

MISSOURI HOUSING DEVELOPMENT COMMISSION
ENVIRONMENTAL REVIEW GUIDELINES

MHDC Form 1400



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3435 Broadway Boulevard
Kansas City, Missouri 64111

ENVIRONMENTAL REVIEW GUIDELINES

Please refer to the Revision Guide (Exhibit “C”) to track revisions from original text.

I. INTRODUCTION.

All developments requesting and receiving approval for Low-Income Housing Tax Credits (LIHTC), fund balance loans, HOME funds, or Risk Share insurance are required to pass an environmental review as a condition of financing. The primary objectives of this document are to set forth guidelines to assist the developer in understanding the requirements for a complete environmental review by the Missouri Housing Development Commission (MHDC).

It is the responsibility of the Owners and their agents to provide MHDC with the appropriate documentation to insure timely processing of environmental exhibits for application and firm commitment review, loan closings and final project acceptance.

II. APPLICATION STAGE

The zoning letter provided in the application will be utilized for the firm submission environmental review if it includes the required information as noted in the Developer’s Guide Chapter 3: Application.

While the application stage only requires a notification letter be sent to the superintendent of the school district in which a new construction or conversion proposal is located, a response letter will be required at firm submission to complete an environmental review. It is advisable to obtain the response letter and include it with the application.

If the proposed property is intended to be part of a multiple-phase affordable housing development, please address the potential multiple-phase plan in the narrative and identify the proposed site and the additional phases on the site map. MHDC interest in the existence of future phases does not represent a commitment, promise, or assurance of funding for future applications.

Once an applicant has submitted an application for a project that anticipates the use of HOME funding or Risk Share insurance, no funds of any nature may be committed to that project until the environmental review has been approved by HUD. In addition, no choice limiting action can be taken until the environmental review is approved (24 CFR 58.22). Choice limiting actions include real property acquisition, repair, rehabilitation, construction, demolition, site clearance or leasing activities. Please be aware an **option to purchase** is acceptable. A **contract to purchase**, regardless of terms, is not acceptable. *Regardless of the type of funding requested or approved, MHDC does not allow any applicant to commence any type of construction activity prior to completion of the environmental review, issuance of the firm commitment for funding, and closing of construction financing and admittance of the tax credit investor.* Please contact MHDC with questions concerning choice limiting activities or the status of a property.

III. FIRM SUBMISSION

A. SINGLE PHASE DEVELOPMENTS.

The following documentation must be submitted to the project underwriter by the deadline specified in the conditional reservation agreement issued for the development. In addition to the

documentation requested in these guidelines, MHDC shall also complete a full environmental review according to HUD protocol. The developer will be required to abide by any mitigating measure, condition or requirement resulting from MHDC's environmental review.

For developments receiving HOME funds or Risk Share insurance, MHDC shall complete the review required by HUD, in compliance with 24 CFR Part 58; and the laws and authorities listed under §§ 58.5 and 58.6 and related regulations. MHDC encourages submission earlier than the required deadline in order to complete the review, required advertising and HUD authorization process prior to the issuance of the firm commitment. **No firm commitments will be issued prior to MHDC's receipt of the HUD Authorization to Release Grant Funds.**

MHDC **strongly** encourages developments located on large vacant parcels, with plans to be divided into successive phases, have environmental review reports performed on the **entire** site, including the current and planned phases. This all-encompassing review must follow the HOME review procedures regardless of the type of financing provided on the first phase. This will ensure subsequent phases may be eligible for future HOME funds. Information specific to multiple phases is addressed in section III.B.

Required items include:

1. FEMA Flood Zone Area Map, including the referenced area, community panel number and date, or, a determination letter from FEMA stating the site is not located in a flood plain. If this map is not available for the development site, other evidence acceptable to MHDC, showing the site is not prone to flooding, must be provided. The site must be clearly marked on the map. Map number and map date must be included.
 - a. If the development appears to be located in a flood plain but the site is positioned at a higher elevation, supply a FEMA determination letter.
 - b. If the site is in an area that is unmapped, submit a certification and survey from a civil engineer or a FEMA determination letter.
 - c. The form to obtain the FEMA determination letter may be obtained on the web at FEMA.gov.
 - d. Please also be aware of MHDC's floodplain policy regarding non-federally funded developments whether new construction, restoration or renovation:
 - o Whenever possible the design should place all building improvements, ingress and egress outside of the floodplain.
 - o Construction design flood mitigation features.
 - o Flood insurance.
 - o An emergency plan to evacuate and relocate residents, including a proposal to fund such evacuation and re-location.
 - o Prior to lease signing, written and acknowledge notice to prospective residents that the development is in a floodplain.
 - e. Developments receiving HOME funds or Risk Share insurance: The HUD eight-step environmental review process in accordance with federal requirements as they may be amended from time to time (currently HUD regulations 24 CFR 55.20) is required. *MHDC initiates, conducts and is responsible (working with the developer as needed) for conducting the HUD eight-step process.* The eight-step process also can apply to wetlands.

2. For new construction developments, a Geotechnical Engineering Report meeting the following standards:

- a. Identification and description of soils by the nomenclature of the Unified Soils Classification System.
- b. Borings must be in, or adjacent to, the proposed foundation area.
- c. At least one boring must be made for every 2500 square foot of foundation area. For buildings supported on pilings, one boring must be made for every 1600 square foot of foundation area.
- d. Borings must be at least to the bottom of the proposed footings and deep enough to locate bearing strata, which will support the proposed structure. When rock is encountered, the depth of drilling into the rock shall be sufficient to establish rock quality regarding voids, fissures and strength.
- e. When ground water conditions influence the building design, observation of ground water levels must be recorded at the time of boring, and at least 48 hours later.

3. Radon Test – For all existing residential structures, whether rehabilitation or conversion, a radon test must be performed in one basement or first-floor unit or similar location for each building in the development. If the test results are above 4pCi/L, further testing of all units in the basement or first floor must be completed. Newly constructed buildings must be tested after the completion of construction but before initial occupancy.

4. Phase I Environmental Assessment Report, which is a key component of the environmental review as well as an important part of the “Innocent Landowners Defense” for the benefit of the Owner. If the Phase I recommends additional research or a Phase II report, this documentation must be provided as well. It is advisable that the Owner read the report(s) thoroughly prior to submission. The Phase I must meet the following requirements (but not limited to):

- a. Be prepared by an entity qualified to provide a comprehensive environmental site assessment, according to the ASTM Standard E 1527-13 (See Exhibit "A").
- b. Be organized according to the table of contents and report format recommended by ASTM E 1527-13.
- c. Include a statement that MHDC may rely on the report or provide a reliance letter from the environmental consultant.
- d. Include a copy of the consultant’s errors and omissions insurance certificate.
- e. Be no more than 180 days old at the time of submission or the required deadline for the submission of environmental review documents, whichever is later. Phase I Environmental Reports that will be more than 180 days old prior to the anticipated closing date must be updated per ASTM E 1527-13 / §4.6 and §4.7 by the environmental professional who prepared the original report.
- f. Significant Assumptions: Pertaining to the reliability of information the environmental professional obtains from others.
- g. Limitations and Exceptions:
 - o Address physical site restrictions;
 - o Explain historical data gaps;

- Include a statement if there are no limitations and exceptions.
- h. Special Terms and Conditions - State any special terms and conditions given by the entity engaging the environmental professional, including but not limited to a directive not to contact previous owners or an unrealistic timeframe for completion. For instance, requiring a three-week turnaround is generally not enough time for an environmental professional to complete a full and accurate report.
- i. Location and Legal Description.
 - Be as specific as possible with the address (e.g., can use longitude and latitude.);
 - Include the legal description in the body of the report, not as an exhibit unless excessively lengthy.
- j. Improvements to the Site – list roads, parking lots, other structures, etc.
- k. Current Use of Adjoining Properties – provide specific descriptions.
- l. **User-Provided Information** – the entity engaging the environmental professional **must supply the following:**
 - Title policy;
 - Information on environmental liens or use limitations which includes both deeds *and judicial records*. (The environmental professional must review preliminary title and judicial records, or by a change in the scope of work, engage an outside company to conduct environmental liens or activity and use limitations database search.);
 - Special knowledge of the property and its previous uses;
 - Commonly known information;
 - Value reduction due to environmental issues;
 - Name of the current owners, property manager, and occupants if applicable;
 - Reason for requesting the environmental review (i.e., limited liability protection to CERCLA liability).

The environmental professional must review and comment on this user-provided information.

- m. Records Review – individual issues must be addressed separately in the records review and in the opinion and findings section of the report. This includes addressing the following:
 - Standard environmental record sources.
 - Physical setting sources – geological description of the land.
 - Historical use of the property – from 1940 or the earliest development.
 - Historical use of information on adjoining properties – from 1940 or the earliest development.
- n. Vapor Intrusion (Encroachment): This investigation has been incorporated into the E1527-13. The distance is similar to ASTM E2600-10 which is measured in “feet” from the site. So generally property and possibly adjacent properties are evaluated. This entails a records review. A strictly visual review is not enough. Use of ASTM E2600-10 (Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions) is not required.

- o Developments that do not require a Phase I Environmental Report developed by an environmental professional (EP) must engage an EP to conduct a vapor encroachment investigation.
 - o. Site Reconnaissance:
 - o Address how the site reconnaissance was conducted and state any limiting conditions;
 - o Include a general description of the site;
 - o Detailed description of exterior observations.
 - o Interior observation giving a detailed description of each room observed.
 - p. Interviews:
 - o The current owner, site manager, and non-residential occupants must be interviewed;
 - o Appropriate government officials must be interviewed in person or by telephone;
 - o Letters are acceptable if sufficient time is allowed for a response. Follow-up is necessary if no response is received.
 - q. Findings – must include any items that are a possible environmental concern, each listed separately (i.e., LUST sites identified must be listed separately with specific details about their location, elevation and so forth relative to the subject property).
 - r. Opinions – findings must be addressed on an item-by-item basis and state why it is or is not a recognized environmental concern (“REC”) or historic recognized environmental concern (“HREC”) or controlled recognized environmental concern (“CREC”). Distance is not in and of itself a reason for an item to be described as not being a REC.
 - s. Conclusion – must include one of the two statements (verbatim) provided in the checklist per ASTM E 1527-13
 - t. §12.8.1 or §12.8.2.
 - u. Deviations – must address when the environmental professional deviated from ASTM E 1527-13 standards and why.
 - v. References – must state the source(s) of the data.
 - w. Signature – The environmental professionals involved with the report must sign the report. Signatures on the cover letter are insufficient.
 - x. Qualifications of the Professionals – must include (verbatim) both statements provided in the checklist.
 - y. Appendices – must include a signed copy of the contract between the environmental professional and the entity engaging it. Pricing should be redacted.
 - z. Statements such as “follows generally accepted practices” or “customary practices” are not acceptable.
5. For proposed rehabilitation or demolition of existing buildings, asbestos issues must be addressed with the following:
- a. Mo. Asbestos inspection report;
 - b. Licensing information and certifications for the Mo. asbestos inspector;
 - c. Abatement plans as applicable.

6. For proposed rehabilitation or demolition of existing buildings constructed prior to January 1, 1978, lead-based paint issues must be addressed with the following:

For developments (family, senior) receiving federal funding (HOME funds or Risk Share Insurance):

- a. Combination Mo. lead-based paint risk assessment and inspection report current within 12 months.
- b. Licensing information and certifications for the Mo. risk assessor;
- c. Abatement plans or work plans with re-inspection schedule if applicable.

See Exhibit "B" for further information regarding the MHDC Lead-Based Paint Policy and Procedures.

For developments (family, senior) receiving only tax credits and/or non-federal loans:

- a. Combination Mo. lead-based paint risk assessment and inspection report or lead-based paint risk assessment;
- b. Mo. licensing information and certifications for the risk assessor;
- c. Abatement plans or work plans with re-inspection schedule if applicable.

7. For HOME and federally-insured developments, please provide the following:

- a. A copy of the completed Section 106 Project Information Form with required exhibits as submitted to the Missouri Department of Natural Resources, Historic Preservation Officer (P.O. Box 176, Jefferson City, Missouri, 65102-0716).
- b. If fill dirt is being brought in or removed from the development site this information must be included on the Section 106 Project Information Form. If not included, the application must be re-submitted.
- c. A copy of the Section 106 Review response from the Missouri Department of Natural Resources. Please be aware the Section 106 Review response is valid for three years.
- d. A copy of the SHPO clearance letter at completion of construction. (if applicable)
- e. State and/or Federal Historic Tax Credits – There are two separate applications and responses for State and Federal. Please contact Missouri Department of Natural Resources, Historic Preservation Officer. Please provide MHDC with copies including exhibits.
- f. A copy of the State and/or Federal Historic Tax Credit clearance letter at completion of construction. (if applicable)
- g. The historical review is a lengthy process so begin early. MHDC **must** have this information (Barring any clearance letters issued after completion of construction.) to complete the environmental review.

8. Utility letters from the service providers ensuring the availability of water, waste water, and sewer services (as applicable) to the property.

9. For family proposals bringing new units on-line (either new construction or conversion developments), a response letter from the superintendent of the school

district in which the property is located must be submitted if it was not included with the original application.

10. Noise Standards –MHDC shall calculate noise levels for the development according to HUD’s review procedures. MHDC may request a Figure 19 form to be filled out by the project architect in order to calculate noise mitigation addressed by building components. The Figure 19 form is provided by MHDC as needed. Developments receiving HOME funds or Risk Share insurance must meet HUD’s noise standards in order to receive approval for funding. Independent noise studies are not allowed.
11. Hazardous Metals – MHDC may require soils testing whenever hazardous levels of metals from mining, lead trails, or naturally-existing minerals are suspected to be present. Barry, Crawford, Dent, Jasper, Jefferson, Lawrence, Madison, Newton, Reynolds, St. Francois, Shannon, and Washington counties are areas where lead mining may have resulted in unacceptable levels of lead in the soil to meet federal and state requirements for residential a development. MHDC reserves the right to request soils testing as it deems necessary in any area for similar reasons for any development which will be disturbing soil as part of the construction process.

B. MULTIPLE PHASE DEVELOPMENTS.

It is common for developers to seek financing from MHDC while planning large-scale, multifamily developments, with the intent to split this master development into two or more staged phases. According to 24 CFR §§ 58.32, HUD requires that multiple phase developments be considered in the aggregate and undergo a comprehensive environmental review prior to the commencement of the initial phase. Whether the initial development phase is funded with federal funds or not, MHDC strongly suggests the environmental review be performed on the entire site at the inception of the first phase in order to make future phases eligible for federal funding. The review process includes the advertisement and public comment period, and the authorization from HUD to release funds, all of which address the characteristics, results of the review, proposed number of units, and total development costs of the **entire** master development.

In order to meet federal and MHDC requirements, MHDC requires all submitted environmental review items cover the entire proposed master development when meeting firm submission requirements for the initial phase. The developer must provide a description of the type of development proposed, and estimate the potential total number of units and development costs for the master development. By performing an all-inclusive environmental review, MHDC is not committing, promising, or otherwise assuring the approval of funding for any future phase. MHDC is aware of the difficulty in providing estimates for phases that may or may not occur, with no firm timelines for completion should all phases eventually be funded. Performing an all-inclusive review does not require extensive architectural or engineering work at this stage for future phases. Most review items collected by the developer at this stage will not need to be updated in the event future phases are approved.

If new activities are contemplated, or there is a major change in the scope (i.e., increase in density of 20% or more) of a later phase, MHDC will re-advertise for public comment, and request a new authorization from HUD for the release of federal funds.

Prior to the issuance of a firm commitment for the initial phase, the following documentation covering *the entire master development* must be submitted:

1. Zoning letter from the controlling municipal or county government. A zoning letter must be provided for each future phase at application.
2. Utility letters ensuring the availability of water, waste water, and sewer services (as applicable) to the entire site. MHDC will not require updated letters for future phases for environmental review procedures.
3. FEMA Flood Zone Area Map as addressed in section III.A.1. A map for each future phase must be submitted as each is approved for development. All sites must be clearly marked on the map, the map number and map date must be included.
4. For new construction developments, a Geotechnical Engineering Report meeting the following standards:
 - a. Identification and description of soils by the nomenclature of the Unified Soils Classification System.
 - b. Borings must be in, or adjacent to, the proposed foundation area.
 - c. At least one boring must be made for every 2500 square foot of foundation area. For buildings supported on pilings, one boring must be made for every 1600 square foot of foundation area.
 - d. Borings must be at least to the bottom of the proposed footings and deep enough to locate bearing strata, which will support the proposed structure. When rock is encountered, the depth of drilling into the rock shall be sufficient to establish rock quality regarding voids, fissures and strength.
 - e. When ground water conditions influence the building design, observation of ground water levels must be recorded at the time of boring, and at least 48 hours later.
 - f. For future phases, if a basic site plan has been prepared that identifies potential footprints of buildings, one boring must be completed within the footprint of each building. If a basic site plan has not been prepared, the developer may use its best efforts to identify potential building areas, with no fewer than one boring per a five-acre area.

No updates will be required for the environmental review; however, the MHDC architectural department will require structural borings to be completed for each future phase upon approval for funding as a part of the routine firm submission review.

5. Radon – For all existing residential structures, whether rehabilitation or conversion, a radon test must be performed in one basement or first-floor unit or similar location for each building in the development. This testing should be completed when other pre-construction site evaluations, such as Phase I Environmental Site Assessment, lead-based paint, or asbestos are conducted. If the test results are above 4pCi/L, further testing of all units in the basement or first floor must be completed. Testing must be repeated on existing buildings in future phases as part of the firm submission process.

6. Phase I Environmental Assessment Report for the entire multi-phase development area as detailed in section III.A.4. If the Phase I recommends additional research or a Phase II report, this documentation must be provided as well. Upon approval of a future phase, an update letter submitted by the environmental consultant who prepared the original Phase I assessment, accompanied by an updated EDR, Inc. report, will be required for the firm submission review.
7. For proposed rehabilitation or demolition of existing buildings, asbestos issues must be addressed as described in section III.A.5. No updates for future phases will be required.
8. For proposed rehabilitation or demolition of existing buildings constructed prior to January 1, 1978, lead-based paint issues must be addressed as described in section III.A.6. No updates for future phases will be required.
9. For HOME and federally-insured developments, provide the review documentation as outlined in section III.A.7. No updates are required unless a new source and/or destination of fill dirt is proposed for the development.
10. For family proposals bringing new units on-line (either new construction or conversion developments), a letter from the superintendent of the school district in which the property is located must be submitted if it was not included with the original application. No update is required if the original letter notified the superintendent of the full number of units anticipated for the entire multi-phase family development.
11. Noise Standards –MHDC shall calculate noise levels for the development according to HUD’s review procedures. MHDC may request a Figure 19 form to be filled out by the project architect in order to calculate noise mitigation addressed by building components. If the noise calculation is considered acceptable for the first phase, it shall be deemed acceptable for all phases unless there is a material change in the source of noise or the type of building construction at the time a future phase is approved. Development receiving HOME funds or Risk Share insurance must meet HUD’s noise standards in order to receive approval for funding. Independent noise studies are not allowed.
12. Hazardous Metals – MHDC may require soils testing as outline in section III.A.11. No updates for future phases will be required.

IV. FIRM SUBMISSION REVIEW PROCESS

A. GENERAL DESCRIPTION.

Firm submission documentation shall be reviewed by MHDC staff as part of the firm commitment process. Environmental review includes consideration of additional items as listed below. Strict adherence to HUD standards regarding these items is required for developments receiving HOME

funds or Risk Share insurance; however, MHDC may require action as it deems necessary in its sole discretion for developments with other types of financing.

1. Wetlands determination. MHDC shall consult wetland maps available on the U.S. Fish and Wildlife website. Whether natural or man-made, year-round or seasonal, many areas where there is standing water at least a portion of the year may be considered wetlands according to government regulation. If the MHDC review results or the Phase I Environmental Assessment Report indicate that a potential wetlands area is located on the site and may be negatively impacted by the development, MHDC will require a wetland determination to be made by a company specializing in this type of work. Report and determination letter are required. Depending upon the nature of the impacted wetlands, the US Army Corps of Engineers may take jurisdiction over the matter and require the issuance of a permit. Any wetland affected by development must be protected, moved, or landscaped to mitigate the impact. A wetland (or floodplain) located on a site may require the HUD 8 Step Process if federal monies are involved.
2. Airport clear zones. HUD requires that there be a distance of at least 3,000 feet from the end of runways of all civil airports and 2.5 miles from military airports to the project site. Civil airports include both paved and grass landing strips.
3. Non-attainment areas. MHDC staff consults the website located at www.epa.gov/oar/oaqps/greenbk to check the location for pollutants. Counties considered “nonattainment” areas have EPA zone requirements for a state implementation plan. Developments located in non-attainment areas will be required to complete and execute the MHDC Air Pollution Checklist immediately after substantial completion of construction. A copy of the checklist is attached as Exhibit “D.”
4. Endangered species. MHDC staff consults the Missouri Department of Conservation Heritage Review report through <http://mdcgis.mdc.mo.gov/heritage/newheritage/heritage.htm> in order to determine whether there may be endangered species located in the development area. Certain construction controls or prohibitions may be required in order to proceed with the development (i.e., the use of silt fences or a seasonal moratorium on cutting down trees).

B. MITIGATING ITEMS.

Results of environmental reviews that exhibit conditions that are unacceptable to MHDC shall be communicated to the developer as soon as possible to determine whether the condition can be rectified. In many cases, there may be environmental issues that are unacceptable but may be mitigated and/or abated. This may include permitting requirements, clearance letters, specified construction materials, or actions and so forth. Such requirements will be listed on the firm commitment memo along with deadline for completion of the activity.

Examples of environmental issues that may require mitigation and/or abatement include but are not limited to:

1. The removal or encapsulation of contaminated soil;

2. The execution and recording of a deed restriction prohibiting the use of ground water;
3. The development of full asbestos abatement plans, the production of an Operations & Maintenance manual for asbestos that is contained and remains in place, and/or licensing information and certifications for the asbestos inspector, abatement contractor, and landfill where the asbestos will be disposed. (Reference Missouri Department of Natural Resources [MDNR] Code of State Regulations, 10-6.241, 10-6.250; Missouri Department of Senior Services [MDSS] and National Emission Standard for Hazardous Air Pollutants [NESHAP]. Use the most current regulations.)
4. The development of full lead-based paint remediation or interim control plans, the production of an Operations & Maintenance manual for lead-based paint that is contained and remains in place, **a lead-based paint clearance inspection report**; and licensing information and certifications for the lead-based paint inspector, risk assessor, abatement contractor, and landfill where the lead-based paint will be disposed. (Reference Missouri Revised Statutes 701.300; 24 CFR 35, subparts B thru R, 24 CFR part 35; Section 1012(a)(3) of Title X amending Lead-based Paint Poisoning and Prevention Act. Use the most current regulations.)
5. Activities or controls to protect endangered species;
6. Activities or controls to protect wetlands;
7. The construction of venting mechanisms to mitigate radon levels;
8. Special construction/site features to reduce the potential for flooding as well as the procurement of flood insurance;
9. The construction of retaining walls or berms to reduce noise levels;

Documentation confirming the satisfaction of outstanding environmental issues must be received and approved by MHDC prior to conversion from construction to permanent financing and/or the final allocation of tax credits.

C. HUD AUTHORIZATION TO RELEASE FUNDS

Developments receiving **HOME funds or Risk Share insurance** are required to complete a process for final authorization from HUD following the completion of the environmental review. This process includes an advertisement in the local newspaper with a designated period allowed for public comment followed by a 15-day review period by HUD officials. At the successful completion of the advertising and comment process, HUD issues an authorization to proceed which allows MHDC to issue a firm commitment for the HOME or Risk Share transaction. MHDC shall not execute a firm commitment prior to the receipt of HUD's authorization.

Neither HUD funds nor non-HUD funds can be committed to a development until HUD has approved MHDC's environmental review and issued its Authorization to Release Grant Funds. No choice limiting action may be taken until HUD review and authorization are complete (24 CFR 58.22). Choice limiting actions include real property acquisition, demolition, site clearance, rehabilitation, and construction activities. Please be aware an **option to purchase** is acceptable. A **contract to purchase**, regardless of terms, is not acceptable.

The types of review and release processes are as follows:

1. Full environmental review is required for conversion, new construction of more than

four units or substantial rehabilitation (proposed construction costs greater than 75 percent of replacement value, unit density change of greater than 20 percent, or a change in use). Upon satisfactory review, MHDC publishes notification in the local newspaper (public comment period) and obtains approval via HUD Authorization to Release Funds. A full review takes *approximately* 45 days which includes public comment period, HUD comment period, and HUD Release of Funds.

2. A proposal may be designated categorically excluded subject to if the proposed construction costs for rehabilitation do not exceed 75 percent of replacement value, unit density change does not exceed 20 percent, and there is no change in use. If there are issues that require mitigation, MHDC publishes notification in the local newspaper (public comment period) and obtains approval via HUD Authorization to Release Funds. This review takes *approximately* 35 days which includes public comment period, HUD comment period, and HUD Release of Funds.
3. A proposal is considered exempt if: (i) it meets the conditions to be categorically excluded subject to and there are no mitigating items or (ii) it is new construction of four or fewer units and there are no mitigating items. In this instance, no advertising is required and no notification is sent to HUD. Mitigating items can include consultation, mitigation, permit, license, and/or approval from outside agencies.
4. Proposed developments located in a 100-year flood plain or developments considered a critical action and located in a 500-year flood plain are subject to certain limitations. Rehabilitation projects located in a 100-year flood plain are required to complete the HUD eight-step review process required by HUD when federal funds are involved. Federally-funded or insured developments located in a 500-year flood plain and considered to be a critical action are also required to go through the eight-step review process. A critical action pertains to the type of development whose occupants may not be sufficiently mobile to avoid injury or loss of life due to flooding or storm events.

The HUD Eight-Step Process, which MHDC is responsible to initiate and complete, includes an additional comment period and HUD comment period separate from the environmental review. Developments determined by MHDC to be acceptable to be rehabilitated or constructed despite the flood plain designation must complete two advertising/public comment periods. The first advertisement notifies the public of the intention to develop/redevelop the property in a flood plain, followed by a 15-day comment period. MHDC must then advertise a notice that no better site has been identified, and the decision has been made to construct or rehabilitate the property in the flood plain. This notification is also followed by a 15-day comment period. Upon the completion of both publications, MHDC will transmit the review to HUD for its 15-day review period. HUD issues an Authorization to Release Funds upon its approval of the environmental review.

5. Proposed development that contains a Corp. of Engineer Jurisdictional Wetland or a non-Corp. of Engineer Jurisdictional Wetland is subject to the HUD Eight-Step Process when federal funds are involved. A wetland survey is subject to certain requirements per MHDC. HUD Eight-Step Process can also apply to flood plains.

V. CLOSING AND CONSTRUCTION

MHDC staff will confirm that outstanding environmental issues required to be resolved prior to loan closing or during the construction process are completed. MHDC's construction inspectors will be notified of any special requirements to be confirmed during the construction process as they perform their monthly inspections. Final approval for loan funding or for the allocation of tax credits may be delayed or denied if required actions are not taken.

EXHIBIT "A"

PHASE I ASTM STANDARDS

Table of Contents and Report Format (Reference ASTM E 1527-13)

Section	Topic Detail	ASTM Reference
1.0 Summary	1.0 Summary	12.1
2.0 Introduction	2.1 Purpose	1.1, 1.2
	2.2 Detailed Scope-of Service	12.4
	2.3 Significant Assumptions	7.5.2, 7.5.2.1
	2.4 Limitations and Exceptions	9.2.4
	2.5 Have any Special Terms and Conditions been placed on the Environmental Professional ("EP") by the person(s) requesting their services? Note: "...client imposed constraints..."	12.10
	2.6 User Reliance Additionally: Who may rely on this report? (MHDC must be specifically mentioned per MHDC NOFA)	7.5.2.1
3.0 Site Description	3.1 Location and Legal Description	12.1
	3.2 Site and Vicinity General Characteristics	9.4.1.1, 9.4.1.3
	3.3 Current Use of the Property	9.4.1.1
	3.4 Improvements to the property not limited to just the structure(s), roads. List all other improvements on the site.	9.4.1.7 - 9.4.4.7
	3.5 Current Uses of the Adjoining Properties	9.4.1.3

Section	Topic Detail	ASTM Reference
4.0 User Provided Info.	It is the user's responsibility to provide any or all information in section 6.1 through 6.7 to the EP.	
	4.1 Title Records (Title policy provided by the user.)	6.2
	4.2 Environmental Liens or Activity and Use Limitations	6.2
	4.3 Specialized Knowledge	6.3
	4.4 Commonly Known or Reasonably Ascertainable Information	6.6
	4.5 Valuation Reduction for Environmental Issues	6.5
	4.6 Owner, Property Manager, and Occupant Information	7.5.2
	<p>4.7 Reason for Performing Phase I (Does the user: "...make known to the EP the reason why the user wants to have the Phase I Environmental Site Assessment performed..."?)</p> <p>Either the user shall make known to the EP the reason why the user wants to have the Phase I Environmental Site Assessment performed OR, if the user does not identify the purpose of the Phase I, the EP shall assume the purpose is to qualify for an LLP to CERCLA Liability and state this in the report.</p>	6.7
	4.8 Other ("Other" is used if no reason is given by the user for the Phase I. Then the assumption: the EP "shall assume the purpose is to qualify for an LLP to CERCLA liability and state this in the report.")	6.7
5.0 Records Review	5.1 Standard Environmental Record Sources	8.2.1
	5.2 Additional Environmental Record Sources	8.2.2
	5.3 Physical Setting Source(s)	8.2.3
	5.4 Historical Use Information on the Property	8.3 - 8.4

Section	Topic Detail	ASTM Reference
	5.5 Historical Use Information on Adjoining Properties	8.3.3
6.0 Site Reconnaissance	6.1 Methodology & Limiting Conditions	9.2.3, 9.2.4
	6.2 General Site Setting	9.4.1.1 - 9.4.1.10
	6.3 Exterior Observations	9.4.2 - 9.4.4.7
	6.4 Interior Observations	9.4.2 - 9.4.4.7
7.0 Interviews	7.1 Interview with Owner	10.0 - 10.9
	7.2 Interview with Site Manager	10.5.1
	7.3 Interviews with Occupants: Multi-family residential properties, residential occupants do not need to be interviewed. If the property has nonresidential uses interviews would be held with the non residential occupants.	10.5.2.1 - 10.5.2.4
	7.4 Interviews with Local Governmental Officials	11.1 - 11.7
	7.5 Interviews with Others	10.7.2
8.0 Findings	8.0 Findings Findings are any item(s) identified as a recognized environmental concern.	12.5
9.0 Opinion	9.0 Opinion The opinion shall specifically include the EP's rationale for concluding that a condition is or is not currently a recognized environmental condition.	12.6

Section	Topic Detail	ASTM Reference
10.0 Conclusions	<p>10.0 Conclusions</p> <p>The Phase I must include <u>ONE</u> of the following statements <u>WORDED EXACTLY</u>:</p> <p>"We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice 1527 of [insert address or legal description], the property, and exceptions to or deletions from this practice are described in Section [] of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the property."</p> <p>*OR*</p> <p>"We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice I 1527 of [insert address or legal description], the property. Any exceptions to, or deletions from this practice are described in Section [] of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the property except for the following: (list)."</p>	12.8, 12.8.1, 12.2
11.0 Deviations	11.0 Deviations	12.10
12.0 Additional Services	12.0 Additional Services	12.9
13.0 References	13.0 References	12.11
14.0 Signature(s) of EP(s)	14.0 Signature(s) of EP(s)	12.12
15.0 Qualifications of EP(s)	<p>15.0 Qualifications of EP(s)</p> <p>The Phase I must include <u>BOTH</u> of the following statements <u>WORDED EXACTLY</u>:</p> <p>"[I, We] declare that, to the best of [my, our] professional knowledge and belief [I, We] meet the definition of Environmental Professional as defined in #312.10 of 40 CFR 312."</p> <p>*AND*</p>	12.13, 12.13.1, 12.13.2

Section	Topic Detail	ASTM Reference
	"[I, We] have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. [I, We] have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312."	
16.0 Appendices	X4: Recommended Table of Contents and Report Format	12.1
16.1	Site (Vicinity) Map	X4.16.1
16.2	Site Plan	X4.16.2
16.3	Site Photographs	X4.16.3
16.4	Historical Research Documents (aerial photographs, fire insurance maps, historical topographical maps, etc.)	X4.16.4
16.5	Regulatory Records Documentation	X4.16.5
16.6	Interview Documentation	X4.16.6
16.7	Special Contractual Conditions between User and EP MHDC requires a "copy" of the signed contract between the EP and developer with pricing redacted.	X4.16.7
16.8	Qualification(s) of the EP(s)	X4.16.8

Definition of Environmental Professional and Relevant Experience
(Reference ASTM E 1527 – 13)

Environmental Professional

Environmental Professional means:

(A) A person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding conditions indicative of releases or threatened releases on, at, in, or to a property.

(B) Such a person must: (i) hold a current professional engineer's or professional geologist's license or registration from a state, tribe, or U.S. territory (or the commonwealth of Puerto Rico) to perform environmental inquiries and have the equivalent of three (3) years of full-time relevant experience; or (ii) have a baccalaureate or higher degree from an accredited institution of higher education in a discipline of engineering or science and the equivalent of five (5) years of full-time relevant experience; or (iii) have the equivalent of ten (10) years of full-time relevant experience.

(C) An environmental professional should remain current in his or her field through participation in continuing education or other activities.

(D) The definition of environmental professional provided above does not preempt state professional licensing or registration requirements such as those for a professional geologist, engineer, or site remediation professional. Before commencing work, a person should determine the applicability of state professional licensing or registration laws to the activities to be undertaken.

(E) A person who does not qualify as an environmental professional under the foregoing definition may assist in the conduct of all appropriate inquiries in accordance with this part if such person is under the supervision or responsible charge of a person meeting the definition of an environmental professional provided above when conducting such activities.

Relevant Experience

Relevant experience, as used in the definition of environmental professional in this section, means: participation in the performance of all appropriate inquiries investigations, environmental site assessments, or other site investigations that may include environmental analysis, investigations, and remediation which involve the understanding of surface and subsurface environmental conditions and the processes used to evaluate these conditions and for which professional judgment was used to develop opinions regarding conditions indicative of releases or threatened releases to the subject property.

EXHIBIT "B"

MHDC Lead-Based Paint Policy and Procedures

MHDC Rental Housing Production Programs Guidelines for Rehabilitation Projects

- 1) MHDC requires a physical needs assessment for all rental housing production proposals for the rehabilitation of existing buildings. The physical needs assessment must include an assessment of the presence or suspected presence of lead-based paint, asbestos or mold for all proposals.
- 2) Developers must provide the age of the structure.
- 3) Developers must submit the following documents with the application for firm commitment as specified in the conditional reservation agreement issued for the development:
 - a) Lead Hazard Evaluation Procedures (per Mo. or federal regulations as applicable to the development); and
 - b) Lead Hazard Reduction Procedures (per Mo. or federal regulations as applicable to the development).

As the result of the firm submission review, MHDC staff shall indicate the required lead hazard reduction work and protective measures to be followed during construction.

- 4) Prior to the conversion or closing of a permanent loan with MHDC, the borrower shall provide:
 - a) Tenant Notification Procedures;
 - b) Lead Clearance Inspection conducted by a Mo. Risk Assessor;
 - c) Contractor's Mo. Abatement License;
 - d) Contractor's certification of completion of a Mo. lead-safe work practices training program for each worker that comes in contact with lead; and
 - e) Ongoing Maintenance Procedures, if required.

HOME Rental Production Program

Lead-Based Paint Reference Guide (24 CFR Part 35)

(Sub-Grantees are to refer to and comply with all of the pertinent lead paint regulations which may be amended or adopted from time-to-time. The following is only an overview.)

A. HUD's Lead-Safety Regulation

Federal Register (September 29, 1999)

Department of Housing and Urban Development

24 CFR Part 35, et al.

Requirements for Notification, Evaluation, and Reduction of Lead-Based Paint Hazards in Federal Owned Residential Property and Housing Receiving Federal Assistance; Final Rule

B. Exemptions 24 CFR 35.115

- Buildings constructed on or after January 1, 1978 are NOT subject to lead-based paint investigation
- Zero-bedroom units
- Property certified as lead safe
- Property where lead-based paint was removed
- Rehabilitation or maintenance activities that do not disturb painted surfaces
- Emergency actions

C. EPA Regulations 24 CFR 745

Renovation, Repair and Painting Program Rule effective April 22, 2010 and amended in 2011

D. Documentation Required

1. **Notice To Occupants:** Occupants must be provided with the following documentation:
 - a. EPA Lead Hazard Information Pamphlet at the time of purchase or lease;
 - b. "Notice of Hazard Evaluation" (or presumption) within 15 calendar days of the date when the evaluation is received or the presumption is made (24 CFR 35.125(a)); and
 - c. "Notice of Hazard Reduction & Clearance" no more than 15 calendar days after the hazard reduction activities have been completed (24 CFR 35.125(b)(1)).

2. **Hazard Reduction:** The following documentation must be completed:
 - a. Final scope of work addressing both lead and non-lead paint prior to firm commitment for construction funded from the multifamily HOME Rental Production Program.
 - b. For lead reduction activities that are performed on properties funded through the single-family HOME Repair Program, MHDC requires the contractor supervisor to be trained in Mo. Safe Work Practices.

- c. For properties funded through the multifamily HOME Rental Production Program, MHDC requires the Owner to hire a contractor certified as a Mo. lead-based paint contractor. A copy of the contractor's Mo. Lead Abatement Contractor license is required prior to conversion/permanent closing.
 - d. For properties funded through the multifamily HOME Rental Production Program, certification by the contractor that Mo. Safe Work Practices (*24 CFR Part 35.1350*) have been observed is required prior to conversion/permanent closing.
3. **Clearance Report:** Clearance must be performed by a licensed Mo. Risk Assessor after all rehab work is done, with a copy of the clearance report and qualifications of the Risk Assessor sent to the MHDC Homeownership division at the time of payment request (HOME Repair Program) or to the MHDC Rental Production division prior to conversion/permanent closing (HOME Rental Production Program).

E. General Procedural Overview

For *single-family properties* receiving funds from the *HOME Repair program*:

1. **If the property is receiving \$5,000 or less of HOME Repair funds**, a visual assessment walk-through by an HQS inspector trained in visual assessment (per self-administered HUD Internet course at <http://www.hud.gov/offices/lead>) looks for defective paint and applies the *de minimis levels* (*24 CFR Part 35.1350(d)*) to all rehabilitation work to be performed regardless of defective paint.

If the property is receiving more than \$5,000 of HOME Repair funds, a lead-based paint risk assessment must be performed by a licensed lead-based paint professional. Risk assessments are valid for only 12 months.

2. MHDC staff reviews the level of HOME rehabilitation assistance and calculates the applicable lead-based paint requirements.

For *multifamily developments* receiving funds from the *HOME Rental Production Program*:

1. A combination **lead paint inspection and a risk assessment** must be performed by a Mo. licensed lead-based paint professionals. Valid for 12 months.
2. MHDC staff reviews the results and **requires** mitigating items **to be** addressed prior to the completion of construction.

The rehabilitation scope of work must integrate both “lead” and “non-lead” triggered activities. (Provide the preliminary work write-up to Risk Assessor, then incorporate the assessment’s findings.)

1. De Minimis Levels: *De minimis levels* are exceptions to safe work practices **and defined as work** which disturbs less than:
 - a. Twenty square feet on exterior surfaces;
 - b. Two square feet in any one interior room or space; or
 - c. Ten percent of area of an interior or exterior component with a small area (sills, baseboards, etc.).

2. **Lead-Triggered Activity:** A lead-triggered activity is anything that is a lead hazard, or reduces a lead hazard, including:
 - a. Any defective paint surface (until tested to be non-lead)
 - b. Any rehabilitation work greater than the *de minimis levels* disturbing a lead painted surface to be performed with safe work practices
 - c. Any abatement activities from risk assessment

3. **Course of Action:**
 - a. Presume lead or evaluate (*option – 24 CFR 35.120*); evaluation recommended.
 - b. Complete a combination Mo. **lead paint inspection and** risk assessment performed by Mo. licensed personnel.
 - c. Include in the scope of work for “lead” activities the interim controls and/or abatement recommendations from a Mo. risk assessor and safe work practices for items determined to be lead paint.
 - d. Determine impact of ‘occupant relocation’ requirements (*24 CFR 35.1345*).
 - e. Based on the results of **the combination Mo. lead paint inspection and** risk assessment, establish contractor qualifications (*see Safe Work Practices 24 CFR 35.1325-1330*), safe work practices to be used (including occupant protections), and achieve clearance in bid invitation and contract.
 - f. Relocate occupants and belongings, if necessary (*24 CFR Part 35.1345*).
 - g. Supervise work so that “Safe Work Practices” at 24 CFR Part 35.1350 are used: worksite is prepared/contained and occupants and their belongings are protected, prohibited methods of paint removal are not used, specialized cleaning is conducted to achieve clearance, and certification is made that Safe Work Practices have been followed.
 - h. Collect lead dust wipe and soil clearance samples upon the completion of the work.
 - i. Achieve clearance and obtain report approval after all rehab work is done.

F. Methods and Qualifications for the Evaluation of the Presence of Lead

1. **Visual Assessment:** (acceptable only for HOME Repair projects receiving \$5,000 or less in HOME funds): A visual assessment for deteriorated paint consists of a visual search for cracking, scaling, peeling, or chipping paint. This assessment does not identify the presence of lead, only the potential danger. The assessment is performed by either a licensed risk assessor or Housing Quality Standards (HQS) inspector trained in visual assessment.

2. **Lead Paint Inspection:** A lead-based paint inspection is a surface-by-surface investigation to determine the presence of lead-based paint using ~~through~~ XRF analyzer testing and laboratory analysis. Lead paint inspections must be conducted by Mo. licensed lead-based paint inspector or risk assessor. State licenses are valid for two years.

3. **Risk Assessment:** A risk assessment is a comprehensive investigation of a dwelling to identify lead-based paint hazards that includes paint testing, dust and soil sampling, and a visual evaluation. Risk assessment details are summarized in a written report with recommendations for actions and approximate cost. A Mo. licensed risk assessor must conduct the assessment.

G. Lead Hazard Reduction Methods

1. **Paint Stabilization**: Paint stabilization reduces exposure to lead-based paint by addressing deteriorated paint on exterior and interior surfaces through repairs, safe paint removal, and repainting. Paint stabilization may not be a sufficient lead hazard reduction method in all cases.
2. **Interim Controls**: (24 CFR 35.1330) Interim controls are short-term measures (lasting less than twenty years) to reduce human exposure to lead-based paint hazards through repairs, painting, maintenance, special cleaning, occupant protection measures, clearance, and education programs. Ongoing monitoring is necessary in all situations. Interim controls may not be a sufficient lead hazard reduction method in all cases. Additionally, soil removal and replacement are sometimes necessary.

Interim control methods require safe work practices and include:

- a. **Paint stabilization** – All deteriorated paint on exterior and interior surfaces must be stabilized through repairs, safe paint removal, and repainting.
- b. **Treatment for friction or impact surfaces** – If lead-based paint is found and exceeds acceptable levels or is presumed to exceed it, the conditions creating friction or impact with surfaces with lead-based paint such as those that rub, bind, or crush must be corrected. Examples of this work include re-hanging binding doors, installing door stops, or reworking windows.
- c. **Treatment for chewable surfaces** – If a child under six has chewed surfaces known to contain lead-based paint or if lead-based paint is presumed, these surfaces must be enclosed or coated so they are impenetrable.
- d. **Lead-contaminated dust control** – All horizontal surfaces that are rough, pitted, or porous such as bare floors, stairs, window sills, and window troughs must be covered with a smooth, cleanable covering or coating such as metal coil stock, plastic, polyurethane, or linoleum. Carpeting must be vacuumed or rugs must be removed and vacuumed on both sides. Vacuuming must be done using HEPA vacuums.
- e. **Lead-contaminated soil control** – If soil is lead-contaminated, interim controls that may be used include impermanent surface coverings such as gravel, bark, and sod as well as land use controls such as fencing, landscaping, and warning signs.

Interim controls (including Standard Treatments) (24 CFR 35.1330): The workers should be trained in accordance with the OSHA Hazard Communication Requirements (29 CFR 1926.59), **be work-safe certified** and be supervised by an individual certified as a lead-based paint abatement supervisor or must have successfully completed one of the following courses:

- LBP abatement worker or supervisor (40 CFR 745.225);
- Operations and Maintenance (NETA);
- Remodeler's and Renovator's Lead-Based Paint Training Program developed by HUD and the National Association of the Remodeling Industry; or
- An equivalent course approved by EPA or HUD.

3. **Abatement:** Abatement mitigates lead-based paint and lead-based paint hazards by either permanently removing lead-based paint and its dust or encapsulating or enclosing the lead-based paint for a period of twenty years or more, replacing components that have lead-based paint, and removing or permanently covering lead-contaminated soil. Limited or no monitoring may be required based upon the action taken. Encapsulation and enclosure require ongoing monitoring and maintenance to check their effectiveness.

Abatement must be conducted by certified abatement workers who have successfully completed a lead-based paint abatement worker course accredited by the EPA. These workers must be supervised by a lead-based paint abatement supervisor certified under a State program authorized by the EPA or conducted by the EPA.

H. Safe Work Practices 24 CFR 35.1350

1. Prohibited Methods of Paint Removal: (24 CFR 35.140)

The following methods *shall not be used* to remove paint that is, or may be, lead-based paint:

- a. Open flame burning or torching;
- b. Machine sanding or grinding without a high-efficiency particulate air (HEPA) local exhaust control;
- c. Abrasive blasting or sandblasting without HEPA local exhaust control;
- d. Heat guns operating above 1100 degrees Fahrenheit or charring the paint;
- e. Dry sanding or dry scraping, except dry scraping in conjunction with heat guns or within 1.0 ft. (0.30 m.) of electrical outlets, or when treating defective paint spots totaling no more than 2 sq. ft. (0.2 sq. m.) in any one interior room or space, or totaling no more than 10 sq. ft. (2.0 sq. m.) on exterior surfaces; or
- f. Paint stripping in a poorly ventilated space using a volatile stripper that is a hazardous substance in accordance with regulations of the Consumer Product Safety Commission at 16 CFR 1500.3, and/or a hazardous chemical in accordance with the Occupational Safety and Health Administration regulations at 29 CFR 1910.1200 or 1926.59, as applicable to the work.

2. Occupant Protection: (24 CFR 35.1345)

Occupants shall not be permitted to enter the worksite during hazard reduction activities (unless they are employed in the conduct of these activities at the worksite), until after hazard reduction work has been completed and clearance, if required, has been achieved.

Occupants shall be temporarily relocated before and during hazard reduction activities to a suitable, decent, safe, and similarly accessible dwelling unit that does not have lead-based paint hazards, except if:

- a. Treatment will not disturb lead-based paint, dust-lead hazards or soil-lead hazards;
- b. Only the exterior of the dwelling unit is treated, and windows, doors, ventilation intakes and other openings in or near the worksite are sealed during hazard control work and cleaned afterward, and entry free of dust-lead hazards, soil-lead hazards, and debris is provided;
- c. Treatment of the interior will be completed within one period of eight daytime hours, the worksite is contained so as to prevent the release of leaded dust and debris into other

areas, and treatment does not create other safety, health or environmental hazards (e.g., exposed live electrical wiring, release of toxic fumes, or on-site disposal of hazardous waste); or

- d. Treatment of the interior will be completed within five calendar days, the worksite is contained so as to prevent the release of leaded dust and debris into other areas, treatment does not create other safety, health or environmental hazards; and, at the end of work on each day, the worksite and the area within at least 10 feet (3 meters) of the containment area is cleaned to remove any visible dust or debris, and occupants have safe access to sleeping areas, and bathroom and kitchen facilities. (HUD Interpretive Guidance J24 – The term “interior work” refers to work in a single room. See also R18 and R19.)

The dwelling unit and the worksite shall be secured against unauthorized entry, and occupants’ belongings protected from contamination by dust-lead hazards and debris during hazard reduction activities. Occupants’ belongings in the containment area shall be relocated to a safe and secure area outside the containment area, or covered with an impermeable covering with all seams and edges taped or otherwise sealed.

3. Worksite Preparation: (24 CFR 35.1345)

The worksite shall be prepared to prevent the release of leaded dust and contain lead-based paint chips and other debris from hazard reduction activities within the worksite until they can be safely removed. Practices that minimize the spread of leaded dust, paint chips, soil and debris shall be used during worksite preparation.

A warning sign shall be posted at each entry to a room where hazard reduction activities are conducted when occupants are present, at each main and secondary entryway to a building from which occupants have been relocated, or, for an exterior hazard reduction activity, where it is easily read 20 feet (6 meters) from the edge of the hazard reduction activity worksite. Each warning sign shall be as described in 29 CFR 1926.62(m), except that it shall be posted irrespective of employees’ lead exposure and, to the extent practicable, provided in the occupants’ primary language.

4. Specialized Cleaning:

After hazard reduction activities have been completed, the worksite shall be cleaned using cleaning methods, products, and devices that are successful in cleaning up dust-lead hazards, such as a HEPA vacuum or other methods of equivalent efficacy, and lead-specific detergents or the equivalent.

5. De Minimis Levels: Safe Work Practices are not required when maintenance or hazard reduction activities do not disturb painted surfaces that total more than:

- a. 20 square feet (2 square meters) on exterior surfaces;
- b. 2 square feet (0.2 square meters) in any one interior room or space; or
- c. 10 percent of the total surface area on an interior or exterior type of component with a small surface area. Examples include window sills, baseboards, and trim.

I. Worker Protection

1. Prior to the start of any stabilization, demolition and / or renovation work that will impact building components with lead-based paint, the contractor performing the work must have a written respiratory protection program in place (*OSHA 29 CFR 1910.134*), documentation

indicating that his or her workers have had medical surveillance, are medically cleared to wear a respirator, and have passed a qualitative fit test.

2. In accordance with OSHA 19 CFR 1926.62 (Lead in Construction Standard), an initial employee exposure assessment must be conducted (through personal lead air monitoring) during stabilization, renovation and / or demolition activities that will impact building components with lead-based paint. Respiratory protection will be required for each activity until air monitoring many prove exposures are below the Permissible Exposure Limit (PEL).

J. Lead Hazard Criteria

(Regulations can change so use most current information.)

DUST (EPA and most other states)

(CFR Title 40 part 745.65 [Lead-Based Paint Hazards])

(19 CSR 30-70 [Rules of (Mo.) Dept. of Health and Sr. Services])

Floors	< 40 micrograms per square foot (40 µg/ft ²)
Window Sills (stools)	< 250 µg/ft ²
Window Troughs (wells)	< 400 µg/ft ² (clearance only)

PAINT (HUD, EPA, Kansas, Missouri, and most other states)

(CFR Title 40 part 745.65 [Lead-Based Paint Hazards])

(19 CSR 30-70 [Rules of (Mo.) Dept. of Health and Sr. Services])

XRF (On-Site Test)	≥ 1.0 milligrams per square centimeter (mg/cm ²)
AAS (Laboratory)	≥ 0.5% by weight
CPSC (1978 law)	≥ 0.06% by weight (maximum lead concentration for residential paints only)

AIR (OSHA)

(29 CFR part 1910 subpart Z / 1910.1025 App A [Substance Data Sheet for Occupational Exposure to Lead])

Action Level (AL)	≥ 30 micrograms per cubic meter (µg/m ³)
Permissible Exposure Limit (PEL)	≥ 50 µg/m ³

WASTE

(CFR Title 40 part 261.40 subpart C [Characteristics of Hazardous Wastes])

(EPA – Under RCRA, there are four characteristic tests. The two not shown below are *Ignitability* and *Reactivity*. The two types of characteristic tests shown below are the types that fail most often.)

Toxicity (TCLP)	≥ 5 parts per million (PPM) – 7 other metals also
Corrosivity (pH)	< 2.0 pH units or > 12.5 pH units

WATER (EPA – SDWA)

(40 CFR part 141 Lead and Copper Rule)

Drinking Water	< 15 parts per billion (PPB)
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BLOOD

(29 CFR part 1926 subpart D / 1910.1025 App A [Substance Data Sheet for Occupational Exposure to Lead])

(CDC.gov)

OSHA (Adult)	< 40 micrograms per deciliter (µg/dl)
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2 @ $\geq 50 \mu\text{g/dl}$ - requires medical removal

CDC Children < 5 $\mu\text{g/dl}$
Adults < 25 $\mu\text{g/dl}$ (**recommendation**)

SOIL (EPA and most other states)

(40 CFR Part 745 [Lead; Identification of Dangerous Levels of Lead])

Bare Soils < 400 PPM – high traffic/high contact/play areas
< 1200 PPM – all other areas of property

(reference: *Baker Environmental Consulting, Inc.*)

K. Resources on Lead Based Paint Regulations

- HUD’s Lead-Safety Regulation – 24 CFR Part 35
“Requirements for Notification, Evaluation, and Reduction of Lead-Based Paint Hazards in Federal Owned Residential Property and Housing Receiving Federal Assistance; Final Regulation (September 15, 1999)”
- HUD Interpretive Guidance September 21, 2000
- HUD Guidelines for Evaluation and Control of Lead-Based Paint Hazards
- HUD Office of Healthy Homes & Lead Hazard Control
Website: <http://www.hud.gov/offices/lead>
Regulation Hotline: (202) 755-1822 ext 104
E-mail: lead_regulations@HUD.gov
- The National Center for Lead-Safe Housing
Website: www.leadshousing.org
Implementing HUD’s Lead-Safety Regulation
Internet Guide to the Rule, Model Documents and Specifications
- The Lead Listing (for HUD)
Website: www.leadlisting.org
Hotline: 1 (888) LEADLIST
Lists companies providing lead services and training opportunities
- The Environmental Network
Website: <http://www.environmentalnetwork.com/>
Lists companies providing lead services
- EPA
Website: www.epa.gov/opptintr/lead
- National Lead Information Center
Hotline: 1 (800) 424-5323

**EXHIBIT “C”
Air Pollution Checklist**

Requirement Met (please initial)	Applicability	Regulation	Description	Brief Listing of Requirement
<p>_____ Contractor</p> <p>_____ Environmental Professional</p>	State Wide	NAAQS	Ambient Air Quality	A determination should be made as to whether the project is located in an area designated as a nonattainment or maintenance area under the National Ambient Air Quality Standards, and that the construction-related activities associated with the project should not significantly affect local or regional air quality.
<p>_____ Contractor</p> <p>_____ Environmental Professional</p>	State Wide	40 CFR Part 61, Subpart M 10 CSR 10-6.241 10 CSR 10-6.250	Asbestos	<p>Any renovation or demolition activities undertaken as part of this project must be conducted in accordance with local, state and federal asbestos regulations. These regulations require that prior to renovation or demolition; all regulated structures must be inspected by a Missouri certified asbestos inspector.</p> <p>If during the course of the asbestos inspection, it is determined that the total amount of asbestos containing material (both friable asbestos containing material and asbestos containing material that would be rendered friable during the course of the renovation or demolition) exceeds 160 square feet, 260 linear feet, or 35 cubic feet, then the asbestos would have to be removed by a Missouri registered asbestos abatement contractor and disposed of in accordance with the National Emissions Standards for Hazardous Air Pollutants. If there are less than these threshold amounts, then the material would not have to be removed prior to renovation or demolition. However, if materials are contaminated with asbestos, regardless of the amount, the sanitary landfill may have special packaging requirements for disposal.</p> <p>Notice of an asbestos abatement project above the threshold limits stated above and all demolition projects, regardless of whether asbestos is present, affecting regulated structures must be provided to the Missouri Department of Natural Resources' Air Pollution Control</p>

**EXHIBIT “C”
Air Pollution Checklist**

Requirement Met (please initial)	Applicability	Regulation	Description	Brief Listing of Requirement
				Program on the department form at least 10 days prior to commencement of the asbestos abatement or demolition project and approval must be granted by the Department.
_____ Contractor	State Wide	10 CSR 10-6.045	Open Burning	Do not open burn tires, petroleum-based products, asbestos containing materials, and trade wastes. Open burning that causes or contributes to a public health hazard, nuisance, or a hazard to vehicular or air traffic is not allowed. State regulation 10 CSR 10-6.045 only allows for open burning of vegetative debris from land clearing operations outside the city limits of an incorporated area and at a distance of more than 200 yards from the nearest inhabited dwelling. For open burning of vegetative waste that does not meet these restrictions, the department's Regional Office responsible for that location must be notified to determine if a permit to allow the burning can be issued. Contact information for these offices may be found at http://www.dnr.mo.gov/regions/regions.htm
_____ Contractor	State Wide	10 CSR 10-6.170	Fugitive Dust	Particulate matter emissions restricted to premises of origin. Efforts must be made to prevent any fugitive dust that may result from any construction or demolition activities associated with this project from leaving the property where it originated.
_____ Contractor	St. Louis Ozone/PM _{2.5} Nonattainment Area Kansas City Ozone Maintenance Area	10 CSR 10-5.385 10 CSR 10-2.385	Heavy Duty Diesel Vehicle Idling	Vehicles with a gross vehicle weight greater than 10,000 pounds regulated by this rule may not idle more than five (5) minutes in any sixty (60)-minute period except as otherwise exempted from the regulation.
_____ Contractor	State Wide	10 CSR 10-2.070 10 CSR 10-3.090 10 CSR 10-4.070 10 CSR 10-5.160	Odor	No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when the air is diluted to 7:1 volumes of odor-free air to odorous air for two separate trials not less than 15 minutes apart within

**EXHIBIT “C”
Air Pollution Checklist**

Requirement Met (please initial)	Applicability	Regulation	Description	Brief Listing of Requirement
				1 hour. (St. Louis area regulation varies on determination of requirement/ enforcement)
_____ Contractor	State Wide	40 CFR Part 82	Freon	All CFCs (Freon) need to be captured, whether in the servicing of an air conditioner or when disposing of an appliance that contains CFCs. All containers that hold CFCs should be clearly labeled.
_____ Contractor	St. Louis Ozone/PM _{2.5} Nonattainment Area Kansas City Ozone Maintenance Area	10 CSR 10-2.220 10 CSR 10-5.310	Asphalt Paving	The use of or application of liquefied cutback asphalt in paving and maintenance operations on highways, roads, parking lots and driveways is restricted during the months of April through October, except as otherwise exempted from the regulations (i.e. emergency road maintenance).
_____ Contractor	St. Louis Ozone/PM _{2.5} Nonattainment Area	10 CSR 10-5.450	Traffic Coatings	This regulation restricts the VOC content of traffic coatings that may be used within the location of applicability.

Disclaimer:

1. This checklist was developed in consultation with the Missouri Department of Natural Resources’ Air Pollution Control Program as a guideline on the most common requirements/regulations applicable to construction, demolition and renovation activities. It may not be an inclusive list of all regulations that could apply to an individual project, and the responsible parties remain liable to ensure compliance with all applicable regulations.
2. **Regulations/requirements listed in this checklist are subject to change.** As such, the responsible parties must ensure compliance with the most current regulations. Air Pollution Regulations may be found at <http://www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-10>
3. For purposed of this checklist, the St. Louis ozone nonattainment area is comprised of St. Louis County, St. Louis City, Jefferson County, St. Charles County, and Franklin County and the Kansas City Ozone Maintenance Area is comprised of Jackson, Clay, and Platte Counties.
4. As National Ambient Air Quality Standards are revised, it is expected that additional areas of the state will be designated as nonattainment areas, which could result in additional requirements for those areas.
5. Local areas (counties and cities) may have more stringent requirements than the state and should be consulted prior to the start of any project.

Certification

I understand that meeting the requirements of the attached checklist, which were developed for guidance purposes, only represents minimum compliance with the State Implementation Plan in a nonattainment area. I further understand that it is my responsibility to ensure compliance with all applicable federal, state and local air quality regulations that may apply to my project.

Environmental Professional

Date

Print Name: _____

Contractor

Date

Print Name: _____

By signing this form, I certify that, to the best of my knowledge and ability, all applicable air quality regulations and requirements have been met.

Developer

Date

Print Name: _____