



Stantec Consulting Services Inc.
12075 Corporate Parkway, Suite 200 Mequon WI 53092

November 17, 2016
File: 193703931

Attention: Nicolas Sparacio, AICP
Community Development Director
City of Manitowoc
900 Quay Street
Manitowoc, WI 54220-4543

Dear Mr. Sparacio:

Reference: Pre-Demolition Inspection: Restricted Waste Inventory
1512 Washington Street Manitowoc, Wisconsin
USEPA Cooperative Agreement No. BF-00E01529-0
Stantec Project No. 193703931

On behalf of the City of Manitowoc (City), Stantec Consulting Services Inc. (Stantec) has completed a restricted waste inventory during continued pre-demolition activities at the vacant former industrial Brownfield property located at 1512 Washington Street in Manitowoc, Wisconsin (herein referred to as the "Site"). The location of the Site relative to adjacent streets is illustrated on Figure 1. This inspection was completed utilizing Brownfield site assessment grant funds provided to the City by the United States Environmental Protection Agency (USEPA) in 2015 under cooperative agreement no. BF-00E01529-0. This work was completed in compliance with the Stantec (2016b) Site-Specific Sampling and Analysis Plan approved by USEPA on July 11, 2016.

BACKGROUND AND PROBLEM STATEMENT

A building inspection report was completed by STN Environmental JV (2009) under the USEPA Targeted Brownfields Assistance program. The report identified a variety of building materials requiring special handling and disposal prior to building demolition activities. Documentation summarized in the Stantec (2016a) Phase I Environmental Site Assessment suggests some of these materials have been removed; however, recent work suggests many materials remain.

To facilitate investigation, remediation, demolition, and redevelopment of this large brownfield, the Community Development Authority of the City of Manitowoc (CDA) acquired the Site by condemnation and will raze the multi-story industrial buildings in early 2017 to complete phase two of the cleanup originally agreed to between EJ Spirtas Manitowoc, LLC (the previous Site owner) and the USEPA. To prepare for building demolition, an updated predemolition inspection for asbestos and lead paint was completed by Stantec (2016c) with an addendum issued on November 9, 2016 (Stantec, 2016e). Abatement of friable or potentially friable asbestos has begun utilizing a subgrant awarded to the CDA from the City's Brownfields Cleanup Revolving Loan Fund (RLF) program funded by USEPA in 2013 under cooperative agreement number BF-00E01242.

As described in Wisconsin Department of Natural Resources (WDNR) Publication WA-651, a restricted waste inventory is warranted to identify remaining waste/building materials that require proper removal/disposal/recycling prior to building demolition.



November 17, 2016
Mr. Nicolas Sparacio
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Reference: Pre-Demolition Inspection: Restricted Waste Inventory
1512 Washington Street; Manitowoc, Wisconsin
USEPA Cooperative Agreement No. BF-00E01529-0

INSPECTION METHODS AND RESULTS

An inventory of restricted wastes was completed on a room-by-room basis on October 25-28, 2016 by NorthStar Environmental Testing, LLC (NorthStar). The results of the inventory, including summary tables of identified materials, building diagrams, photographic documentation, and a copy of WDNR Publication WA-651 are provided in the NorthStar report included in Attachment A of this cover letter.

Of particular importance, NorthStar identified a broken mercury gauge mounted on a concrete column on the second floor of the South Building. As shown on photograph 6 in Appendix B of the NorthStar report (provided in Attachment A of this report), a small quantity of liquid mercury was identified on the wood floor beneath the broken gauge, covered by wet fiberglass building insulation. Stantec notified the WDNR project manager, the City, and the USEPA project manager by phone and email of the discovered mercury release on October 26, 2016. In the notification email, Stantec proposed removal of the mercury beads concurrent with removal of the remaining restricted wastes. To prevent accidental direct contact, Stantec cordoned off the area with brightly colored flagging tape to restrict access and replaced the wet building insulation over the mercury beads (see Attachment B). As building access is restricted with perimeter fencing and signage (see Attachment B), the discovered mercury does not appear to pose an immediate direct threat to human health or environment. The WDNR project manager responded by email and concurred with restricting access to the area and removing the spilled mercury concurrent with the removal of the remaining restricted wastes. Documentation will be provided to WDNR following removal of the mercury beads and underlying impacted porous media, if warranted.

CONCLUSIONS AND RECOMMENDATIONS

In addition to the containerized waste described in the Stantec (2016d) report and the two known polychlorinated biphenyl electrical transformers, NorthStar identified 23 materials remaining in the buildings in varying quantities which will require removal/disposal prior to building demolition.

Utilizing funding provided through the Brownfields RLF subgrant, Stantec recommends retaining the services of a qualified waste handling/removal/disposal company to remove and properly dispose of these materials to further prepare the buildings for demolition. Utilizing existing relationships, Stantec has contacted Veolia, AlChem, and Enviro-Safe for initial cost estimates for removal. Per the requirements of the RLF program, Stantec will solicit additional cost estimates for this work from minority and women-business enterprises. The City could solicit additional cost estimates from waste removal companies with existing relationships/contracts with the City.



November 17, 2016
Mr. Nicolas Sparacio
Page 3 of 3

Reference: Pre-Demolition Inspection: Restricted Waste Inventory
1512 Washington Street; Manitowoc, Wisconsin
USEPA Cooperative Agreement No. BF-00E01529-0

We trust this information meets your needs. Please do not hesitate to call with any questions.

Regards,

STANTEC CONSULTING SERVICES INC.

Harris L. Byers
Brownfields Project Manager
Phone: 414-581-6476
Harris.Byers@stantec.com

STANTEC CONSULTING SERVICES INC.

Hiedi A. Waller, P.E.
Environmental Engineer
Hiedi.Waller@stantec.com

STANTEC CONSULTING SERVICES INC.

Richard J. Binder, P.G., CPG
QA/QC Manager
Rick.Binder@stantec.com

Attachments: Figure

- A – NorthStar (2016) Restricted Waste Inventory
- B – Photographic Documentation

REFERENCES

- Stantec, 2016a, 1512 Washington Street Manitowoc, Wisconsin Phase I Environmental Site Assessment, June 28, 2016.
- Stantec, 2016b, Site-Specific Sampling and Analysis Plan, 1512 Washington Street Manitowoc, Wisconsin, July 6, 2016.
- Stantec, 2016c, Asbestos and Lead Based Paint Pre-Demolition Survey, 1512 Washington Street Manitowoc, Wisconsin, September 21, 2016.
- Stantec, 2016d, Containerized Waste Characterization, 1512 Washington Street Manitowoc, Wisconsin, October 18, 2016.
- Stantec, 2016e, Addendum to the Pre-Demolition Inspection for Asbestos and Lead Based Paint, 1512 Washington Street Manitowoc, Wisconsin, November 9, 2016.
- STN Environmental JV, 2009, Presentation of Building Inspection Results, December 23, 2009.

LIMITATIONS

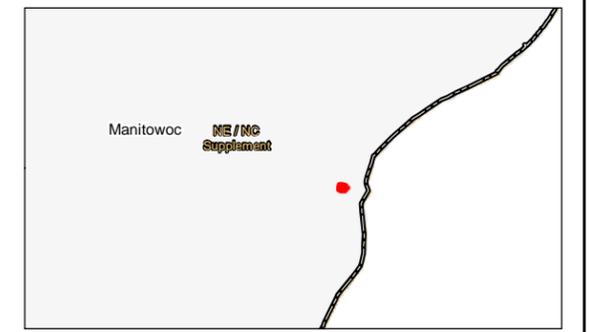
Stantec's observations, findings, and opinions should not be considered as scientific certainties, but only as opinion based on our professional judgment concerning the significance of the data gathered during the course of this investigation. Specifically, Stantec cannot represent that the Site does not contain any hazardous or toxic materials/wastes or other latent conditions beyond that observed by Stantec during the course of the investigation. Additionally, due to limitations of this investigation process and the necessary use of data furnished by others, Stantec and its subcontractors cannot assume liability if actual conditions differ from the information presented in this report.

FIGURE



Figure No. **1**
 Title **Figure 1 Site Location and 2014 Ortho**
 Client/Project
 City of Manitowoc
 USEPA Brownfield Assessment Grant
 Hazardous Substances
 0 65 130 Feet
 193703931
 Prepared by HLB on 11-17-16

Legend
 Target Site
 Parcels

- Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803
 2. Feet
 3. Data Sources Include:
 Orthophotography: 2015 City of Manitowoc



R:\Data\Manitowoc\Map\1512\Washington\01.mxd
 Revised: 2016-05-24 By: bbyers

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

ATTACHMENT A
NORTHSTAR (2016)
RESTRICTED WASTE INVENTORY

Central Wisconsin Office:

817 Oak Ridge Rd
Mosinee, WI 54455
Tel: 715.693.6112
Fax: 715.693.1225

Fox Cities Office:

1835 E. Edgewood Drive
Suite 10542
Appleton, WI 54913
Tel: 920.422.4888

Madison Office:

1310 Mendota Street
Suite 121
Madison, WI 53714
Tel: 608.827.6761

PRE-DEMOLITION INSPECTION: RESTRICTED WASTE INVENTORY

Stantec Consulting Services, Inc.

Site:

Mirro Building No. 9
1512 Washington Street
Manitowoc, WI 54220

Inspection Dates: October 25 & 28, 2016

Report Date: November 14, 2016

NorthStar No. 16A-584

Submitted By:
NorthStar Environmental Testing, LLC.



Central Wisconsin Office:
817 Oak Ridge Rd
Mosinee, WI 54455
Tel: 715.693.6112
Fax: 715.693.1225

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Asbestos • Lead Paint • Mold • Indoor Air Quality • Industrial Hygiene

November 14, 2016

Stantec Consulting Services, Inc.
12075 Corporate Parkway, Suite 200
Mequon, WI 53092

**Reference: Pre-Demolition Inspection:
Restricted Waste Inventory**

**Mirro Building No. 9
1512 Washington Street
Manitowoc, WI 54220**

NorthStar Environmental Testing, LLC was contracted by Stantec Consulting Services Inc. to complete a pre-demolition inspection to identify the presence of restricted waste items from throughout the facility located at 1512 Washington Street in Manitowoc, Wisconsin. The inspection was conducted by Aaron Stroud of NorthStar Environmental Testing, LLC (NorthStar) on October 25 & 28, 2016.

Restricted waste items were identified in various areas throughout the property. Please review the report in its entirety for more detailed information.

Prepared by:
NorthStar Environmental Testing, LLC.
1835 E. Edgewood Drive
Suite 10542
Appleton, WI 54913

Provided to:
Stantec Consulting Services Inc.
12075 Corporate Parkway, Suite 200
Mequon, WI 53092

Date of Site Visits: August 11-17, 2016, September 6 & 9, 2016

NorthStar Environmental Testing, LLC.

A handwritten signature in black ink, appearing to read "David Barrett", written over a horizontal line.

David Barrett
Owner, Senior Project Manager

A handwritten signature in black ink, appearing to read "Aaron Stroud", written over a horizontal line.

Aaron Stroud
Operations Manager
All-108183 / LRA-108183



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C) Photo Log.....	2 Pages
D) Wisconsin DNR Form WA-651.....	10 Pages



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Asbestos • Lead Paint • Mold • Indoor Air Quality • Industrial Hygiene

November 14, 2016

Stantec Consulting Services, Inc.
12075 Corporate Parkway, Suite 200
Mequon, WI 53092

Project:	Restricted Waste Material Inventory
Site Address:	Mirro Building No. 9 1512 Washington Street Manitowoc, WI 54220
NorthStar No:	16A-584

NorthStar Environmental Testing LLC (NorthStar) was authorized by Mr. Harris Byers on behalf of Stantec Consulting Services, Inc. to perform a restricted waste material inventory from throughout the proposed demolition area at the following site:

INSPECTION SUMMARY:

Site Address:	Mirro Building No. 9 1512 Washington Street Manitowoc, WI 54220
County:	Manitowoc County
Structure Type:	Commercial
Bldg Age:	1904 (approximate original), Multiple Additions
Size (sf):	750,000 ft ²
Floors:	7 (south), 5 (center), 6 (north)
# of Structures:	3 main structures
Inspector:	Aaron Stroud
Survey Date:	October 25 & 28, 2016

PROJECT DISCUSSION:

In preparation for the upcoming structure demolition, a restricted waste material inventory was performed within the building. The restricted waste material inventory provides a room by room quantified inventory of materials likely to be categorized as restricted waste per the Wisconsin Department of Natural Resources (WI DNR) guidance document WA-651. The WI DNR requires restricted waste materials be removed or recycled properly as part of the demolition project.

The restricted waste material inventory was limited to currently accessible materials. Typical areas that may be inaccessible during an investigation include but are not limited to: wall or ceiling cavities; locked or operable electrical panels, operating equipment interiors; and spaces requiring confined space entry procedures. No material testing was performed and certain presumptions may have been made due to absence of labeling. Quantities given are approximate as noted during the site survey. These quantities should be verified by a qualified remediation contractor prior to planning a specific response action.

See the attached Restricted Waste Material Inventory form for types and quantity of materials found.

RESTRICTED WASTE SUMMARY:

Material Description	Quantity	Comments
Mercury Spill	1	Room 213, north center column
Mercury Switch	7	
Exit Sign	55	most signs contain two (2) compact fluorescent bulbs
Oil Capacitor	1	100 floor, north
Door Closure	64	found mostly near stairwells and restrooms
Light Ballast	*38	* also 1 cubic yard of ballasts collected in the loading dock
Fluorescent Bulb	28	
Compact Fluorescent Bulb	3	
Transformer	46	
Motor Gearbox	7	
Microwave	1	
Fan Bearing (Oil)	1	
Air Conditioning Unit	1	
Refrigerator	1	
Television	2	
Battery	10	
Fire Extinguisher	7	
Compressed Gas Tank	1	
Pressure Tank	1	
Pump Housing	2	oil
Bearings	13	oil, at ceiling
Water Fountain	2	
Emergency Lighting	1	

Please view the attached "Restricted Waste Inventory" for a room by room determination of materials.

Quantities given are approximate as noted during the site survey. These quantities should be verified by a qualified remediation contractor prior to planning a specific response action.

REMARKS:

This document is intended to provide guidance only and should not be considered a comprehensive report of any and all environmental hazards contained within the facility. Additional hazardous materials may relate to unknown past events or production processes requiring specific environmental testing.

Information provided to us by the building owner/occupant, client or other interested party that may have been utilized in the performance and reporting of the survey was accepted in good faith and can only be assumed to be accurate. The findings and recommendations made are representative of our professional opinion based on currently available information; no other warranty is implied or intended.

Please contact us if you have any questions regarding the presented information or the project in general.

Submitted By,

NorthStar Environmental Testing, LLC.



David Barrett
Senior Project Manager



Aaron Stroud
Operations Manager

attach: restricted waste material inventory
site diagram
photo log
WI DNR restricted waste guidance document

Stantec Consulting Services Inc.

**Mirro Building No. 9
1512 Washington Street
Manitowoc, WI 54220**

November 2016

RESTRICTED WASTE INVENTORY

CLIENT:	Stantec Consulting Services, Inc.	NORTHSTAR NO.	16A-584
LOCATION:	1512 Washington St - Manitowoc	SITE DATE:	October 25 & 28, 2016
WORK AREA:	Pre-Demolition	TECH:	Aaron Stroud

Below is a list of items requiring special handling, recycling or proper disposal:

Location	Building Level	Material Description	Quantity	Comments
100	1	Exit Sign	1	
		Oil Capacitor	1	floor, north
103	1	Exit Sign	1	
		Door Closure	1	
104	1	Light Ballast	2	
		Door Closure	1	
105	1	Door Closure	1	
		Compact Fluorescent Bulb	1	
106	1	Light Ballast	5	
		Fluorescent Bulb	5	
		Transformer	1	northwest
107	1	Light Ballast	13	
		Motor Gearbox	5	at ceiling
107A	1	Transformer	1	
		Microwave	1	
108	1	Exit Sign	1	
		Compact Fluorescent Bulb	1	
		Light Ballast	1	
109	1	Fan Bearing (Oil)	1	
		Air Conditioning Unit	1	
		Refrigerator	1	
110	1	Door Closure	1	
111	1	Exit Sign	1	
		Transformer	1	north

Location	Building Level	Material Description	Quantity	Comments
111	1	Light Ballast	3	east center
		Fluorescent Bulb	2	east center
112	1	Exit Sign	1	
112A	1	Light Ballast	1	
		Fluorescent Bulb	2	
#7 Stair	1	Door Closure	1	
115	1	Battery	4	east center
		Light Ballast	3	loading dock
		Fluorescent Bulb	5	loading dock
		Motor Gearbox	1	overhead door
116	1	Fluorescent Bulb	2	
		Door Closure	1	
		Light Ballast	**	** 1 cubic yard
117	1	Exit Sign	1	
		Door Closure	1	
118	1	Compact Fluorescent Bulb	1	
		Fire Extinguisher	3	
		Compressed Gas Tank	1	
119	1	Battery	1	southeast
120	1	Motor Gearbox	1	overhead door
		Transformer	1	
		Pressure Tank	1	
		Light Ballast	1	
		Fluorescent Bulb	1	
121	1	Mercury Switch	3	northwest
		Transformer	1	
122	1	Exit Sign	1	
123	1	Exit Sign	1	
		Door Closure	1	
124	1	Light Ballast	2	on floor
		Television	1	on floor

Location	Building Level	Material Description	Quantity	Comments
125	1	Battery	1	south, alarm
		Exit Sign	1	
		Transformer	1	east center
127	1	Exit Sign	1	
		Door Closure	1	restroom
		Transformer	1	southeast
129	1	Door Closure	3	
201	2	Exit Sign	1	
202	2	Door Closure	1	
203	2	Door Closure	2	
204	2	Exit Sign	1	
		Door Closure	1	
205	2	Exit Sign	1	
		Door Closure	1	
208	2	Mercury Switch	1	east center
208A	2	Fire Extinguisher	1	
209A	2	Door Closure	2	
210	2	Door Closure	1	south
		Battery	3	south
212	2	Exit Sign	1	stair 7 south
Restrooms	2	Door Closure	2	
213	2	Mercury Spill	1	north center column
215	2	Fire Extinguisher	1	
216	2	Door Closure	1	
218	2	Television	1	
219	2	Exit Sign	1	
221	2	Exit Sign	1	stair 2
		Transformer	2	
222	2	Door Closure	3	restrooms
223	2	Exit Sign	2	
		Pump Housing	2	oil

Location	Building Level	Material Description	Quantity	Comments
223	2	Transformer	1	
224	2	Door Closure	3	restrooms
302	3	Door Closure	1	
303	3	Door Closure	1	
304	3	Exit Sign	1	
305	3	Door Closure	1	
		Exit Sign	1	
307	3	Door Closure	1	stair 5
308	3	Door Closure	1	stair 1
		Exit Sign	1	stair 1
310	3	Exit Sign	1	stair 1
312 / 312A	3	Door Closure	2	
314	3	Exit Sign	1	center stair
317 / 318	3	Door Closure	2	
322	3	Battery	1	elevator
323	3	Exit Sign	2	
		Transformer	1	east center
324	3	Exit Sign	1	
		Bearings	13	oil, at ceiling
		Transformer	3	
325	3	Door Closure	4	
326 / 327	3	Door Closure	2	
		Light Ballast	1	
		Fluorescent Bulb	2	
405	4	Exit Sign	1	
408	4	Door Closure	1	
412	4	Door Closure	1	
415	4	Door Closure	2	stair 5
416	4	Exit Sign	1	west
419	4	Exit Sign	1	
421	4	Transformer	3	west, at ceiling

Location	Building Level	Material Description	Quantity	Comments
423	4	Exit Sign	1	
		Light Ballast	1	
		Fluorescent Bulb	2	
425	4	Door Closure	1	
426	4	Exit Sign	1	
		Transformer	2	north / south
427	4	Door Closure	2	
502	5	Exit Sign	1	
504	5	Door Closure	1	
505	5	Exit Sign	1	stair 1
		Door Closure	1	stair 1
507	5	Exit Sign	1	stair 5
		Door Closure	1	stair 5
		Transformer	2	northwest
508	5	Exit Sign	1	stair 1
		Door Closure	1	stair 1
		Light Ballast	1	north
510	5	Light Ballast	2	
		Fluorescent Bulb	3	
511	5	Transformer	3	elevator closet
		Exit Sign	1	
513	5	Transformer	3	
517	5	Exit Sign	1	stair 1
		Transformer	4	west & elevator closet
521	5	Exit Sign	2	
		Transformer	1	
		Light Ballast	1	north
		Fluorescent Bulb	2	north
522	5	Door Closure	2	restrooms
523	5	Exit Sign	2	
		Fire Extinguisher	1	east - floor

Location	Building Level	Material Description	Quantity	Comments
523	5	Transformer	1	
524	5	Door Closure	2	restrooms
600	6	Transformer	1	
		Exit Sign	1	
		Mercury Switch	1	
606	6	Transformer	2	
607	6	Thermometer	2	on AHU
608	6	Exit Sign	1	
609 / 610	6	Door Closure	2	
612	6	Transformer	7	east closet
		Exit Sign	1	southwest
		Door Closure	1	southwest
614	6	Transformer	1	
617	6	Exit Sign	1	
619	6	Mercury Switch	2	
		Exit Sign	1	
		Transformer	1	
		Water Fountain	1	
620	6	Door Closure	1	restroom
622	6	Exit Sign	1	
		Transformer	1	
		Water Fountain	1	
701	7	Exit Sign	2	
705	7	Exit Sign	2	south center
		Door Closure	1	south center
713 / 714	7	Door Closure	2	
717	7	Exit Sign	2	stair 1
		Door Closure	1	stair 1
718	7	Door Closure	2	
721	7	Exit Sign	2	**Limited access
		Emergency Lighting	1	**Limited access

Location	Building Level	Material Description	Quantity	Comments
Penthouse		Fire Extinguisher	1	
		Light Ballast	1	
		Fluorescent Bulb	2	

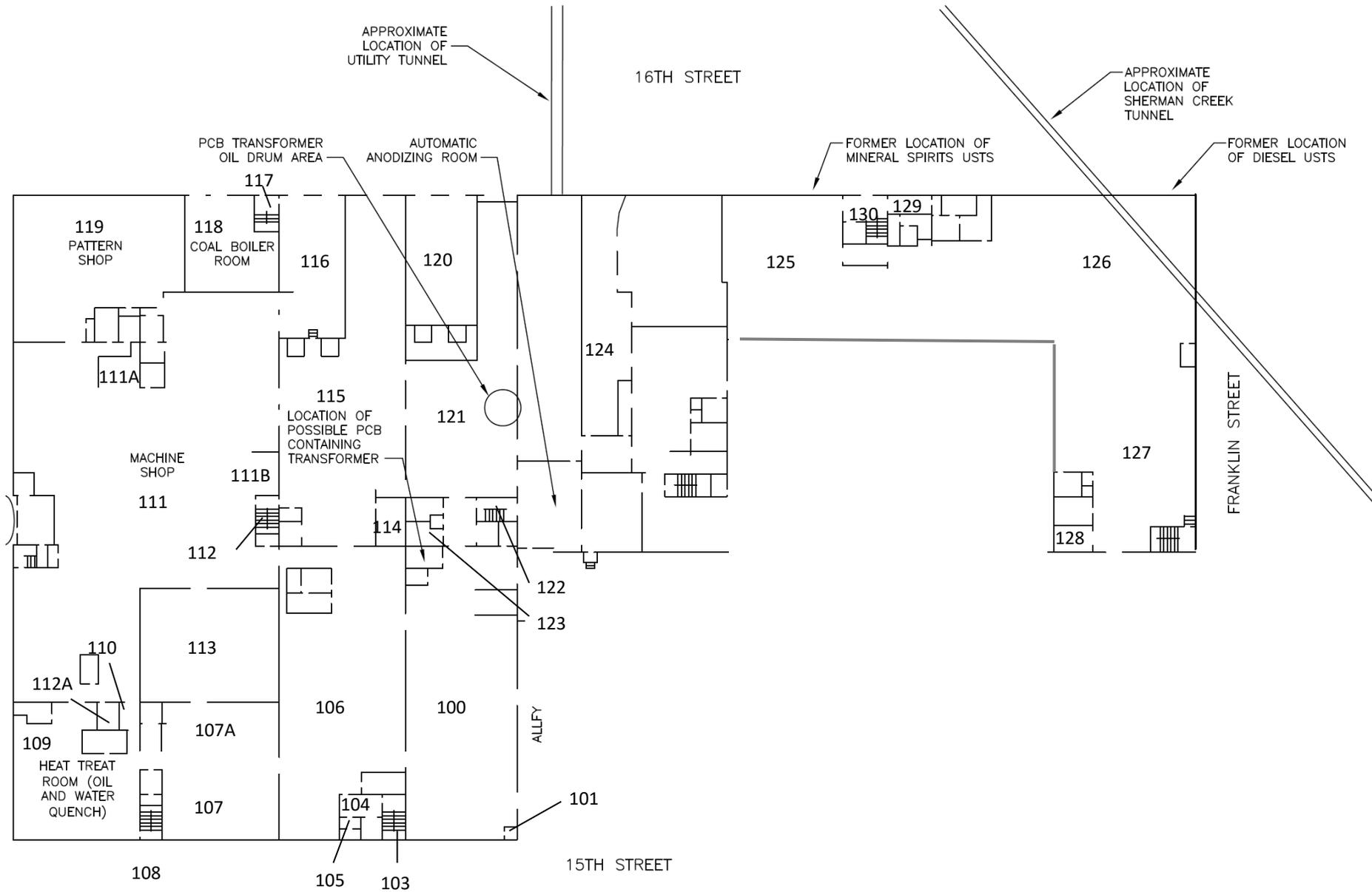
The above list may not be all inclusive and makes assumptions due to the lack of or inaccessible labeling. No material testing was performed. The restricted waste material inventory was limited to currently accessible materials. Typical areas that may be inaccessible during an investigation include but are not limited to: wall or ceiling cavities; locked or operable electrical panels, operating equipment interiors; and spaces requiring confined space entry procedures. Quantities given are approximate as noted during the site survey. These quantities should be verified by a qualified remediation contractor prior to planning a specific response action.

Movable and stored items or chemicals were not inventoried or noted during the survey. These items may still require special handling or care.

Stantec Consulting Services Inc.

**Mirro Building No. 9
1512 Washington Street
Manitowoc, WI 54220**

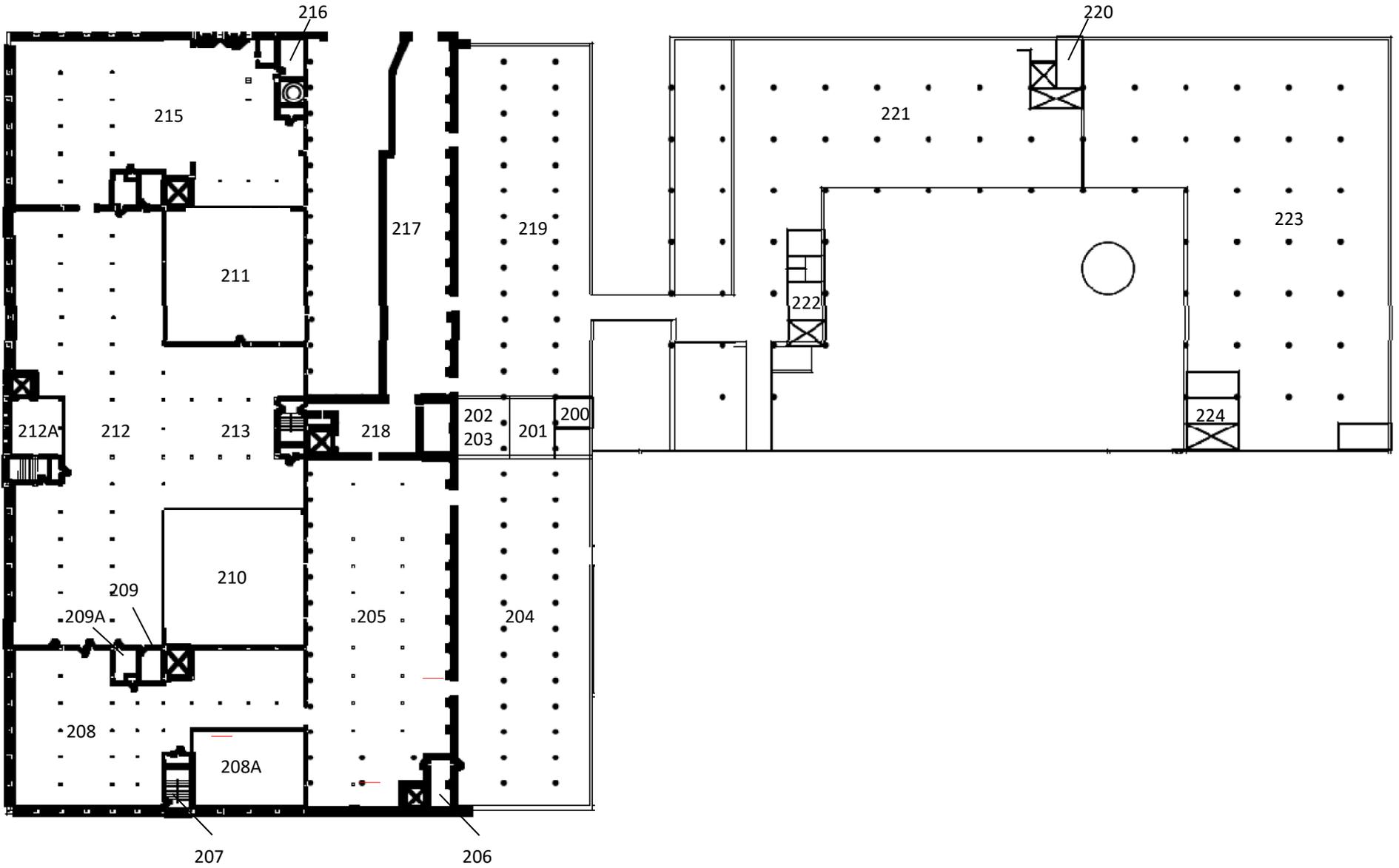
November 2016



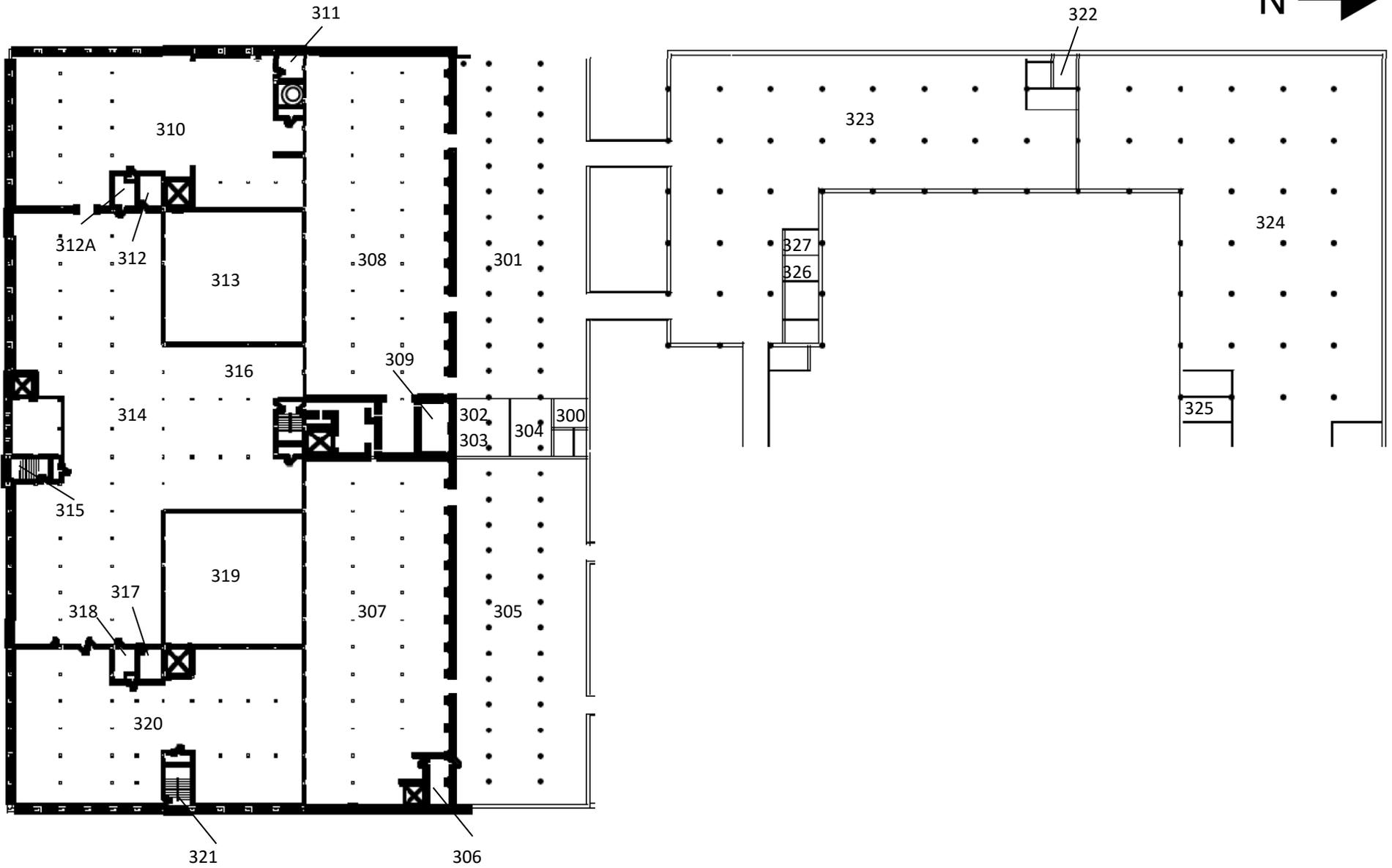
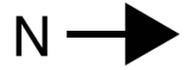
Ground Floor Plan



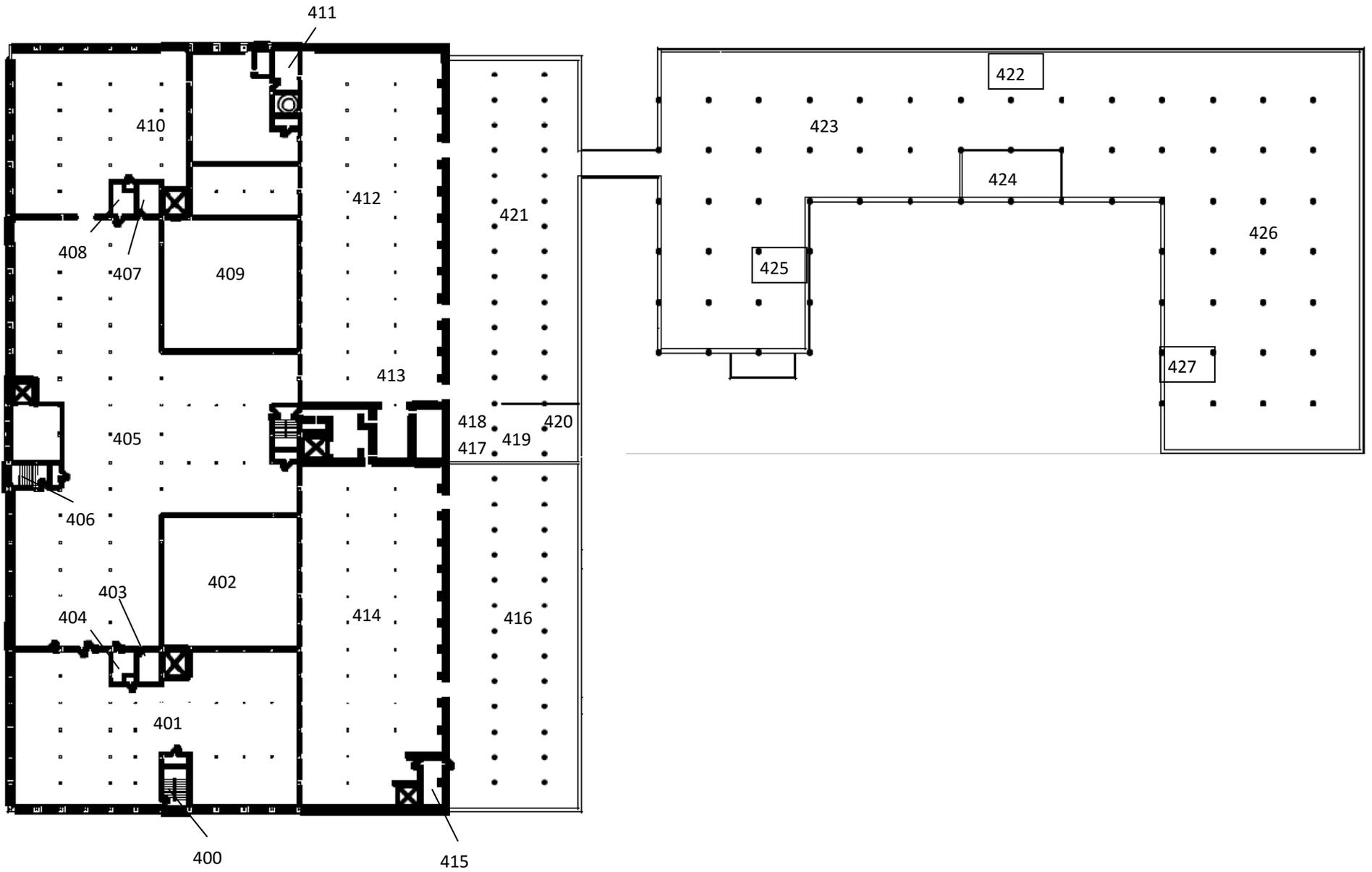
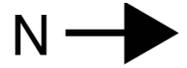
2nd Floor Plan



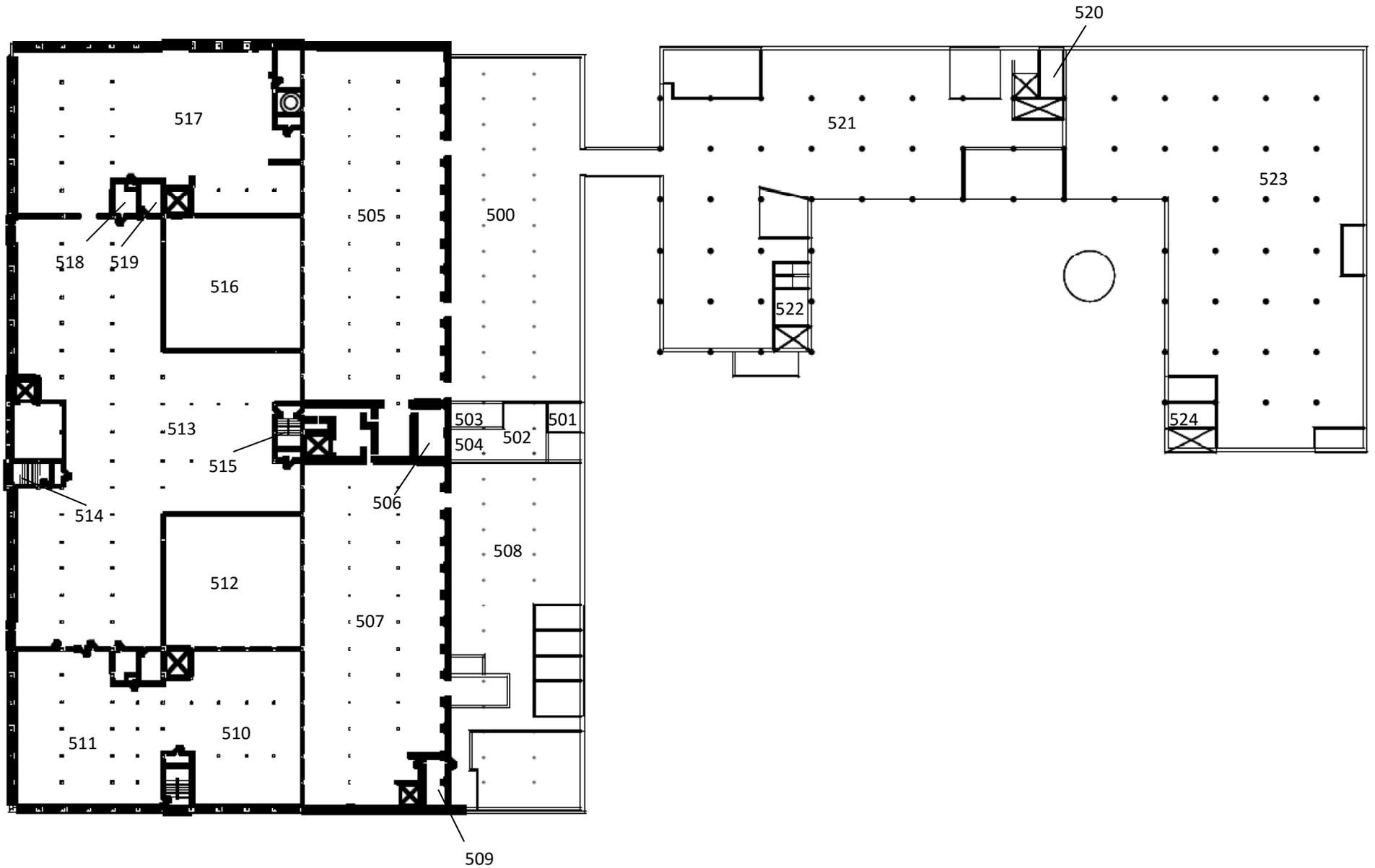
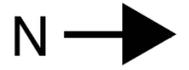
3rd Floor Plan



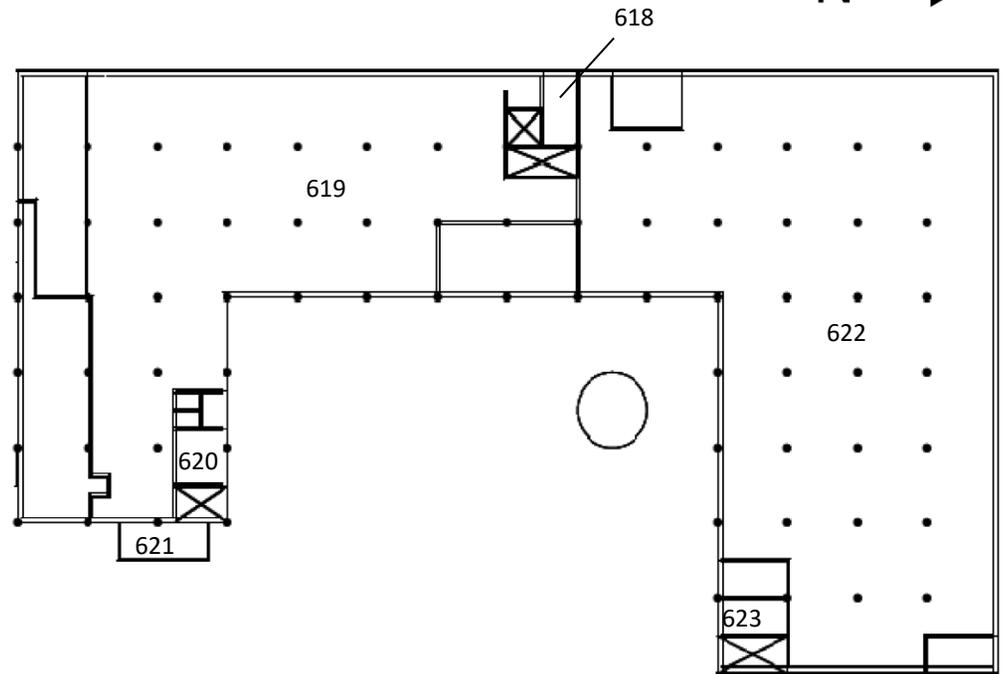
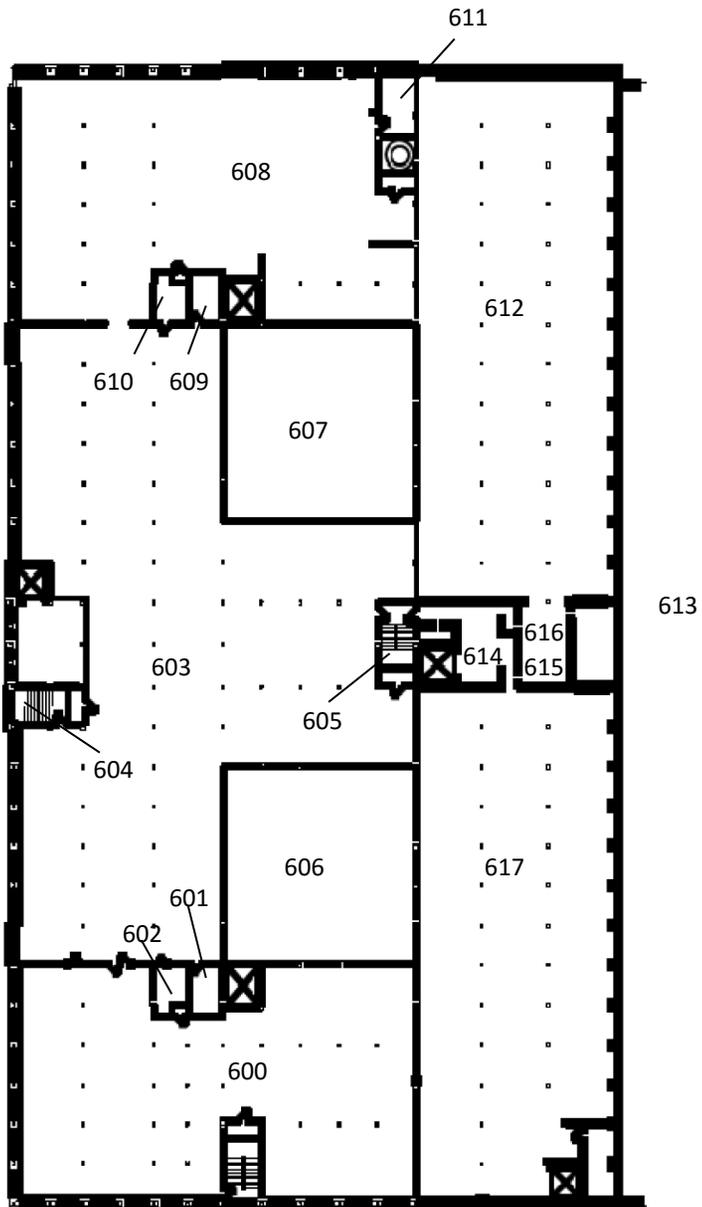
4th Floor Plan



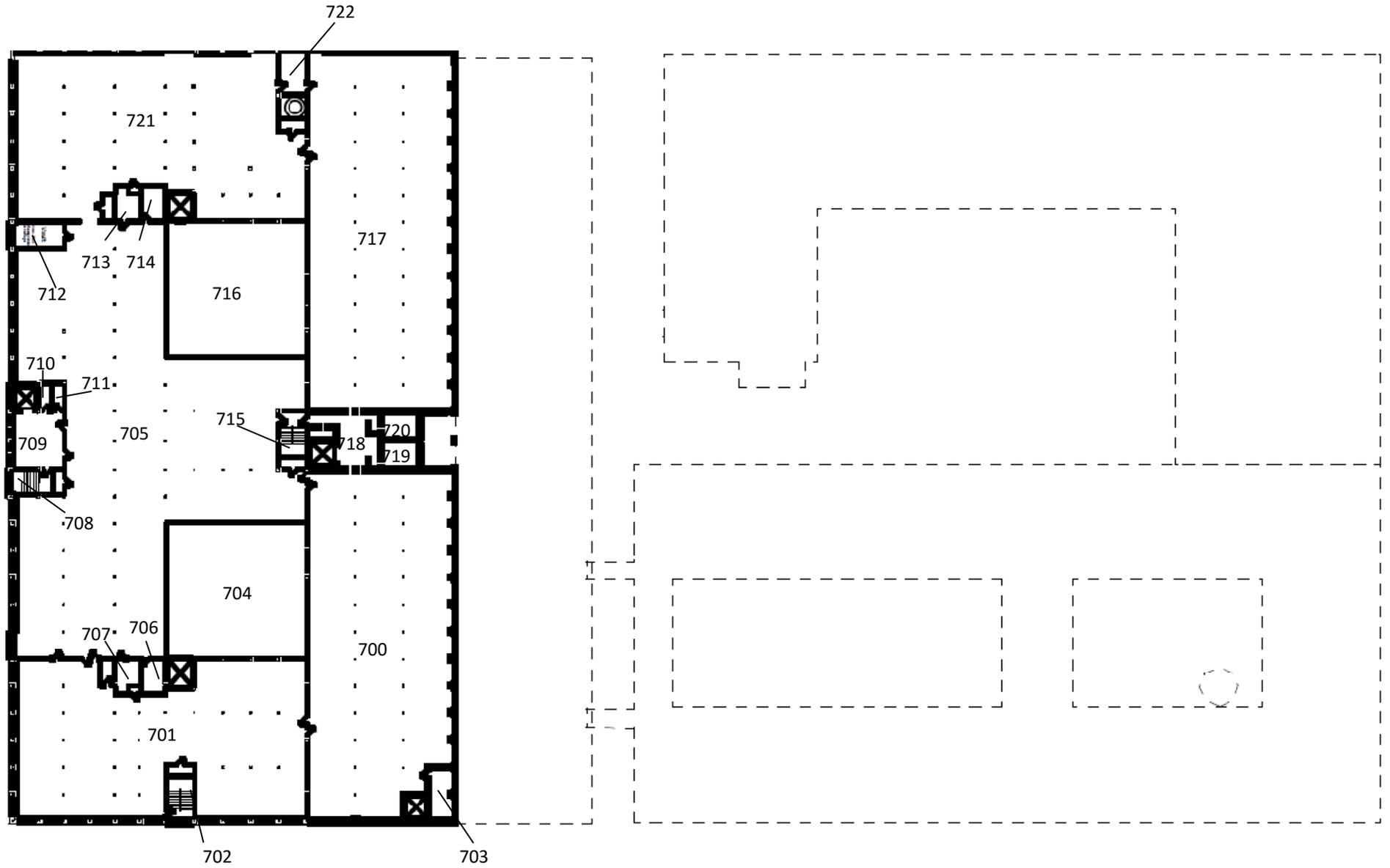
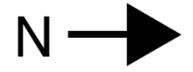
5th Floor Plan



6th Floor Plan



7th Floor Plan



Stantec Consulting Services Inc.

**Mirro Building No. 9
1512 Washington Street
Manitowoc, WI 54220**

November 2016

PHOTO LOG



Photo 1: Ballasts



Photo 4: Exit Sign



Photo 2: Fluorescent Bulbs



Photo 5: Broken Barometer (mercury)



Photo 3: Door Closure



Photo 6: Mercury Spill



Photo 7: Mercury Switch



Photo 8: Transformers



Photo 9: Emergency Light

Stantec Consulting Services Inc.

**Mirro Building No. 9
1512 Washington Street
Manitowoc, WI 54220**

November 2016



WA 651 (Revised 2013)

PLANNING YOUR DEMOLITION OR RENOVATION PROJECT:

A Guide to Hazard Evaluation, Recycling and Waste Disposal

(Formerly called Pre-Demolition Environmental Checklist)

INFORMATION ON IDENTIFYING, HANDLING AND PROPERLY DISPOSING OF HAZARDOUS MATERIALS

PLANNING YOUR PROJECT

- 1 Conduct a walk-through of the project building(s) and grounds to **identify items that contain harmful materials** and other site-related concerns.
- 2 **Identify and quantify harmful materials at your job site** with specialized inspectors or contractors, if necessary
- 3 **Notify the DNR** of demolition or renovation activities prior to starting any demolition or renovation work.
- 4 **Hire specialized consultants, contractors or transporters** to remove and properly manage harmful materials prior to starting your project.
- 5 **Request and file all receipts** for the disposal of harmful and non-harmful materials related to the project to avoid potential enforcement action.

Before beginning any demolition or renovation project, it is important to know about harmful materials that may be present on your project site.

This guide walks contractors and building owners through the steps to identify harmful materials commonly found at project sites and handle and dispose of them safely. It also offers proper ways to manage recyclable and reusable materials and other wastes that are common in demolition and renovation projects.

The Resources section on the last page has links to websites with more information.

Note: This document is not intended as a substitute for reading the rules, regulations, and statutes related to handling demolition and renovation debris. It is simply a guide to assist you in determining how they apply to your demolition or renovation project.

COMMON HARMFUL MATERIALS

Buildings can contain a number of harmful materials that may expose workers and the public to serious health risks and pollute the air, land and water if handled or disposed of in an unsafe way. Five of these harmful materials are common on project sites and need special care in identification and handling:

- ▶ **Asbestos**
- ▶ **CFCs (chlorofluorocarbons) and halons**
- ▶ **Lead**
- ▶ **Mercury**
- ▶ **PCBs (polychlorinated biphenyls)**

FIVE STEPS TO A SUCCESSFUL DEMOLITION OR RENOVATION PROJECT

1 STEP 1. Conduct a walk-through of the project building(s) and grounds to identify items that contain harmful materials and other site-related concerns.

Identifying hazardous materials before starting work on a project site protects worker health and safety, building occupants, and the financial viability of the project. Doing this up front can help you choose the appropriate inspectors, consultants and contractors and avoid costly change orders or project delays.

Before you begin any demolition or renovation project, thoroughly inspect and inventory the project site for the following items:

- **Appliances:** Appliances may contain CFCs, mercury or PCBs. Appliances that contain CFCs or PCBs must be processed by an appliance de-manufacturer registered with the DNR.
- **Building materials and fixtures that may contain asbestos:** All layers of materials, behind walls, ceiling spaces, etc., should be inspected and sampled unless they are assumed to contain asbestos. The following building components may contain asbestos, but this list is by no means all inclusive.
 - **Caulking:** Used around windows, doors, corrugated roofing and other places where two materials are joined. PCBs have also been found in caulking materials. Schools and industrial buildings constructed or renovated between 1950 and 1979 are suspected to contain PCB-containing caulk.
 - **Ceilings:** Including acoustical tiles and adhesives, and the materials listed under "interior and exterior walls" below. All ceiling layers and any spaces above the ceiling where drop ceilings are present should be checked. Insulation debris may also be lying on top of ceiling tiles.
 - **Electrical systems:** Insulators; spark arrestors and transite panels in electrical boxes; wiring insulation, ducts/conduits (transite pipe), and light fixtures.
 - **Flooring:** All sizes of vinyl floor tile, sheet flooring, and linoleum, and felt paper used under hardwood floors.
 - **HVAC systems:** Duct, pipe, and joint insulation because elbows/joints are often coated with asbestos; fiberglass insulation on the straight runs; forced air dampers; wall, floor and chimney penetrations; lining and mortar; fire brick; fire-proofing materials such as transite sheets or heavy paper; boiler insulation; flexible fabric connectors; packing/gaskets and adhesives; paper backing; mastic/adhesives (floor tile, carpet, etc.); and grout and felt paper under hardwood floors.
- **Insulation in ceilings and walls:** Blown-in, spray-applied, and block.
- **Interior and exterior walls:** Wall plaster; joint compound; patches; transite wallboard and siding, fire doors, window putty/glazing/caulking, mortar, asphalt shingles/siding, felt under siding, stucco, textured paint, and other spray-applied materials. Paint containing asbestos is rare except in commercial applications, where it was usually applied as a very thick, often silver-colored coating or added to textured paints.
- **Miscellaneous:** Appliances with a heating element, especially older models; fire curtains and blankets; laboratory tabletops; fume hood linings; blackboards; and fire-resistant clothing like gloves, hoods, aprons, etc.
- **Plumbing:** Pipe wrap, pipe joints, transite counter tops in bathrooms, faucets, packing gaskets, and adhesives.
- **Roofing:** Asphalt shingles, tar-type coatings which are often around vents, chimneys, etc.; transite shingles, roofing felts that are often under a layer of other material; flashings; and mag-block type material found under other material. Check all roof areas and roofing layers.
- **Lighting fixtures/ballasts and bulbs/lamps:** Switches for lighting may use mercury relays. Look for any control associated with exterior or automated lighting systems, such as "silent" wall switches. Several types of light bulbs or lamps contain mercury and must be properly and legitimately recycled or disposed of as hazardous waste. These include:
 - **Fluorescent lights:** Even the newer lamps with green-colored ends contain mercury.
 - **High intensity discharge:** metal halide, high pressure sodium, mercury vapor.
 - **Neon**
- **Meters and switches:** Mercury may be found in thermometers, barometers, thermostats, blood-pressure devices, and fluorescent and other types of light bulbs. Any equipment used for measurement of vacuum, pressure, fluid level, temperature, or flow rate could contain mercury. These devices are

most commonly associated with commercial and industrial equipment systems, including tanks, boilers, furnaces, heaters, electrical systems, water cleaning systems, and systems for the movement or pumping of gas (air) or liquids (water). In addition, mercury containing devices are also common in certain agricultural operations such as dairy, and may be present in older model consumer appliances and residential properties, especially larger multi-unit properties.

- **Oil:** Used oil in containers or tanks, hydraulic oils in machinery, electrical transformers and capacitors, and elevator shafts. These oils may contain PCBs and may need to be tested to determine if the oil can be recycled or must be properly disposed of.
- **Paint:** Residential and industrial paints may contain lead, solvents or asbestos. Some industrial paints may contain PCBs.

In addition to the items listed above, be aware of these other site-related concerns:

- **Abandoned wells:** Unused and improperly abandoned wells are a significant threat to groundwater quality. If not properly filled, abandoned wells can directly channel contaminated surface water into the groundwater. State law requires that all wells and drill holes be properly filled prior to any demolition or construction work on the property.
- **Batteries (non-lead-containing):** Batteries may be found in smoke detectors, emergency lighting systems, elevator control panels, exit signs, security systems and alarms. Batteries should be separated from other wastes and taken to a recycling facility or a business that accepts batteries for recycling.
- **Computers and other electronics:** Most electronics are banned from Wisconsin landfills and must be recycled. These can contain hazardous materials such as lead, cadmium, chromium, and mercury and, if not recycled, may be regulated as hazardous waste.
- **Exit signs:** Many self-luminous exit signs contain tritium, a radioactive material. All self-luminous exit signs must have a permanent label that identifies it as containing radioactive material. The label will also include the name of the manufacturer, the product model number, the serial number, and the quantity of tritium contained. It is illegal to abandon or dispose of these signs except by sending them to the manufacturer or to others licensed by the U.S. Nuclear Regulatory Commission.

► HAZARDOUS AND UNIVERSAL WASTES

Some wastes, such as used or unused solvents, sanitizers, paint wastes, chemical wastes, pharmaceuticals, gas cylinders, aerosol cans and pesticides, may be hazardous waste and regulated by the EPA and DNR. Hazardous wastes must be removed from a project site prior to demolition or renovation and be disposed of according to specific rules. Read the DNR publication "Is Your Waste Hazardous?" (WA-1152) at <http://dnr.wi.gov/files/pdf/pubs/wa/wa1152.pdf> to determine if a waste is hazardous. See *Handling and Disposal Choices* on page 7 for information on how to dispose of hazardous wastes on a project site.

Universal wastes are hazardous wastes that can be collected and transported with fewer regulations. Universal wastes include hazardous waste batteries, certain pesticides, mercury thermostats and other mercury-containing equipment and some lamps (light bulbs). In Wisconsin, antifreeze can also be managed as a universal waste if it is recycled. See chapter NR 673 of Wisconsin Administrative Code for more details on recycling and reusing universal waste.

- **Painted concrete:** Walls and foundations often contain painted concrete. With prior DNR approval, contractors can grind the concrete and use it on-site or nearby under a new building or road.
- **Smoke detectors:** The smoke detectors that contain a small amount of radioactive material will be labeled and should be returned to the manufacturer for disposal. Otherwise, smoke detectors may go in the trash.
- **Soil contamination:** A qualified environmental consultant can conduct environmental property assessments including identification of contaminated soil.
- **Spills:** In Wisconsin, all spills of hazardous substances that negatively affect or threaten to negatively affect public health, welfare or the

► REUSE AND RECYCLING OF MATERIALS

Many materials, fixtures and components can be donated or sold for reuse or recycled prior to demolition. As you inventory the project site for harmful materials, take note of materials that can be reused or recycled and remove them from the project site before demolition work begins.

- The Wisconsin Business Materials Exchange is a web service that facilitates the reuse of surplus or unwanted items or materials among businesses, institutions, and organizations. You can use this tool to post items that are available and request an item you may need.
- Consider holding an auction as a way to reuse building materials, fixtures and components once all the harmful materials have been removed.
- Clean brick, building stone, concrete and asphalt can be stockpiled for crushing and reusing in future building projects
- Clean, untreated wood can be recycled or chipped for mulch or ground cover.
- Many items such as appliances, electronics, paper and cardboard, glass containers and vehicle items are banned from Wisconsin landfills and must be recycled. For a complete list of these items, go to dnr.wi.gov and search "what to recycle."
- The online Wisconsin Recycling Markets Directory contains a list of self identifying businesses accepting recyclable materials. Make sure your chosen recycler meets local, state and federal regulatory requirements.
- Demolition debris may be taken to a construction and demolition recycling facility if all harmful materials, including all types of asbestos, are removed prior to demolition or renovation.

► OPEN BURNING

It is illegal to burn painted, treated or unclean wood, asphalt, plastics of any kind, oily substances, tires and other rubber products, garbage, recyclables, wet rubbish, and other materials. Demolition materials that cannot be burned include: roofing materials, all kinds of flooring materials, insulation, plywood and other composition board, electrical wiring, cabinetry and countertops, and plastic plumbing.

Burning of clean, unpainted and untreated wood is allowed with a DNR burning permit using DNR-approved methods. When burning this type of wood from demolition waste, you must separate out all of the illegal materials, including painted or treated wood, before any burning occurs. The DNR encourages chipping clean, untreated wood for mulch or ground cover.

If you do decide to burn clean, unpainted and untreated wood, it is your responsibility to know what restrictions apply in the area where you are burning. Remember, you must also follow local burning ordinances that may be more restrictive than state law. Contact your local fire department, town chairperson, or local municipal official for more information on local burning rules.

It is illegal to burn unwanted buildings in Wisconsin. The only exception is for a fire department training exercise. For more information on how to prepare a building for a fire department training exercise, contact the DNR asbestos program coordinator at (608) 266-3658.

environment *must* be immediately reported to the DNR via the Spills Hotline, 800-934-0003.

- **Tanks:** Chemical tanks (underground and aboveground) and septic tanks should be assessed, emptied and decommissioned.
- **Tires:** Tires should be reused or recycled. Your local landfill may collect them for recycling or you can check WisconsinRecyclingDirectory.com and search for 'motor vehicle items' and then "tires."

2 STEP 2. Identify and quantify harmful materials at your job site with specialized inspectors or contractors, if necessary

Asbestos and lead have specific requirements from the Department of Natural Resources and the Department of Health Services for their identification and testing on a project site. See the sections on asbestos and lead in this step for those requirements.

You can identify other harmful materials on a project site, such as CFCs and halons, mercury, and PCBs, by doing an inventory of the building systems and fixtures for the items listed here and in Step 1. You may need some testing to confirm the presence of these materials. The DNR recommends hiring an inspector or consultant who has sufficient experience identifying these materials and can collect samples, if necessary, that will help in identification.

If you have a large or complex project, it may make sense to hire a consultant to oversee the coordination of all waste identification and disposal activities.

► Asbestos

Health risks: Asbestos is a known human carcinogen that can cause serious health problems when disturbed and inhaled. Historically, asbestos was commonly used in industrial, commercial, and residential structures. Asbestos is still used today but to a lesser extent.

Location and/or materials: Asbestos is used in more than 3,000 building materials. Asbestos is commonly found in HVAC systems, electrical systems, interior and exterior walls, roofing materials, ceilings, plumbing, and flooring insulation. It is also found in appliances with a heating element, fire curtains and blankets, laboratory tabletops, fume hood lining, blackboards and fire resistant clothing. Refer to Step 1 for a detailed list of building materials and locations that may contain asbestos.

Identification and testing: The Department of Health Services requires licensed inspectors to identify asbestos. Inspectors can assume asbestos to be present, or they can identify it through testing. The DNR requires an asbestos inspection for certain projects and recommends it for others.

Required projects:

- Two or more contiguous single family homes
- Homes that are part of a larger demolition project
- Multi-family housing with five or more units
- Industrial, manufacturing or commercial buildings including bridges, farm buildings, and churches
- Any structure being prepped for a fire training exercise

Recommended projects:

- Single family homes
- Multi-family housing with 2–4 units

Inspection must be completed and asbestos materials must be removed before beginning any demolition or renovation activities.

► CFCs (chlorofluorocarbons) and halons

Health risks: CFCs and halons damage the earth's protective ozone layer high in the atmosphere, allowing greater exposure to the sun's dangerous ultraviolet rays. Some of the harmful effects of increased UV exposure include increased risk of skin cancer, eye cataracts, immune system deficiencies, and crop damage.

Location and/or materials: CFCs can be found in refrigerants in rooftop, room and central air conditioners, refrigerators, freezers, and chillers, dehumidifiers, heat pumps, water fountains and drinking coolers, walk-in coolers (refrigeration or cold storage areas), vending machines and food display cases. Halons are found in fire extinguishers and other fire control equipment.

► Lead

Health risks: Inhaling or swallowing lead dust can cause serious health effects, including kidney disease, neuropathy, infertility, heart and cardiovascular disease, stroke, memory problems, and Alzheimer's disease.

Location and/or materials: Lead plumbing and lead-based paint are commonly found in many older buildings. Lead may be found in paint on woodwork and metal equipment, leaded glass, lead window-sash weights, lead flashing molds, roof vents, lead pipes and solder. Lead is found in both indoor and outdoor applications. Lead is also found in lead-acid batteries associated with older lighting, exit signs, and security systems.

Identification and testing: The Department of Health Services requires licensed inspectors and risk assessors to identify lead paint. When building surfaces or components are being renovated in any residential and child-occupied buildings built before 1978 (such as private homes, rental units, day care centers, and schools), lead paint must be assumed to be present or identified through testing.

Lead paint sampling is recommended on commercial and industrial projects. The US discontinued manufacturing lead paint for residential use by 1978, but lead is still used in specialty paints in commercial and industrial applications. Most buildings have multiple layers of paint, and all layers should be considered

► Mercury

Health risks: Liquid mercury evaporates slowly at room temperature and gives off harmful vapors that are invisible and odorless. Breathing these vapors causes the most harm to people, but mercury can also be harmful when it comes in contact with broken skin or when it is swallowed. Women and children are most at risk from mercury poisoning, which can cause brain and nerve damage, resulting in impaired coordination, blurred vision, tremors, irritability and memory loss. Mercury poisoning also causes birth defects.

Location and/or materials: Mercury may be found in thermometers, barometers, thermostats, dental offices, blood-pressure devices, and fluorescent and other types of light bulbs. Any equipment used for measurement of pressure, fluid level, temperature, or flow rate could contain mercury. These devices are most commonly associated with commercial and industrial equipment systems, including tanks, boilers, furnaces, heaters, electrical systems, water cleaning systems, and systems for the movement or pumping of gas (air) or liquid (water). In addition, mercury containing devices are common in certain agricultural operations such as dairy, and may be present in older model consumer appliances, vehicle light switches and residential properties, especially larger multi-unit

properties. Dental offices use mercury-containing amalgam that may be found in sink drain traps. Mercury can also be found as part of older wastewater treatment plant trickling filters.

► PCBs (polychlorinated biphenyls)

Health risks: PCBs may cause cancer in humans and can disrupt hormone and nervous system function. PCBs are persistent in the environment and stay in animals' and humans' systems. PCBs are a source of contamination in fish and have caused fish consumption advisories for humans.

Location and/or materials: PCBs can be found in electrical oils (e.g. transformers and capacitors in appliances) electronic equipment, heat transfer equipment, hydraulic fluids, light ballasts, industrial paints, specialty paints (e.g. swimming pools) and caulking materials. Sumps, oil traps and concrete flooring in facilities that used or manufactured PCBs may be contaminated with PCBs as well. Electrical devices manufactured prior to 1978 should be assumed to contain PCBs.

Identification and testing: You may be able to determine PCB concentrations in electrical equipment oil using identification labels, documents from the manufacturer indicating the PCB concentration at the time of manufacture, or service records showing the PCB concentration measured when the equipment was serviced. If a manufactured date and PCB content label are not found on a transformer or capacitor, the oil should be tested to determine the PCB content prior to dismantling and disposal. Oil filled electrical equipment labeled "No PCBs" may still contain PCBs, but at a concentration lower than what the EPA regulates. The oils in this equipment should still be tested to see if they contain PCBs and then handled appropriately.

Testing of specialty paint, epoxies and caulks in buildings built or renovated between 1950 and 1979 is recommended. High levels of PCBs are being found in these materials across the country. Once testing is complete, boldly label all surfaces and items that were found to contain PCBs so they are handled appropriately during renovation or demolition.

STEP 3. Notify the DNR of demolition or renovation activities prior to starting any demolition or renovation work.

Notification to the DNR is required for all demolition projects. It is also required for renovation projects where asbestos removal is involved. An asbestos inspection is required as part of this notification. The inspection must be conducted by a Department of Health Services-licensed asbestos inspector who will provide written documentation of the findings.

The notification to the DNR can be completed using an online notification system or a paper form available

on the DNR website. Keep in mind that other permit timelines and inspections must also be completed before the project work can begin.

For demolition projects

For the demolition of a commercial/industrial building and residential buildings with five or more units, asbestos regulations require notification to the DNR 10 working days before the project work begins. All demolition projects require notification whether or not asbestos is present on the project site.

For renovation projects involving asbestos

For the renovation of a commercial/industrial building or residential buildings with five or more units, asbestos regulations require notification to the DNR 10 working days before the project begins. Notification is required only if asbestos removal is involved.

► HANDLING AND DISPOSAL CHOICES

You have a few options for handling and disposing of lead, mercury, PCBs and other wastes from your project site that qualify as hazardous waste. Identifying these options prior to beginning the project can help you schedule transportation and disposal and maintain the overall project schedule.

- **Hire a waste management contractor** to pick up and dispose of hazardous wastes. This takes the guess work out of handling these types of wastes. Contractors have properly trained personnel that will determine appropriate packaging, shipping and vehicle licensing and have established relationships with disposal facilities.

Other choices provide you with reduced regulation and may change depending on the amount of hazardous waste generated in a month. As a contractor, you may manage hazardous wastes you generate at temporary job sites only according to the following options. For more details on these options, see the DNR publication "Pilot Project for Management of Contractor Generated Hazardous Waste" (WA-654) at <http://dnr.wi.gov/files/pdf/pubs/wa/wa654.pdf>.

- **Hire a licensed hazardous waste transporter** to transport the hazardous waste to a licensed or permitted hazardous waste treatment, storage and disposal facility. In this case, you must follow the applicable generator requirements in chapters NR 660-679 of Wisconsin Administrative Code.
- **Leave containerized hazardous waste for the site owner to properly manage.** In this case, the site owner must follow the applicable generator requirements in chapters NR 660-679 of Wisconsin Administrative Code. If you choose this option, be sure to include this in your contract with the site owner.
- **Transport the containerized hazardous waste yourself** directly from the temporary job site to a Household and Very Small Quantity Generator (VSQG) Hazardous Waste Collection Facility. This includes county or municipal Clean Sweep locations. If the total quantity of hazardous waste generated by your company in one month is less than 220 lbs. (about half of a 55-gallon drum), you would be a VSQG and your hazardous waste may be taken to a Clean Sweep location for handling and disposal. Contact your local Clean Sweep coordinator for information on possible fees, accepted materials, and other details.
- **Transport the containerized hazardous waste yourself to your central business location.** This option is currently available under a pilot project. Waste handled in this manner is subject to the pilot project conditions. See the publication referenced above for more information.

STEP 4. Hire specialized consultants, contractors or transporters to remove and properly manage harmful materials prior to starting your project.

Hiring the right consultant, contractor or transporter is important to ensure safe handling practices and disposal options. This section will help you determine who to hire. Links to lists of licensed consultants, contractors and transporters are on the last page under Resources.

► Asbestos

Handling practices: Asbestos professionals trained and certified by DHS are required to perform asbestos removal in most multi unit residential and all commercial, industrial, manufacturing and government buildings. Most types of asbestos-containing materials must be removed from the building prior to demolition or renovation.

Disposal: The asbestos removal contractor is responsible for disposing of the asbestos materials at a licensed landfill approved to accept asbestos waste. Not all landfills accept asbestos materials, so contractors should call the landfill to find out what materials are accepted and the hours of operation.

In some situations, non friable asbestos materials (materials that are resistant to crushing), such as floor tile and roofing, may remain in place during the demolition activities. When this is done, the debris must be taken to a municipal or construction and demolition landfill. Debris containing non-friable asbestos materials may not be taken to a construction and demolition recycling facility.

► CFCs (chlorofluorocarbons) and halons

Handling practices: Keep units that contain refrigerants in place for a certified transporter to remove them. Moving them may cause an accidental release of refrigerants. Certified transporters include waste haulers, community recycling programs, and appliance salvage businesses. State law requires that anyone transporting salvaged refrigeration units must certify to the DNR that they will transport items in a way that prevents refrigerant releases. Technicians who remove refrigerants from units must be registered with the DNR and use approved equipment.

Check both portable and installed fire suppression systems for labels indicating halons. Trained technicians are also needed to remove halons. Contact local fire suppression equipment companies or the Halon Recovery Corporation for more information. Do not discharge halon fire extinguishers; intentionally releasing these substances is prohibited under federal regulations.

Disposal: Once the refrigerants are recovered, the unit may be taken to a metal scrap recycling facility. If you send halon containing equipment offsite for disposal, it must be sent to a manufacturer, fire equipment dealer or recycler operating in accordance with National Fire Protection Association standards.

► Lead

Handling practices: DHS-certified lead-safe contractors are required for any renovations, repairs, painting or other paint-disturbing services on or in the regulated buildings that contain lead paint. These contractors must use lead-safe practices at these properties.

State law prohibits the sale or transfer of any fixture or other object that contains lead bearing paint if children would have ready access to the fixture or object in its new location.

Disposal: Dispose of in a landfill any painted wood or building components that contain lead paint. Do not burn or chip wood that contains lead paint or use it for landscaping.

Lead paint waste, such as lead paint chips or lead paint removed from commercial or industrial buildings, must be tested to determine if it is a hazardous waste for disposal purposes.

See *Handling and Disposal Choices* on page 7 for handling and disposal options.

► Mercury

Handling practices: You may collect intact mercury-containing devices and bring them back to your primary business location or bring them directly to an off-site mercury recovery facility. Do not remove mercury ampoules or free liquids from the device. Store devices in a covered plastic container to prevent them from breaking. Label the container to assist proper handling and disposal.

If any mercury is spilled or released during handling, report the spill immediately by calling the DNR 24-hour Spills Hotline: (800) 934-0003. Mercury spreads quickly, and even a small spill can cause big cleanup costs in a short period of time.

Disposal: Trained professionals and specific equipment are needed for safe removal of mercury from ampoules and devices. Mercury must be transported by a licensed hazardous waste transporter to a mercury facility to be recycled or reclaimed.

See *Handling and Disposal Choices* on page 7 for handling and disposal options.

► PCBs (polychlorinated biphenyls)

Handling practices: The EPA recommends that caulk containing PCBs be removed during planned renovations and repairs (when replacing windows, doors, roofs, ventilation, etc.). It is important to ensure that PCBs are not released into the air during renovation or repair of affected buildings.

Oils with PCB content greater than 50 ppm are prohibited from being mixed with other materials to reduce the PCB content.

Disposal: PCBs must be transported either by your company, a licensed hazardous waste transporter or a full-service contractor. PCBs and PCB-containing wastes must be taken to a licensed disposal facility or directly to a licensed incineration facility. Arrangements for accepting PCBs must be made with these facilities ahead of time.

See *Handling and Disposal Choices* on page 7 for handling and disposal options.

5 STEP 5. Request and file all receipts for the disposal of harmful and non-harmful materials related to the project to avoid potential enforcement action.

As materials are removed from the project site, ask your contractors for disposal receipts to document the disposal or recycling of your wastes. This is an important step in protecting your company. If materials are illegally dumped, the DNR will investigate to determine where the materials came from. Part of the investigation process would be to identify projects in the area that may have been the source of the illegally dumped materials. Receipts show that your project wastes were disposed of appropriately and protect you from liability issues and fines and/or forfeitures.

► DEMOLITION AND RENOVATION WASTE

Disposal options for demolition and renovation wastes depend on the type of waste and, in some cases, the amount generated. Solid wastes such as trash, painted wood, and fiberglass insulation can be disposed of at solid waste transfer stations and landfills, including construction and demolition landfills.

If demolition wastes are going to a construction and demolition landfill, all non-building components, such as books, furniture and trash must be removed before you begin demolition (note that most of these non-building components can be reused or recycled). Non-building components may stay in the building if the demolition waste is going to a municipal solid waste landfill. Check with local landfills prior to demolition to determine how to manage your wastes.

Demolition debris may be taken to a construction and demolition recycling facility if all asbestos materials and other harmful materials have been removed prior to demolition or renovation.

To find a list of these facilities licensed in Wisconsin, go to dnr.wi.gov and search "licensed waste haulers and facilities."

Once the harmful materials have been removed from the project site and the notification to DNR is submitted with the appropriate dates of demolition, demolition can begin. This includes first removing materials for reuse or recycling. If all harmful materials, including all types of asbestos, have been removed from the building or structure before demolition, the resulting debris can be taken to a construction and demolition recycling facility.

RESOURCES

Asbestos

- DNR asbestos program requirements: [dnr.wi.gov](#), search "asbestos"
- DHS Wisconsin Asbestos Program: [www.dhs.wi.gov/asbestos/](#)
- DHS-certified asbestos companies: at the link above, look for "certified company" in the left-hand margin

Brownfields

- DNR brownfields redevelopment: [dnr.wi.gov](#), search "brownfield"

CFCs and halons

- DNR refrigerant recovery program: [dnr.wi.gov](#), search "refrigerants"

Demolition debris, waste, transporters, landfills and other licensed facilities

- DNR demolition, construction & renovation information: [dnr.wi.gov](#), search "demolition"
- DNR waste and materials management: [dnr.wi.gov](#), search "waste"
- DNR list of licensed haulers and facilities: [dnr.wi.gov](#), search "licensed waste haulers and facilities"
- Contact the DNR: 608-266-2111 or DNRWasteMaterials@wisconsin.gov

Hazardous and universal wastes

- DNR hazardous waste information: [dnr.wi.gov](#), search "hazardous waste"
- "Is Your Waste Hazardous?" (DNR publication WA-1152): <http://dnr.wi.gov/files/pdf/pubs/wa/wa1152.pdf>
- Handling and disposal of hazardous wastes – "Pilot Project for Management of Contractor Generated Hazardous Waste" (DNR publication WA-654). <http://dnr.wi.gov/files/pdf/pubs/wa/wa654.pdf>.
- Wisconsin Administrative Code chapter NR 673 – Universal Waste Management Standards. http://docs.legis.wisconsin.gov/code/admin_code/nr/600/673/

Lead

- DHS Lead-Safe Wisconsin. [www.dhs.wi.gov/lead/](#)
- DHS-certified lead companies: at the link above, look for "certified company" in the left-hand margin

Mercury

- EPA information on mercury. [www.epa.gov/hg/consumer.htm](#)

PCBs

- EPA information on PCBs: [www.epa.gov/wastes/hazard/tsd/pcbs/](#)
- Wisconsin Administrative Code chapter NR 157 – Management of PCBs and Products containing PCBs: [docs.legis.wisconsin.gov/code/admin_code/nr/100/157/](#)

Reuse & recycling

- DNR recycling program: [dnr.wi.gov](#), search "recycling"
- WasteCap (IRFC) – a centralized, online directory of construction and demolition recycling processors, haulers and end markets: [www.wastecap.org](#)
- Wisconsin Recycling Markets Directory: [www.wisconsinrecyclingdirectory.com](#)

Storage tanks

- Department of Safety and Professional Services storage tank database. <http://dsps.wi.gov/online-services/storage-tanks>

Wisconsin Administrative Code

- Wisconsin Legislative Documents: <http://docs.legis.wisconsin.gov>

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This publication is available in alternative format (large print, Braille, audio tape, etc.) upon request. Please call (608) 266-2111 for more information.



ATTACHMENT B

PHOTOGRAPHIC DOCUMENTATION

Attachment B – Photographic Documentation



#1 – Flagging to restrict access to mercury release area



#2 – Site-wide perimeter fencing



#3 - No Trespassing sign on perimeter fence (typical)