulators, whenever possible, reduce delays, improve communication, and increase efficiency in the cleanup and disposal of PCBs at a site. PCB FAST focuses on establishing a collaborative working relationship between EPA and the RPs and providing tools to be used by RPs to prepare adequate and appropriate cleanup notifications and applications. The Toolbox includes guidance, process flow maps, and checklists to facilitate streamlined cleanup processes. These resources can be customized to meet each site or Region's needs.

https://www.epa.gov/pcbs/pcb-facility-approval-streamlining-toolbox-fast-streamlining-cleanup-approval-process

MRP 3.0 Requirements and Tasks (C.12.g)

For Applicants and Permittees

MRP 3.0 Process Changes Overview

Municipality enhances PCBs building demo program

- Legal mechanism
- Notify applicants
- Updates application

Applicant conducts PCBs screening assessment

"Non-applicable structure" or PCBs <50 ppm*

Applicant submits self-certified form to municipality. No further requirements for the PCBs Demolition Program.

PCBs ≥50 ppm

Applicant reports concentration and estimates volume of PCBs-containing priority building materials and submits self-certified form to municipality. Applicant follows applicable federal and state laws. Applicant certifies that they will make the required notifications.

Municipal Follow-up:

- **Receive hazardous waste manifests**
- **Receive notice of start of demolition**
- **Inspect demolition sites**
- **Enhance construction site control program**

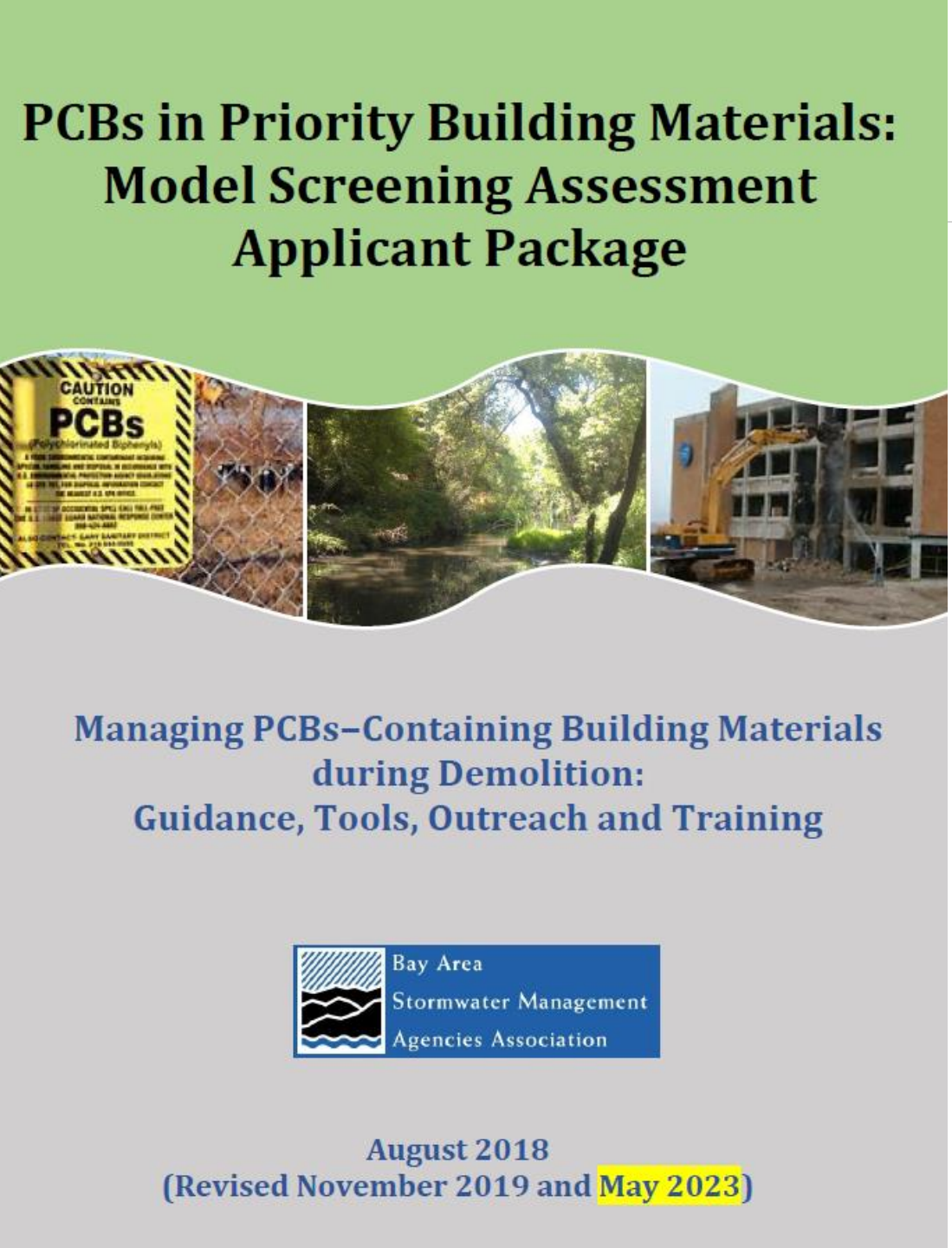
* Building owners may still have PCBs obligations under federal or state laws, but this is outside the PCBs Demolition Program

Overview of MRP 3.0 Requirements for Applicants

1. Updates in Applicant package
   - Notifications
   - Certifications

2. Responding to Municipal inspectors and possible increased inspections

3. Possible additional BMPs required by municipality



Updates to Applicant Package

- If Applicant has applicable structures and concentrations of PCBs ≥ 50 ppm, required to certify that they will notify regulatory agencies at various stages
- Consequences for non-compliance are now detailed
- Applicant must make determinations on whether advance approval from US EPA is required
- Alerted that municipality now has additional inspection and BMP requirements

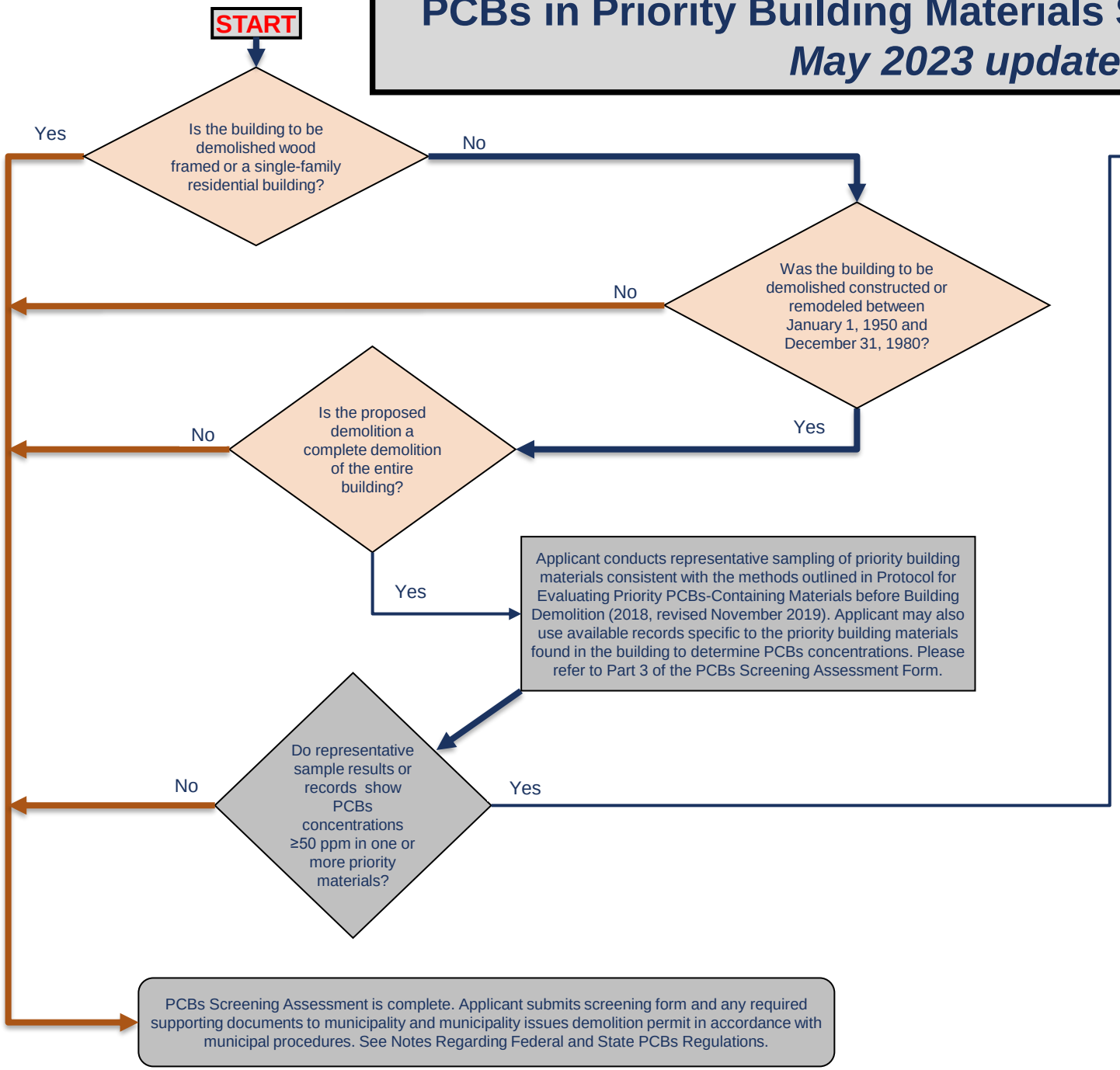
MRP 3.0 – Notification details in Applicant package

IF the site has applicable structures and contains building materials with PCBs concentrations ≥ 50 ppm, must certify that they will:

- Notify the Municipality, the SF Regional Board, and US EPA five working days in advance of the start of demolition;
- Within five working days after demolition is complete, notify the Municipality of the actual date of completion;
- Within five working days of it being determined, notify the Municipality whether advance approval from the US EPA is required for the site;
- Within five working days of it becoming available, submit hazardous waste manifest for the disposal of the PCBs materials to the Municipality, if advance approval is determined not to be required.

PCBs in Priority Building Materials Screening Assessment Process

May 2023 update (for MRP 3.0)



Positive screening

Applicant submits screening form and any required supporting documents to municipality. Municipality issues demolition permit in accordance with municipal procedures. The exact order of the below steps may vary depending on the site.

Notify municipality, the San Francisco Bay Regional Water Quality Control Board, and U.S. EPA at least five working days in advance of the start of the demolition.

Within five working days of it being determined, notify municipality whether advance approval from the U.S. EPA is required for this site.

Follow applicable federal and state requirements for notification and abatement. See Notes Regarding Federal and State PCBs Regulations.

If PCBs concentrations ≥50 ppm were found, MRP Provisions C.12.g.ii (3) and (4) require municipalities to enhance their construction site stormwater program. These requirements may require the implementation of enhanced erosion control, sediment control, and good housekeeping BMPs to minimize migration of PCBs into the storm drainage system during demolition. Check with the municipality issuing the demolition permit for BMP requirements. Additionally, the site may be inspected more frequently to ensure the proper implementation of the BMPs. As noted in Part 4, keep the municipality informed of the demolition schedule.

Within five working days after the demolition is complete, notify municipality of the actual demolition date(s).

If you determine that advance approval from the U.S. EPA is not required for this site, submit the hazardous waste manifest for the disposal of PCBs materials to municipality within five working days of it becoming available. If advance approval from the U.S. EPA is required for this site, submittal of the hazardous waste manifest is not required.

(Walk through changes in Model Application Package)

Overview of MRP 3.0 Requirements for Permittees

1. Required to inspect applicable structures (demolition sites) with PCBs-containing building materials (detection of ≥ 50 ppm) during the rainy season (starting 10/1/23) to ensure that effective controls are used to prevent discharges.
   [see Provision C.12.g.ii(3)]

2. Required to enhance municipal construction site control programs (effective 7/1/23) to minimize migration of PCBs into the MS4 during demolition activities any time of the year.
   [see Provision C.12.g.ii(4)]

BAMSC Guidance for Construction Site Control Program Enhancements (for Demolition Sites)

- Technical Memorandum
- Baseline Program (TM Table 1)
  - Inspect once during the wet season during demolition
  - If site falls under C.6.e Construction Site Inspection Program (i.e., ≥ 1 acre, hillside site, or high priority site) monthly inspections also apply
- Enhancement Options (TM Table 2)
  - Additional Inspections (Dry season, Wet season or Pre-demolition)
  - Require BMPs
    - Street sweeping daily during demolition
    - Street sweeping daily during all phases of construction
    - Cover demolition debris with impermeable liner during wet season (CGP BMP*)
    - Cover demolition debris with impermeable liner during wet and dry season
    - Establish set of BMP requirements for demolition projects and review SWPPP

BAMSC Guidance for Construction Site Control Program Enhancements (for Demolition Sites)

- Establish Set of BMP Requirements (TM Table 3)
  - Erosion Control
  - Run-on and Runoff Control
  - Sediment Control
  - Good Site Management
    - Dust Control
    - Waste Management
    - Materials Management
  - Non-stormwater Management

BAMSC Guidance for Construction Site Control Program Enhancements

- Establish Set of BMP Requirements (TM Table 3)
  - Erosion Control
    - Provide temporary soil stabilization with hydroseeding, soil binders, or erosion control blankets for all disturbed soils within 14-days of the area becoming inactive.
    - Provide temporary soil stabilization with erosion control blankets or geotextiles disturbed soils in the demolition zone when rain is predicted.
    - Use water and/or dust palliatives to manage dust during the demolition process. Dust control water must be managed to prevent runoff or collected for proper disposal.
  - Run-on and Runoff Control
    - Use earth dikes, drainage swales and/or other controls to direct run-on away from demolition site and debris storage areas.
    - Use earth dikes, drainage swales and/or other controls to direct runoff from the site to sediment controls.

BAMSC Guidance for Construction Site Control Program Enhancements (Continued)

- Establish Set of BMP Requirements (TM Table 3)
  - Sediment Control
    - Install site perimeter controls (e.g., wattles, silt fences) around the project site.
    - Install perimeter controls (e.g., wattles, silt fences) around the demolition area and debris management areas.
    - Install stabilized entrances to minimize sediment track-out.
    - Sweep streets and pavement on the project site and adjacent streets using vacuum or regenerative air sweepers to effectively remove sediment, dust, and debris.
    - Install inlet protection at all on-site and off-site storm drain inlets that receive project runoff.
  - Good Site Management
    - Dust Control - Use manual tools or tools that employ misters, e.g., wet sanders to generate lower dust volumes. Water must be collected for proper disposal.
    - Dust Control - Construct work containment zones to prevent spread of potentially contaminated dust – use plastic sheeting, vacuum, and/or install a decontamination area.

BAMSC Guidance for Construction Site Control Program Enhancements (Continued)

- Establish Set of BMP Requirements (TM Table 3)
  - Good Site Management
    - Waste Management - Cover demolition debris with an impermeable liner or place into covered leak tight debris bins.
    - Waste Management – Properly dispose of wastes (debris, liquid, and BMPs). Maintain waste disposal records (e.g., manifests, bills of lading) and submit to the local agency and EPA as required.
    - Materials Management - Decontaminate equipment before storing outdoors or using in other parts of the project.
  - Non-stormwater Management
    - Contain decontamination water in covered leak-tight containers inside a building or inside secondary containment.

Next Steps

- Recommendations to Prepare for July 1 Deadline:
  - Determine task responsibilities:
    - Demolition Phase Inspector (e.g., C.6 Inspectors, Building Inspectors, Public Works etc.)
    - PCBs Program Coordinator (for waste manifests, EPA coordination/reporting)
    - Engage Chief Building Official, Legal Counsel
    - Create timeline/schedule for flow of information/documentation (e.g., notification internally between municipal staff and departments)
  - Brief municipal leaders, as needed
    - Advise City/Town Manager, Building Official, Public Works Director
  - Revise your applicable permit processes (demolition, building)
    - Work with staff to determine whether you need a new process or can integrate questions into an existing process
    - Amend C&D recycling process, if needed.
    - Revise tracking methods, as needed.

Annual Reporting Requirements

- 2023 AR only
  - Discuss enhancements to their construction site control program
- Annually Report (Countywide Program AR)
  - Number of applicable structures applied for demolition permit
  - Running list of applicable structures that applied for demolition permit since July 1, 2019, number of samples, and PCBs concentrations
  - For each applicable structure, with PCBs ≥50 mg/kg: project address, demolition date, and brief description of PCBs-containing materials
  - For each structure that was constructed or remodeled between the years 1950 and 1980 and requires emergency demolition: address, date building was constructed, and date of demolition

Annual Reporting Requirements

- Beginning w/2024 AR
  - Whether the site was inspected during demolition
  - For cases where notification/advance approval from U.S. EPA is not required, and were approved for demolition after June 30, 2023, the hazardous waste manifest prepared for transportation of the material to a disposal facility
- 2026 AR only
  - Submit an evaluation of the effectiveness of the protocol for controlling PCBs during building demolition as well as supporting data
  - Permittees may submit for use in the subsequent permit term an updated assessment methodology and data collection program

Additional Resources

- SMCWPPP PCBs & Mercury Reduction webpage:
- https://www.flowstobay.org/permittees/managing-pcbs-in-building-materials-during-demolition/
- The section has the following information and materials and further guidance for permittees:
  - Project Applicant Resources
  - Municipal Staff Webpage
  - Data Collection
- BAMSC products – the 2023 revised and updated documents will be posted to the program website soon.

POLL QUESTION #3 –
WHAT WILL YOUR JURISDICTION DO?

Questions/Discussion

Additional Information

Table 1: Number of Applicable Structure Applications Received in FYs 2019/20, 2020/21, and 2021/22.

Permittee	Number of Applicable Structures			Number of Samples with PCBs ≥ 50 ppm		
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2019/20	FY 2020/21	FY 2021/22
Atherton	0	0	0	0	0	0
Belmont	0	0	0	0	0	0
Brisbane	0	0	0	0	0	0
Burlingame	1	2	1	0	0	0
Colma	0	0	0	0	0	0
Daly City	0	0	0	0	0	0
East Palo Alto	0	0	0	0	0	0
Foster City	0	0	0	0	0	0
Half Moon Bay	0	0	0	0	0	0
Hillsborough	0	0	0	0	0	0
Menlo Park	1	2	9	1	0	2
Millbrae	0	0	0	0	0	0
Pacifica	0	0	2	0	0	0
Portola Valley	0	0	0	0	0	0
Redwood City	1	3	2	0	13	0
San Bruno	0	0	0	0	0	0
San Carlos	1	2	0	0	16	0
San Mateo	0	2	0	0	0	0
South San Francisco	6	7	14	1	0	9
Woodside	1	1	0	0	0	0
San Mateo County	1	0	0	0	0	0
Total	**12**	**19**	**28**	**2**	**29**	**11**