# Duke University - Facilities Management Department Environmental Safety and Health Program LEAD AWARENESS SAFETY PROGRAM Area: All FMD Organizations Date Effective: June 15, 2017 Issue No.: 1 Revision: 0 Page 1 of 7

- **A. Purpose.** To identify lead hazards and minimize or eliminate occupational lead exposure for all FMD employees.
- B. Scope. This program applies to all FMD employees and supplemental labor working for FMD.

#### C. Policy

- 1. FMD will take all reasonable measures to provide a safe workplace. All FMD operations must be performed in a manner that will minimize potential Lead exposure risk to FMD and/or Duke employees, assets, the local community, and the environment.
- 2. The provisions of this program and all applicable standards will be followed to ensure the safety of personnel performing service or maintenance activities to equipment, machines, or systems.

#### D. Definitions

- 1. <u>Action Level</u> Level of exposure to a harmful substance or other hazard (present in a work environment) at which an employer must take the required precautions to protect the workers. For Lead, there is an Action Level of 30 µg/m³ calculated as an 8-hour time-weighted average (TWA) that triggers periodic monitoring, medical surveillance and training.
- 2. <u>Child-Occupied Facilities -</u> Any building, or portion of a building, constructed prior to 1978, visited regularly by the same child, under 6 years of age. In FMD's case, this means the Bright Horizons Day Care and Little School Daycare, and any other facilities on campus, constructed prior to 1978, where children under 6 years of age attend day care or school. See Appendix A.
- 3. Class 1 Buildings built prior to 1978 that have <u>not</u> undergone a full renovation (see Appendix B for list).
- 4. <u>Class 2 -</u> All remaining buildings including ones built after 1978, or built prior to 1978 that <u>have</u> undergone a full renovation after 1978.
- 5. Exposure Monitoring Requirements of Lead Standard Monitoring undertaken to give a quantitative indication to the amount of airborne contaminant present, if any. If there is a potential to expose employees to Lead, OSHA requires air monitoring to determine whether exposure is at or above the action level of 30 μg/m³ calculated as an 8-hour time-weighted average (TWA). If your exposure is over the action level but below the PEL, air monitoring must be repeated every six months. If your exposure is over the PEL, air monitoring must be repeated every three months. Additional monitoring is required if there is a change in process or control equipment that could increase Lead exposures.
- 6. <a href="Hazardous Waste">Hazardous Waste</a> Waste that poses substantial or potential threats to public health or the environment. In the United States, the treatment, storage, and disposal of hazardous waste is regulated under the Resource Conservation and Recovery Act (RCRA). Hazardous wastes are defined under RCRA in 40 CFR 261.
- 7. <u>HEPA Vacuum HEPA</u> (High-Efficiency Particulate Air) vacuums differ from conventional vacuums in that they contain filters that are capable of capturing 99.97% of particles that are 0.3µm in aerodynamic diameter.
- 8. <u>Initial Determination</u> The determination if any employee may be exposed to Lead at or above the action level.

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- 9. <u>Lead</u> Refers to metallic Lead, all inorganic Lead compounds, and organic Lead soaps. Excluded from this definition are all other organic Lead compounds.
- Lead Based Paint (LBP) The U.S. government defines "lead-based paint" as any "paint, surface coating that contains lead equal to or exceeding one milligram per square centimeter (1.0 mg/cm2) or 0.5% by weight."
- 11. "Minor Repair and Maintenance Activities" "Activities including heating, ventilation or air conditioning work, electrical work, and plumbing, that disrupt 6 square feet or less of painted surface per room for interior activities or 20 square feet or less of painted surface for exterior activities, where none of the work practices prohibited or restricted by 40 CFR 745.85(a)(3)-Protection of the Environment, are used, and where the work does not involve window replacement or demolition of painted surface areas. The following are the prohibited work practices laid out in 40 CFR 745.85 (a)(3):
  - a. Open-flame burning or torching of Lead-based paint.
  - b. The use of machines that remove Lead-based paint through high speed operation such as sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting (unless such machines are used with HEPA exhaust control)."
  - c. Operating a heat gun on Lead based paint at temperatures above 1100 degrees Fahrenheit.
- 12. <u>OESO Occupational and Hygiene Safety (OHS):</u> OESO Division responsible for personal monitoring. 919-684-5996.
- OESO Environmental Programs (EP): OESO Division responsible for waste pick up and disposal. 919-684-2794.
- Permissible Exposure Limit (PEL or OSHA PEL) The OSHA PEL for Lead is 50 micrograms of Lead per cubic meter of air (50 μg/m³) averaged over an 8-hour workday.
- 15. <u>Respiratory Protection</u> any respiratory protective equipment that prevents hazardous substances from being inhaled or ingested.
- 16. <u>Target Housing</u> Any housing constructed prior to 1978, <u>except</u> any zero-bedroom dwelling. It does NOT include dormitory or hospital rooms, which are considered "zero-bedroom dwellings", and are exempted. In FMD's case, this refers to; faculty houses such as the Hart House, Knight House, Jantz residence, all Faculty-in-Residence and Residence Coordinators apartments, and any other Duke owned/leased multi-bedroom residential properties. See Appendix A.

#### E. Responsibilities

- 1. FMD maintenance employees are responsible for:
  - a. Using working methods listed in sections F-H of this program when performing work which may contain Lead, Lead based paint, or Leaded material, such as:
    - i. Plaster work
    - ii. Working with Leaded window panes.
    - iii. Splicing/Cutting/Brushing High Voltage Leaded cable jackets.
    - iv. Replacing Leaded plumbing joints.
  - b. Reporting any suspected Lead contaminated areas, not otherwise noted, to their supervisor/manager or FMD Safety.
  - c. Adhering to the Duke Respiratory Protection Program.
  - d. Wearing suitable respiratory protection when coming in to do work behind the Plaster Masons.

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- e. In addition to following Federal and State standards, following any applicable JHA or SOP, for the work being performed.
- f. Completing any necessary paperwork for pick up and disposal of waste.
- g. Employees who are performing Lead Based Paint removal will be required to attend a 'Lead Worker' course and subsequent refresher training every five years.
- h. Employees who are performing Lead Based Paint removal will need to post appropriate signage at work sites, see section J.
- 2. FMD maintenance supervisors/managers are responsible for:
  - a. Ensuring that employees receive training on the Lead Awareness Safety Program.
  - b. Reporting any suspected Lead contaminated areas, not otherwise noted, to FMD Safety.
  - c. Ensuring that if work is being performed in a Class 1 Buildings, designated employees test for Lead Based Paint prior to beginning work.
  - d. If the presence of Lead is detected, and is greater than 6 square feet interior, or greater than 20 square feet exterior (regardless if in a "child Occupied Facility" or "Target Housing") contacting OESO Occupational and Hygiene Safety (684-5996) by telephone to request monitoring.
  - e. Ensuring their employee's adherence to the Duke Respiratory Protection Program.
  - f. Creating or reviewing JHA(s) or SOPs for performing work with Lead, and ensuring employees adherence.
  - g. The Supervisor(s) in the Facility Operations-Structural Trades-Plaster Shop will be required to attend a 'Lead Supervisor' course and subsequent refresher training every five years.
  - h. If, or when necessary or preferred, contract out work for testing for Lead.
- 3. FMD Safety is responsible for:
  - a. Program oversight and compliance auditing.
  - b. Annual update of building list.
  - c. Working with OESO to ensure that all employee respirator designations are correct.
  - d. Ensuring that all employees designated to wear respirators are being flagged for annual respirator fit testing, and that this is appearing correctly on individual safety training pages.
  - e. Alerting OESO if a new FMD position is created that may require respiratory protection, so that OESO can determine if that position requires respiratory protection.
  - f. Supplying approved contractor list from OESO.
- 4. OESO is responsible for:
  - a. OHS: Responding to personal air monitoring requests, if certain criteria are met.
  - b. OHS: Conducting annual respirator fit testing for FMD employees who have the potential to be exposed above the action level.
  - c. OHS: Maintaining records of exposure monitoring for a period of time as required by OSHA. This would include, but not be limited to, laboratory reports and worksheets, the collection methodology (sampling plan), a description of the analytical and mathematical methods used, and a summary of other background data relevant to interpretation of the results obtained.
  - d. EP: Collection and disposal of regulated or hazardous waste.

#### F. General Controls for Working in all Buildings

1. Engineering Controls

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- 1) Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below the PEL and to control airborne contaminants.
- If user operations generate dust or fumes, use ventilation, when possible, to control airborne contaminants.
- 2. Administrative/Workplace Controls
  - g. Avoid generating dust. Do not throw scraps to avoid the generation of dust.
  - h. All surfaces shall be maintained as free as practical from accumulations of Lead.
  - i. Store scrap in appropriate covered containers, and label, "Waste-Lead for OESO".
    - i. Submit electronically for an OESO EP pick up.
  - j. As an extra precaution, tacky mats can be installed at the door threshold to capture particulates and keep them from being tracked outside the room.
  - k. Do not wet or dry sweep or use compressed air to remove accumulations of Lead dust.
  - Using a high-efficiency particulate air system (HEPA) vacuum is the preferred method for clean-up.
    - i. Where vacuuming methods are selected, the vacuum(s) shall be emptied into an appropriate container and keep covered.
      - a) Call OESO Environmental Programs (EP) for pick up.
    - ii. Replace HEPA filter as often as necessary or recommended by the manufacturer.

#### G. Methods for Working in 'Class 1' Buildings

- a) Work Method (see Appendix C for Flow Chart)
  - a. Confirm the date the building was built, and whether it has undergone a full renovation.
    - i. If the building is a Class 1 Building; was built prior to 1978, and has not undergone a full renovation, test the wall material for Lead Based Paint (LBP).
      - a) If LBP is present:
        - 1) And work being performed is an accumulated >6 sq. ft. interior, or >20 sq. ft. exterior (regardless if in a "Child Occupied Facility or Target Housing"), call OESO OHS 684-5996 to schedule monitoring.
        - 2) And the building is considered an EPA 'Target Housing' of 'Child Occupied Facility'
        - 3) And the work disrupts more than 6 square feet of painted surface per room for interior activities or more than 20 square feet of painted surface for exterior activities, then follow EPA Site Specific Requirements for:
          - a) Environmental and Personal Monitoring
          - b)OESO will conduct EPA site specific environmental monitoring
          - c) Containment
          - d)Employee training
      - b) If LBP is not present:
        - 1) Use current practice and appropriate PPE.
  - i. Also,
    - a) Don the proper PPE prior to starting the work.
    - b) Complete the work.
    - c) Doff PPE outside of the work area.

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- 1) Remove booties
- 2) Removes Tyvek suit
- 3) Remove gloves
- 4) Remove respirator
- ii. If there is any amount of Leaded waste, label the bag/container "Waste-Lead for OESO", and contact OESO for pick up and disposal.

#### H. Methods for Working in 'Class 2' Buildings

- 1. Work Method (see Appendix C for Flow Chart)
  - a. Confirm the date the building was built, and whether it has undergone a major renovation.
  - b. Set up appropriate engineering controls using the current practice, and wear appropriate PPE.
  - c. Don the appropriate PPE prior to starting the work.
  - d. Complete the work.
  - e. Doff PPE outside of the work area.
    - i. Remove booties
    - ii. Remove Tyvek suit
    - iii. Remove gloves
    - iv. Remove respirator
  - f. Remove waste from the site upon completion, and dispose of in the regular waste stream.

#### I. Emergency/After Hours Protocol

1. In the event of an emergency during after hours, when LBP work (i.e. renovation and or construction) needs to take place, a certified Lead Worker contract company should be used. a. The EI Group, LLC - 919-459-5287

#### J. Personal Protective Equipment (PPE)

- 1. Respiratory protection covering the nose and mouth is required in any work area that may have Lead dust or fume contamination. See the Duke Respiratory Protection Program.
- 2. Other recommended personal protective equipment includes disposable coveralls or Tyvek suit, goggles, disposable shoe covers, protective toe caps or safety toed shoes, and disposable gloves
  - a. When wearing a Tyvek suit, vacuum the suit (using a HEPA vacuum), and dispose of the dust waste appropriately after use, in order to minimize the reentry of Lead into the workplace.

#### **K.** Hazard Communication

- The following warning signs shall be posted in each shop/area and in building work areas where Lead Work is being performed: "Danger. Lead Work Area. May Damage Fertility or the Unborn Child. Cause Damage to the Central Nervous System. Do Not Eat, Drink, or Smoke in This Area". See Appendix D.
  - a) In building work areas, this signage may be placed inside of the first containment, and a more general warning sign may be placed on the exterior.

#### L. Other Control Measures

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1. Eating, drinking, smoking, and the application of cosmetics shall not be permitted in Lead work areas where Lead products (i.e. Lead based paint, Leaded window panes, high voltage Leaded cable jackets) are handled, processed, or stored.

#### M. Disposal

- Regulated hazardous waste (including Leaded dust waste, Leaded wall scraps (flaking), and Leaded window material must be disposed of in accordance with federal, state and local environmental requirements. This can be accomplished by:
  - a. Collecting regulated waste in a properly labelled container compatible with storing Lead (plastic is acceptable).
  - b. Submitting electronically for an OESO EP pick up.
- 2. Non-flaking solid Leaded material (i.e. high voltage Leaded cable jackets) can be recycled at a scrap metal facility.
- 3. In the case of large projects managed by FMD, the FMD representative is responsible for ensuring that the contract includes provisions regarding the disposal of the anticipated wastes by the contractor in a manner approved by OESO Environmental Programs (EP), and in accordance with EPA regulations. OESO EP will not directly manage the waste, but should be consulted beforehand for additional guidance.
- 4. If an employee's issued/required clothing or PPE becomes contaminated, FMD shall provide for the cleaning, laundering, or disposal of the contaminated material. Contact supervisors/manager for further assistance.

#### N. Medical Monitoring

 If exposure monitoring indicates that employees are exposed at or above the action level for more than 30 days in any consecutive 12 months, we (Duke) will institute a medical surveillance program. Duke will also assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician and will make available during the required medical surveillance, including multiple physician review, without cost to employees and at a reasonable time and place.

#### O. Training

- 1. Employees who work around Lead Based Paint, or other Leaded material will be provided awareness training by their supervisor or FMD Safety on this Program's contents and requirements. Refresher training on this FMD program will be provided every three years.
- 2. Employees in the Facility Operations-Structural Trades-Plaster Shop who are performing Lead Based Paint removal will be required to attend a 'Lead Worker' course and subsequent refresher every five years.
- 3. Supervisor(s) in the Facility Operations-Structural Trades-Plaster Shop will be required to attend a 'Lead Supervisor' course and subsequent refresher training every five years.
- 4. Lead Awareness Safety training will be conducted upon hire, or as-needed. This might include when new equipment is introduced into the workplace, procedures change, and/or the work area changes.

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#### P. Resources

- 1. For information on recommendations for appropriate PPE for your job, air monitoring or surface sampling for Lead, and health effects of Lead, contact the FMD Safety Office.
- 2. For more information on how to register online to be able to submit electrically for an OESO pick up, contact the FMD Safety Office.

#### O. References

- 1. "Lead"- 1910 OSHA Guide: 1910.1025
- 2. "Lead"- 29 CFR 1926.62
- 3. "Hazard Communication" 29 CFR 1926.59
- 4. "Safety Training and Education" 29 CFR 1926.21
- 5. "Code of Federal Regulations"- <a href="http://www.ecfr.gov/cgi-bin/text-idx?SID=cd05f748c481fd0ec85ffb94b9193066&node=sp40.31.745.e&rgn=div6#se40.34.745\_18\_0</a>
- 6. "40 CFR 745.226, Certification of individuals and firms engaged in lead-based paint activities: target housing and child-occupied facilities- <a href="http://www.ecfr.gov/cgi-bin/text-idx?SID=cd05f748c481fd0ec85ffb94b9193066&node=sp40.31.745.e&rgn=div6#se40.34.745\_18">http://www.ecfr.gov/cgi-bin/text-idx?SID=cd05f748c481fd0ec85ffb94b9193066&node=sp40.31.745.e&rgn=div6#se40.34.745\_18</a>
- 7. EPA Document- <a href="www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol31/pdf/CFR-2011-title40-vol31-sec745-85.pdf">www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol31/pdf/CFR-2011-title40-vol31-sec745-85.pdf</a>
- 8. EPA Wastes- Hazardous Wastes- Treatment, Storage and Disposal (TSD)- http://www.epa.gov/osw/hazard/tsd/Lead/fag.htm
- Lead-Based Paint Programs: Jurisdiction-Specific Certification and Accreditation Requirements and Renovator Refresher Training Requirements- <a href="http://www.regulations.gov/document?D=EPA-HQ-OPPT-2014-0304-0011">http://www.regulations.gov/document?D=EPA-HQ-OPPT-2014-0304-0011</a>
- 10. Renovation, Repair and Painting Program- <a href="https://www.epa.gov/lead/renovation-repair-and-painting-program">https://www.epa.gov/lead/renovation-repair-and-painting-program</a>

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#### Appendix A: Child-Occupied Facilities and Target Housing Building Listings

**Child Occupied Facilities:** 

<b>Building Number</b>	Building Name	Address
7195	Bright Horizons Day Care Building	511 Alexander Ave.
7121	Little School Daycare Building	1516 Hull Ave.

**Target Housing:** 

Building Number	Building Name	Address
7750	Hart House Building	2234 Duke University Rd.
7130	Jatz residence Building	2021 Campus Dr.

### Residence Coordinator (RC), Graduate Assistant (GA), Faculty in Residence (FIR) Apartments:

Building Number	Building Name	Bed Space
7711	Craven Quad House D	D104a
7711	Craven Quad House E	E103a
7712	Crowell Quad House G	G106a
7712	Crowell Quad House H	H102a
7217	Alspaugh	AL103a
7217	Alspaugh	AL202a
7220	Bassett	BA103a
7220	Bassett	BA106a
7220	Bassett	BA108a
7221	Brown	BR103a
7221	Brown	BR204a
7218	Pegram	PG103a
7218	Pegram	PG202a
7203	East House(formally Aycock)	EH108a
7205	Epworth	EP202a
7215	Giles	GL103a
7215	Giles	GL202a
7204	Jarvis	JA106a
7223	Wilson House	WH104Aa
7223	Wilson House	WH116a
7223	Wilson House	WH217a
7230	Gilbert-Addoms	GA112a

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Building Number	Building Name	Bed Space
7230	Gilbert-Addoms	GA114b
7230	Gilbert-Addoms	GA244a
7225	Southgate	SG111a
7225	Southgate	SG126a
7236	Bell Tower	BT211a
7236	Bell Tower	BT309a
7236	Bell Tower	BT409c
7234	Blackwell	BL106a
7234	Blackwell	BL136a
7235	Randolph	RA103a
7235	Randolph	RA112a
7742	Few Quad House FF	FF110a
7742	Few Quad House GG	GG008a
7742	Few Quad House HH	HH012d
7713	Kilgo Quad House L	L001RCa
7713	Kilgo Quad House P	P110a
7755	Wannamaker	WA230a
7783	Edens Quad House 3A (Decker)	3A103a
7784	Edens Quad House 3B (Mitchell)	3B103a
7784	Edens Quad House 3B (Mitchell)	3B106a

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#### Appendix B - Lead Classification List

#### Class 1 (built prior to 1978 and have not undergone a full renovation):

Building Number	Building Name	Date Constructed
7101	Laundry Building	1964
7103	Arts Annex	1971
7120	Art Studio Bldg	1978
7130	2021 Campus Dr.	1931
7131	410 Swift Ave.	1950
7133	412 Swift Ave.	1950
7134	408 Swift Ave.	1937
7136	2010 Campus Dr.	1937
7137	Town House Apt.	1972
7191	1513 Hull Ave.	1970
7192	306 Alexander Ave.	1965
7201	East Duke	1911
7202	West Duke	1910
7203	East Residence Hall	1913
7204	Jarvis Hall	1914
7205	Epworth Hall	1892
7206	Crowell Building	1893
7207	The Ark	1906
7209	Bishop's House	1900
7214	Carr Bldg.	1927
7215	Giles Dorm 1	1927
7217	Alspaugh Dorm 2	1927
7218	Pegram Dorm 3	1927
7220	Bassett Dorm 4	1927
7221	Brown Residence Hall	1927
7223	Wilson House Apt.	1930
7225	Southgate Dorm	1923
7226	Brodie Memorial Gym	1927
7228	Bivins Bldg	1910
7229	Branson Bldg.	1910
7230	Gilbert-Addoms	1957
7231	Acad. Advising Ctr.	1961
7232	Biddle Music Bldg.	1974
7233	Old Faculty Sculpture	1952
7247	Greenhouse East	1927
7250	Warehouse East	1930

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7255	Paint Shop Storage	1967
7263	Material Warehouse	1974
7266	Railway Storage	1976
7268	Shop Bldg	1976
7276	715 Broad St.	1952
7511	Hanes House	1952
7512	Trent Drive Hall	1952
7701	Duke Chapel??	1930
7707	Langford Divinity Bldg.	1972
7709	Sociology-Psychology Building	1931
7710	Social Sciences Building	1931
7711	Craven Quad	1931
7712	Crowell Quad	1931
7714	West Campus Union	1931
7715	Flowers Building	1931
7716	Page Auditorium	1931
7717	Card Gymnasium	1931
7718	Wallace Wade Std	1930
7719	2138 Campus Dr.	1931
7720	2127 Campus Dr.	1931
7721	615 Chapel Dr.	1931
7722	Forlines House	1931
7723	2111 Campus Dr.	1931
7724	2122 Campus Dr.	1931
7726	2101 Campus Dr.	1931
7727	2114 Campus Dr.	1931
7728	2106 Campus Dr.	1931
7729	2117 Campus Dr.	1931
7730	615 Chapel Dr. Garage	1931
7742	Few Quad	1938
7743	Cameron Indoor Stad	1940
7746	OIT/Telecommunications Bldg	1974
7747	Hudson Hall (Engineering Bldg)	1949
7748	Engineering Bldg Addt	1971
7749	Physics Bldg	1949
7753	Allen Bldg.	1953
7755	Wannamaker Residence	1958
7756	North Bldg.	1958
7758	Biological Sciences Bldg.	1963
7763	Forest Garage	1967
7764	Primate Facility	1964

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7767	TUNL Bldg.	1967
7771	Phytotron Bldg.	1967
7774	Log Cabin Primate	1927
7775	Intramural Bldg.	1972
7785	Edens Quad 1B	1966
7786	Edens Quad 1A	1966
7787	Edens Quad 1C	1966
7788	Edens Quad 2C	1966
7789	Edens Quad 2A	1966
7793	Alumni Annex Garage	1932
7794	Experimental Botany Bldg	1967
7797	Tool Storage Wade Stadium	1934
7798	West Campus Grounds Bldg	1964
7902	ML-Dining Hall	1960
7903	ML-Dorm #6/Lab #2	1953
7905	ML-Lab # 1	1937
7910	ML-Dorm # 1	1959
7914	ML-Garage	1946
7916	ML-Seawater Tank Facility	1965
7917	ML-Lab # 5	1959
7918	ML-Caretaker Residence	1959
7920	ML-Dorm #2	1959
7921	ML-Dorm #3	1959
7923	ML-Bookhout Lab	1972
7926	ML-Library / Auditorium	1973
7949	202 Lemur Lane	1969
7950	ML-Volatile Storage	1977
7962	ML-Service Bldg	1965
7982	Pres House Doug & Grace Knight	1966

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#### Class 2 (all remaining buildings):

Building Number	Building Name	Date Constructed (*renovation included total lead removal)
7104	Tele. Ter. Bldg.	
7107	Doris Duke Gardens Bldg.	2001
7108	Duke Gardens Greenhouse	2001
7109	Duke Gardens Garage	2001
7110	418 Anderson St.	2001
7121	1515 Hull Ave	1984
7122	1517 Hull Ave	1984
7127	1516 Hull Ave South Bldg	1984
7128	1516 Hull Ave North Bldg	1984
7138	Center for Jewish Life	1999
7139	Smart House Faber St	2008
7193	1511 Hull Ave.	
7195	Child Care Facility	1998
7196	H.H. Jordan Bldg.	1950*
7197	402 Oregon St.	1995
7198	Nasher Art Museum	2004
7199	406 Oregon St.	1995
7213	Richard White Lecture Hall	1999
7216	Lilly Library	1927*
7219	Baldwin Auditorium	1927*
7222	Union East	1927*
7224	Friedl Bldg.	1927*
7234	East Dorm 1 Blackwell	1994
7235	East Dorm 2 Randolph	1994
7236	Bell Tower Dorm	2005
7245	East Dorm Equip Bldg	
7251	Art Bldg.	1940*
7254	East Heating	2010
7261	114 S. Buchanan Blvd Smith	2002
7262	Bevan Bldg.	1952*
7270	East Campus Serv Facility	1979
7271	East Campus Serv Shop Facility	
7272	East Campus Williams Field House	
7275	705 Broad St.	1986
7277	1013 Broad St Durham	
7427	Duke Health Raleigh Hospital	

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7428	DHRH/Parking Deck North	
7429	DHRH/Parking Deck South	
7430	DHRH/3404 Wake Forest MOB	
	7 DHRH/3320 Wake Forest MOB	
7431	6	
	DHRH/3301 Executive Dr MOB	
7432	5	
7433	DHRH/3400 Executive Dr. MOB	
7400	2	
7436	DHRH/3320 Executive Dr. MOB	
	3 DHRH/3325 Executive Dr. MOB	
7437	4	
7448	DHRH/MOB 8 Parking Garage	
7460	Knightdale 162 Legacy Oaks Dr.	
7474	Unicorn Bereavement Center	
	(UBC)	
7475	Inpatient Care Facility (ICF)	
7476 7477	Anger Release Bldg Open Air Chapel	
7628	Medical Center Grounds	
7020	Building	
7630	409 Elf St. (B1)	1989
7631	2307 Pratt St (B2)	1989
7633	2303 Pratt St (D)	1989
7634	2223 Pratt St (E1)	2003
7635	2221 Pratt St (F)	1989
7636	2309 Pratt St (B3)	1990
7652	2216 Elba St.	1985
7704	Perkins Library	1931*
7706	Old Chemistry Bldg.	1930*
7708	Westbrook Divinity Building	2004
7713	Kilgo Quad	1931*
7725	Sanford Bldg	1994
7731	Penn Pavilion	2013

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7733	Krzyzewski Center	2008
7734	Kennedy Tower	2015
7735	Fitzpatrick CIEMAS	2004
7736	Parking Garage 4	2003
7738	French Science Center	2006
7739	Rubenstein Hall	2005
7741	Schwartz-Butters Athletic Bldg	1999
7754	West Campus Steam Plant	1928*
7759	Law Bldg.	1962*
7760	Keller Ctr. Fuqua School of Bus	1983
7762	Faculty Club	2015
7765	Gross Hall Interdisciplinary	1967*
7766	Teer Engineering Bldg	1984
7768	Environment Hall	2014
7769	Ambler Tennis Stadium	1999
7772	Bio-Science Greenhouses	1963*
7773	Brooks Field House	2009
7776	Levine Science Research Center	1994
7777	Wilson West Campus Recreation Fac.	1999
7778	Sheffield Tennis Center	1999
7779	Yoh Football Center	2002
7780	Free Electron Laser Lab	1990
7781	W.D. Murray Bldg.	1986
7782	Thomas Ctr. Fuqua School of Bus	1987
7783	Decker Tower Schaefer Hall	1989

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7784	Mitchell Tower Schaefer Hall	1990
7790	Coombs Baseball Stadium	1984
7791	Bryan Student Center	1982
7792	Keohane 4E	2012
7795	Keohane Quad	2004
7796	West Campus Chiller Plant	2001
7799	Aquatic Center	1972*
7815	Nocturnal Lab Module	1991
7816	Forestry Trailer	1991
7817	Getty/Wheeler	1989
7818	Tri-Plex Primate	1980
7830	Releasable Enclosure	2010
7831	Non-Releasable Enclosure	2010
7849	Pascal Field House	2011
7850	Koskinen Soccer Stadium/IMF	2005
7855	West Campus Chiller # 2	2011
7904	ML-Dorm 5	1953*
7913	ML-Dorm 4	1948*
7922	ML-Repass Center	2006
7925	ML-Recreational Facility	2004
7970	Library Service Center	2001
7971	3540 Kangaroo Drive	1993
8047	Washington Duke Inn	
8309	Duke Child & Family Study Center	

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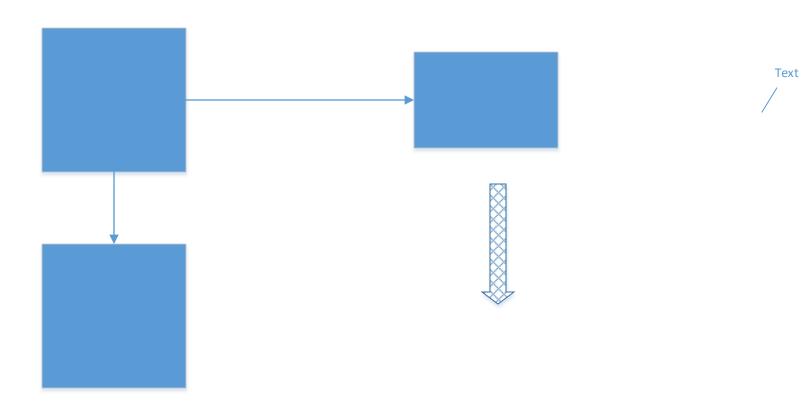
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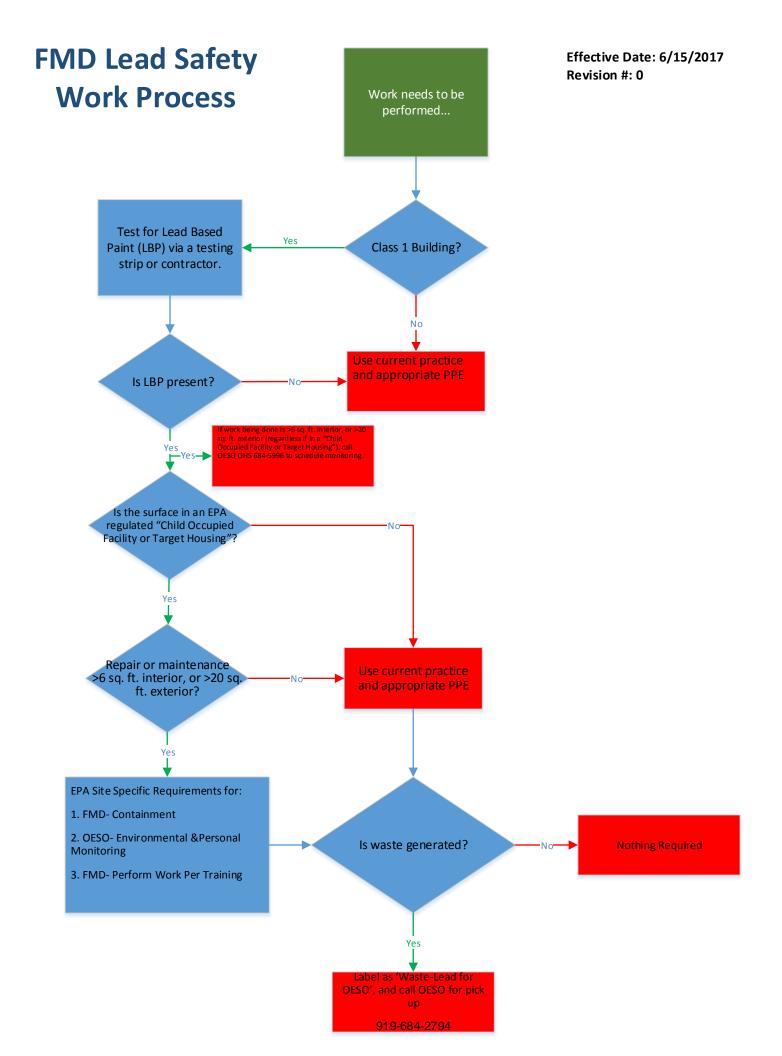
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8947	Washington Duke Inn & Golf	
	Club	

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Appendix D: Hazard Communication Signage





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