Today’s Topics

- Regulated Building Material Awareness
  - Asbestos
  - Lead Paint
  - PCBs
Today’s Topics

- Blood Borne Pathogens
- Hazard Communication and the Globally Harmonized System
- Church Votive Candle Safety - review
- Ladder Safety – review
Today’s Topics

- Dealing With COVID-19 as a Facility Person
Archdiocese of Seattle

ASBESTOS
Class 4 Worker Training
Class 4 Worker Training

Class 1: Asbestos Disturbed
Class 2: Asbestos Disturbed
Class 3: Asbestos Disturbed

Class 4: Maintenance and custodial work where employees come into contact with but do not disturb ACM
Class IV Worker Training

- How Often?
  - MUST BE DONE INITIALLY & ANNUALLY!
  - WAC 296-62-07722
IMPORTANT to KNOW & DO!

- Get help from Property & Construction
- Know what materials are PACMs
- Handle PACMs as asbestos until told by AHERA inspector that it is not asbestos
- Get and provide a “Good Faith Survey” to those starting or bidding on building work.
Many Acronyms & Words

- L&I
- EPA
- AHERA
- Regulated material
- Class IV or Class 4
- PACM
- ACM
Terms: “ACM” and “PACM”

Asbestos Containing Material

Any material containing more than 1% asbestos by weight.

Presumed Asbestos Containing Material

Installed prior to 1981

- Surfacing materials
- Thermal System Insulation
- Flooring

Must be handled as ACM unless proved otherwise
The "fail safe" factor
One must always assume "something" is asbestos,

And an AHERA inspector is REQUIRED to rule a PACM as not being asbestos!
What is the Policy?

- Archdiocese of Seattle Asbestos Policy is to comply with the Law!!!
What are the Laws?

- Washington State Department of Labor and Industries = **L&I** or LNI
- DOSH = Department of Safety and Health

“Work Procedures”
What are the Laws?

- US Environmental Protection Agency = EPA

AHERA
“Protect Students”
-the “GOLD STANDARD”

NESHAPS
“Protect the Environment”
What is Asbestos?

- It is a naturally occurring material.
- The word "asbestos" comes from Greek meaning "inextinguishable."
What is Asbestos?

- It has been used in building materials because of its desirable properties, including it:
  - Is flexible, adds strength to materials and doesn’t deteriorate
  - Doesn’t burn – Good for fire proofing
  - Is a good heat insulator
  - Doesn’t conduct electricity
  - Is resistant to chemicals
Types of Asbestos

Most commonly used:
- **Chrysotile** - “White asbestos”
- **Amosite** - “Brown asbestos”
- **Crocidolite** - “Blue asbestos”

Others:
- “Blue Asbestos” -
  - **Tremolite** (sometimes found in vermiculite)
  - **Actinolite**
  - **Anthophyllite**

Asbestos fibers, high magnification
Asbestos Fibers can be Small!

How small is asbestos?

2-3 rice grains

20,000 Asbestos Fibers

5-6 human hairs

www.asbestos.org
Why is Asbestos a Hazard?

- When inhaled, it can cause lung diseases
Asbestos Diseases

- Asbestosis
- Lung cancer
- Mesothelioma
- Other cancers
Diseases related to Asbestos Exposure

- Acute vs Chronic
- Usually symptoms take 15 to 30 years to develop
- Health effects from asbestos exposure may continue to progress even after exposure has stopped.
Dose Response Relationship

The potential for asbestos related disease depends on:

- Amount of fibers inhaled
- Length of exposure
- Whether exposed worker smokes
- Age – because of delayed effects
Lung Cancer Risks

- No Exposure: 70 per 100,000 lung cancer deaths in general population
- Asbestos: 5x higher risk than general population
- Smoking: 10x higher risk
- Asbestos + Smoking: 50x to 90x higher risk
Building Materials that may contain Asbestos

AHERA categorizes PACMs as:

1 - THERMAL SYSTEM INSULATION
   ▪ Pipe & Duct Insulation

2 - SURFACING MATERIAL

3 - MISCELLANEOUS MATERIALS
Building Materials that may contain Asbestos

THERMAL SYSTEM INSULATION

- Pipe & Duct Insulation
Building Materials that may contain Asbestos

THERMAL SYSTEM INSULATION

- Pipe & Duct Insulation
Pipe Insulation (TSI)
Duct Insulation
Tape and “Mud”
Building Materials that may contain Asbestos

SURFACING MATERIAL
- Sprayed on Fireproofing
Building Materials that may contain Asbestos

MISCELLANEOUS MATERIALS
Floor Tiles & Mastic
Building Materials that may contain Asbestos

MISCELLANEOUS MATERIALS

Roofing Material
Acoustical Spray-on ("popcorn ceiling")
Building Materials that may contain Asbestos

MISCELLANEOUS MATERIALS

[Images of asbestos-containing materials]
Building Materials that may contain Asbestos

MISCELLANEOUS MATERIALS
Building Materials that may contain Asbestos

MISCELLANEOUS MATERIALS
Joint compound and plaster
Some Asbestos Containing Materials

- Cement Pipes
- Cement Wallboard
- Cement Siding
- Asphalt Floor Tile
- Vinyl Floor Tile
- Vinyl Sheet Flooring
- Flooring Backing
- Construction Mastics (floor tile, carpet, ceiling tile, etc.)
- Acoustical Plaster
- Decorative Plaster
- Textured Paints/Coatings
- Ceiling Tiles and Lay-in Panels

- Spray-Applied Insulation
- Blown-in Insulation
- Fireproofing Materials
- Taping Compounds (thermal)
- Packing Materials (for wall/floor penetrations)
- High Temperature Gaskets
- Laboratory Hoods/Table Tops
- Laboratory Gloves
- Fire Blankets
- Fire Curtains

* Source: EPA
Some Asbestos more Containing Materials

- Elevator Equipment Panels
- Elevator Brake Shoes
- HVAC Duct Insulation
- Boiler Insulation
- Breaching Insulation
- Ductwork Flexible Fabric Connections
- Cooling Towers
- Pipe Insulation (corrugated air-cell, block, etc.)
- Heating and Electrical Ducts
- Electrical Panel Partitions
- Electrical Cloth
- Electric Wiring Insulation

- Chalkboards
- Roofing Shingles
- Roofing Felt
- Base Flashing
- Thermal Paper Products
- Fire Doors
- Caulking/Putties
- Adhesives
- Wallboard
- Joint Compounds
- Vinyl Wall Coverings
- Spackling Compounds
How do asbestos fibers get in the air?

Physical disturbance of asbestos-containing materials can suspend fibers in the air.

Asbestos is most hazardous when it is “FRIABLE”.

- Friable: can be easily crumbled or crushed by hand, releasing fibers into the air
- Very small fibers stay in the air for long periods
- Damaged or deteriorated ACM increases friability

Non-friable ACM (floor and ceiling tiles, house siding, fire doors, etc.) won’t release fibers unless disturbed or damaged in some way.
Evaluating Asbestos Hazards

Type of Material

Condition of the material

Activity around the material
"Good Faith" Inspection/Survey

- Required for all construction and maintenance in buildings that may contain asbestos:
  - Must be done by an EPA-accredited AHERA building inspector
  - Documented written report
  - Not required if assumed and treated as asbestos

- Possible fines of $250/day if not done or poorly done
- Both building owner and contractor can be cited!
Who to Contact?

- Archdiocese Property and Construction Services:
  - propertyx@seattlearch.org
Archdiocese of Seattle

Lead
What is Lead?

- Lead is a naturally occurring element found in small amounts in the earth’s crust. While it has some beneficial uses, it can be toxic to humans and animals causing of health effects.
Where is Lead Found?

- Lead and lead compounds have been used in a wide variety of products found in and around our homes, including paint, ceramics, pipes and plumbing materials, solders, gasoline, batteries, ammunition, and cosmetics.
Where is Lead in Buildings

Primarily and Potentially:
- Interior and exterior paint
- Painted objects
- Drinking water
Adult Health Hazards of Lead

Lead is hazardous to your health if it gets in your body. Here’s what it can cause:

- Headaches, tiredness and insomnia
- Loss of appetite and stomach pain
- Pain, weakness or twitching in your muscles
- Reduced sex drive and birth defects
- Kidney damage
- Permanent brain and nerve damage
Hazard to Children
Effects on Reproduction

- Lead is especially harmful to the fetus in a pregnant woman.

- Lead is also harmful to men or women trying to have children.
Pass from Mother Exposing Fetus or Breastfeeding Infant

- Cause the baby to be born too early or too small;
- Hurt the baby’s brain, kidney’s, and nervous system;
- Increase the likelihood of learning or behavioral problems; and
- Put the mother at risk for miscarriage.
Who is at Risk

Effects of Lead on Children

Children are very susceptible to effects of lead.

The amount that can harm them is much less than adults.

It is important not to take any lead dust home on your clothing.
Risk to Children

- Even low levels of lead in the blood of children can result in:
  - Behavior and learning problems
  - Lower IQ and Hyperactivity
  - Slowed growth
  - Hearing Problems
  - Anemia
- In rare cases, ingestion of lead can cause seizures, coma and even death.
Health Hazards of Lead

Is there a safe amount of lead?

There is no real safe amount of lead, but there are levels that cannot be legally exceeded. This is called the “permissible exposure limit” or PEL.

In the air: no more than 50 micrograms per cubic meter

In your blood: no more than 40 micrograms per deciliter.

Both these limits are in the L&I regulations on lead.
How can lead get in your body?

You can get lead into your body by:

- Inhaling lead dust or lead spray paint,
- Inhaling lead fumes from welding or burning lead paint,
- Swallowing lead dust on your hands from eating, drinking or smoking.
Lead in Drinking Water

- How does lead get into drinking water?
- Should one test for lead in drinking water?
- If needed, contact Property and Construction for assistance and guidance
Archdiocese of Seattle

PCBs
What are PCBs?

Polychlorinated biphenyls are mixtures of up to 209 individual chlorinated compounds.

Common Trade Name: Aroclor
PCBs

- Used from 1950s through late 1970s
- Highly variable composition (<0.005% to >70%)
- Therefore, need to think about
  - Age of building
  - Date fixtures installed
  - Style of fixtures
  - Building records
Why the concern?

Cause damage to
- Skin
- Liver
- Nervous System
- Immune System
- Endocrine System

Probably causes cancer in humans
Contaminates the Environment & Accumulates

Issue is “Biomagnification” = accumulates
How does one get exposed?

- Skin
- Inhalation
  - If material in good shape, vapor levels are low (not much air exposure)
- BUT
- If brittle & crumbly, dust can be a problem
Where can PCBs possibly be found at our facilities?

3 general categories

- “Large” Electrical Transformers
- Light Fixture Ballasts
- Building Materials, such as caulks and paint
“Large” Electrical Transformers
Light Fixture Ballasts
Caulks

Franklin Elementary School in
and School District, New York

PCB-laden Caulk
Paint

PCBs in Paint

Actual site data – Different color paint samples
What to do - Large Electrical Transformers

- Large Electrical Transformers
- If there is a leak or a fire, contact Property and Construction.
What to do - Light Fixture Ballasts

- Fluorescent lighting ballasts with known or suspected PCBs must be properly recycled/disposed.
How Do We Know If a Fluorescent Light Ballast Contains PCB’s?

- Manufacturer
- Product Manufacturer’s Label
- Date Manufactured
- Testing (the only sure method)

And when in doubt implement the Assumption Rule
What to do - Light Fixture Ballasts

- Look at label
What to do - Light Fixture Ballasts

- Burnt Ballasts
What to do - Light Fixture Ballasts

- Leaking Ballast
Message / Lessons Learned

- Be aware of what materials may contain PCBs
- Contact Property and Construction for help and guidance
Blood Borne Pathogens

- Custodial, Janitorial and Maintenance Staff need training!
- Training available on Archdiocese website
- Annual refresher training required
Key Points!

- Consider **ALL** human blood and body fluids to be infectious!
- Maintain Emergency First Aid Kits
- Wear gloves when giving first aid or cleaning up
- Disinfect area
What’s a Pathogen?

- **Virus**: HIV, Flu, Hep B
- **Bacteria**: TB, E. coli, Salmonella
- **Fungi**: Aspergillus, Stachybotris
- **Parasite**: Giardia, Malaria
How can you get Exposed?

- **Inhalation**
  - Air
  - Infected person coughs or sneezes and spreads the pathogen through the air to others

- **Ingestion**
  - Food, water
  - Infected person doesn’t wash hands properly (virus in the feces), handles or prepares food/water and contaminates it

- **Contact**
  - Bloodborne
  - Infected person transmits pathogen through a route that involves blood/mucous membrane/ sexual contact
Transmission of BBPs

Bloodborne pathogens can enter your body through:

- Contaminated materials
- A break in the skin (cut, lesion, etc.)
- Mucus membranes (eyes, nose, mouth)
- Other modes
Regulation Requires:

- Exposure control plan
- Annual in-service education
- No charge hepatitis B vaccinations to those who may have an exposure
- Use Universal Precautions
What are Universal Precautions?

- Treat all human blood and other potentially infectious materials as if contaminated with a bloodborne pathogen.

**ALWAYS!!!**
Universal Precautions
Include:

- Using gloves, masks, and gowns if blood or OPIM exposure is anticipated
- Using engineering and work practice controls to limit exposure
Universal Precautions Include Cleaning:

- Use appropriate or approved EPA disinfectants
- Use fresh solutions of diluted bleach – no older than 24 hours
- All equipment and surfaces need to be cleaned and decontaminated after contact with blood
Cleaning Up BBP Situations

- Assess the problem
- Prepare for work
- Do the clean up
- Sanitize the area for reuse
- Clean equipment used
- Personal Care
Do the Clean Up

- Handling Discarded Syringes
Sanitize the Area for Reuse

- After the body fluids removed
- Sanitize with either with a detergent solution or a bleach solution.
Clean the Equipment

- Mix 1/4 cup bleach per gallon of water (1:100 solution) for a good general sanitizer.
- Clean and decontaminate equipment used (mop buckets, mops, squeegees)
Personal Care

- Remove protective equipment using care not to spread contamination.
- Put in bag.
- Put in dumpster.
- Wash hands with soap.
- Don’t use bleach on your skin!
Hepatitis B Vaccine

- No cost to you
- 3 shots: 0, 1, & 6 months
- Effective for 95% of adults
- Archdiocese must have record per L&I requirements
- Can decline
- Vaccine available at later date if desired
If you have an incident

- Thoroughly clean the affected area
- Wash area with soap and water
- Wash splashes to the nose and mouth
- Irrigate eyes with clean water
- Report exposure to your supervisor
- Seek medical advice
Archdiocese of Seattle

The Globally Harmonized System (GHS) for Hazard Classification and Labeling
What is a “hazardous chemical”?

A hazardous chemical is any chemical that can do harm to your body.

Most industrial chemicals can harm you at some level.

It depends how much gets into your body.
How do hazardous chemicals affect the body?

It depends on several factors:

How the chemical enters the body

The physical form of the chemical

The amount of chemical that actually enters the body - the dose

How toxic (poisonous) the chemical is
How Chemicals Enter the Body

There Are Three Routes of Entry:

- **Ingestion** – swallowing the chemical
- **Inhalation** – breathing in the chemical
- **Absorption** – the chemical soaks through the skin
Toxicity: how poisonous are chemicals?

**Dose** - The effects of any toxic chemical depends on the amount of a chemical that actually enters the body.

**Acute Toxicity** - the measure of how toxic a chemical is in a single dose over a short period of time.

**Chronic Toxicity** - the measure of the toxicity of exposure to a chemical over a long period of time.
Many chemicals have exposure limits, or allowable amounts of a chemical in the air.

These limits are often called “Permissible Exposure Limits” or “Threshold Limit Values”.

Levels must be kept below these limits for safety.
What is GHS?

- The Globally Harmonized System (GHS) is an international approach to chemical labels and safety data sheets (SDS).
- OSHA’s / L&I Hazard Communication standard has adopted & incorporated the GHS to improve safety and health of workers through more effective communications on chemical hazards.
Requirements of a GHS Label

- Labels are required to have:
  - Pictograms
  - Signal Words
  - Hazard Statement
  - Precautionary Statements
  - Product Identifier
  - Supplier Identification
  - Supplemental Information (as required)
Requirements of a GHS Label

The Basic Parts of A GHS-Compliant Label

1. **Product Identifier** - Should match the product identifier on the Safety Data Sheet.
2. **Signal Word** - Either use “Danger” (severe) or “Warning” (less severe)
3. **Hazard Statements** - A phrase assigned to a hazard class that describes the nature of the product’s hazards
4. **Precautionary Statements** - Describes recommended measures to minimize or prevent adverse effects resulting from exposure.
5. **Supplier Identification** - The name, address and telephone number of the manufacturer or supplier.
6. **Pictograms** - Graphical symbols intended to convey specific hazard information visually.
We need to be familiar with the meaning(s) of each pictogram.

Labels and safety data sheets will not always include that information, understanding these is critical.
Safety Data Sheets (SDS)

- SDS are multi-page documents that contain more detailed information about a chemical than the container label.
- The revised HazCom standard requires that the information on the SDS is presented using consistent headings in a specific order.
16-Section SDS Format

1. Identification
2. Hazard(s) Identification
3. Composition/Information on Ingredients
4. First-Aid Measures
5. Fire-Fighting Measures
6. Accidental Release Measures
7. Handling and Storage
8. Exposure Controls/Personal Protection
16-Section SDS Format

9. Physical and Chemical Properties
10. Stability and Reactivity
11. Toxicological Information
12. Ecological Information
13. Disposal Considerations
14. Transport Information
15. Regulatory Information
16. Other Information
Archdiocese of Seattle

CHURCH VOTIVE CANDLES

SAFETY ALERT REVIEW
CHURCH VOTIVE CANDLES

- These come in all sizes

SMALL
CHURCH VOTIVE CANDLES

- These come in all sizes

MEDIUM
CHURCH VOTIVE CANDLES

- These come in all sizes

LARGE
SERIES OF EVENTS

- Mass concludes in the evening
- Small votive holder fails and fire falls to the carpeted floor
- Fire ignites surrounding flooring area
FIRE EVENT
CONSEQUENCES

- All Carpets Replaced
- Walls cannot be cleaned. As a result substantial interior repainting
- Claim exceeds $300,000
- CCAS self insured to $250,000. Excess covered by carrier
REMEDIES

- Use noncombustible material beneath the candle area.
- Keep candles away from combustible items
- Ensure matches, lighting sticks and lighters are safely out of the reach of children.
REMEDIES

- Do not allow candles to be brought into church from parishioners or visitors
- Only parish candles purchased by a reputable candle manufacturer are to be displayed and lit
Candles should be placed in double-insulated containers

Care must be taken in the placement of candles in relation to seating, foot traffic areas, and exits.
REMEDIES

- Discourage the use of candles in schools and all offices
- The only exception should be for religious/prayer purposes in a classroom, but the candle must be extinguished immediately when concluded
Never leave a candle burning in an unoccupied room

The only exceptions would be for votive candles or the sanctuary lamp candle. These candles are specifically manufactured to burn until they self-extinguish.
REMEDIES

- No lit candles on live or artificial holiday greenery
- Exception: Any artificial wreath (i.e. advent wreath) must be fire retardant treated and candles set in protective container.
REMEDIES

- Provide a noncombustible container filled with sand to extinguish and place matches or lighting sticks
- Ensure a 5 pound ABC dry chemical fire extinguisher is wall mounted near the location of candles
Archdiocese of Seattle

LADDER SAFETY
LADDER SAFETY

Let’s Test Your Knowledge
How to Use Ladders Safely | Ask This Old House

CARE & MAINTENANCE
CARE & MAINTENANCE
SAFETY BEFORE YOU CLIMB
SAFETY BEFORE YOU CLIMB
SAFETY BEFORE YOU CLIMB
SAFETY BEFORE YOU CLIMB

75.5 Degrees
SAFETY BEFORE YOU CLIMB

4 to 1 Rule

- Set up your ladder at the required angle
- For every 4 feet up, place the base of the ladder 1 foot from the wall or upper support that it rests against.
SAFE CLIMBING HABITS
THE RIGHT WAY
SAFE CLIMBING HABITS
THE RIGHT WAY
SAFE CLIMBING HABITS
THE RIGHT WAY

WERNER PERFORMANCE SYSTEM

Color Match for Ladder Performance.

- **200** lbs.
  - Light Duty
  - Household use
  - Type III

- **225** lbs.
  - Medium Duty
  - Painter & Handyman
  - Type II

- **250** lbs.
  - Heavy Duty
  - Industrial
  - Type I

- **300** lbs.
  - Extra
  - Heavy Duty
  - Professional
  - Type IA

- **375** lbs.
  - Special Duty
  - Rugged
  - Professional
  - Type IAA
SAFE CLIMBING HABITS
THE RIGHT WAY
SAFE CLIMBING HABITS
THE RIGHT WAY
SAFE CLIMBING HABITS

THE RIGHT WAY
SAFE CLIMBING HABITS
THE RIGHT WAY
SAFE CLIMBING HABITS
THE RIGHT WAY
Archdiocese of Seattle

LADDER

SAFETY

Any Questions?