

Section II Production

Chapter 7

Environmental Review

7.1

Introduction

This chapter outlines the policies and procedures that must be followed to meet HUD's environmental responsibilities. The standards and guidance documents referenced in this chapter may be updated, amended or superseded from time to time. Wherever standards or guidance are cited in this chapter, ORCF requires reliance on the most recent edition or superseding document.

A. Legal Authorities, Handbooks, and Forms

1. All Federal agencies are required to comply with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) (NEPA), and the implementing procedures issued by the Council on Environmental Quality at 40 CFR Parts 1500-1508. U.S. Department of Housing and Urban Development (HUD) regulations implementing NEPA are contained in 24 CFR Part 50, "Protection and Enhancement of Environmental Quality". Related Federal laws and authorities are listed in 24 CFR 50.4 and 50.3(i). HUD may not delegate its environmental responsibilities to others; it is required to prepare the environmental assessment and make the appropriate environmental finding. (See 24 CFR 50.11.)
2. HUD has issued two handbooks covering environmental issues: Handbook 1390.2, "Environmental Assessment Guide for Housing Projects", and Handbook 1390.4, "A Guide to HUD Environmental Criteria and Standards Contained in 24 CFR 51". Guidebooks issued by HUD on environmental issues are cited in this chapter.
3. HUD has also established the HUD Environmental Review Online System (HEROS) – Form HUD 4128 to replace the paper HUD-4128 as the prescribed format for all HUD environmental reviews. HUD staff are required to use HEROS to document all Part 50 environmental reviews under 24 CFR 50.31. Further, as HEROS becomes accessible to the Section 232 lenders, those lenders are expected to use HEROS for inputting relevant environmental data for 232 transactions.
4. Existing projects to be refinanced or purchased under Section 232/223(f) and many rehabilitation projects are categorically excluded (CE) from NEPA compliance (see exclusions in 24 CFR 50.20(a)). Such projects do not require an environmental assessment under NEPA except in extraordinary circumstances (see 24 CFR 50.20(a))

and (b)), but they must comply with the laws and authorities at 24 CFR 50.4. In addition, CE projects must document compliance with parameters related to Nuisances and Hazards such as pipelines, fall hazards, and oil and gas wells, as described below.

5. Pursuant to 24 CFR 50.19(b)(21), “refinancing of FHA-insured mortgages that will not allow new construction or rehabilitation, nor result in any physical impacts or changes except for routine maintenance” are categorically excluded from the environmental assessment (EA) requirements of the National Environmental Policy Act (NEPA), except in extraordinary circumstances, and do not require compliance with the Federal laws and authorities specified at 24 CFR Part 50.4, other than for the flood insurance requirements specified at 24 CFR 50.4(b)(1). Thus, currently FHA-insured Section 223(f) and 223(a)(7) refinancing transactions that meet these criteria do not require an environmental review. However, the flood insurance requirements specified at 24 CFR 50.4(b)(1) are still applicable (Please refer to HUD Notice CPD-16-02 “Guidance for Categorizing an Activity as Maintenance for Compliance with HUD Environmental Regulations, 24 CFR Parts 50 and 58 or succeeding guidance. Note that this definition of maintenance is specifically for environmental review purposes and applies to all HUD programs.).
6. Refinances of currently FHA-insured mortgages under Sections 223(a)(7) and 223(f) require an environmental review utilizing HEROS-Form HUD 4128) when any of the conditions listed at 7.1.A.6.a., b., or c. below apply to the project. The review process and requirements include submission of a current Phase I Environmental Site Assessment and Vapor Encroachment Screen, HUD’s consultation with the State Historic Preservation Officer (SHPO), compliance with floodplain management and wetlands regulations and all other applicable environmental requirements when:
 - a. The facility has completed a building addition without having obtained HUD’s approval;
 - b. The project will acquire or has acquired land that was not insured under the original mortgage loan and the facility has yet to receive HUD’s approval of the additional land; or
 - c. The project will involve changes, improvements or repairs that do not qualify as routine maintenance (Please see HUD Notice CPD-16-02 “Guidance for Categorizing an Activity as Maintenance for Compliance with HUD Environmental Regulations, 24 CFR Parts 50 and 58” or succeeding guidance. Note that this definition of maintenance is specifically for environmental review purposes and applies to all HUD programs.).
7. HUD has determined that 223(f) refinance transactions of non-HUD insured mortgages that will not allow new construction or rehabilitation, nor result in any physical impacts or changes except for routine maintenance, have “no potential to cause effects” to historic properties, as described in 36 CFR 800.3(a)(1), and therefore have no further obligations under Section 106 of the Historic Preservation Act or 36 CFR Part 800. For such transactions, contact with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) is not

required, and HUD staff responsibilities are limited to documenting this determination in HEROS-Form HUD 4128.

8. Requirements in this chapter may exceed those of many state agencies. One reason for this is if a Borrower defaults on an FHA-insured project, HUD may become the project owner. Under Section 120(h) of the Comprehensive Environmental Response and Liability Act (CERCLA), Federal agencies that own properties are required to take “all remedial action necessary to protect human health and the environment” with respect to known hazardous substances upon disposition of the property. This requirement is beyond any liability releases under State or Federal law and any due diligence requirements under CERCLA.

B. Local, State, Tribal or Federal Laws (LSTF)

1. The acronym LSTF as used in this chapter refers to “local, state, tribal or Federal”.
2. In cases where state or local laws, tribal laws, ordinances, codes or regulations are more restrictive than Federal requirements, the applicant must comply with the stricter standard unless Federal law states otherwise. An application for Firm Commitment does not relieve an owner of responsibility for compliance with state or local requirements.
3. HUD will not assume any responsibility with respect to inspection, enforcement, interpretation or determination of compliance with such state or local requirements.
4. Where the project is located on a Native American reservation, the tribal authority may need to assume the responsibilities of the state or local environmental protection agencies.
5. This chapter is not a substitute for requirements in the laws, regulations, and Executive Orders regarding environmental analysis and mitigation.

7.2

Procedures

A. Lender’s Responsibilities:

1. All projects (new construction, substantial rehabilitation, refinancing or purchase) submitted under Section 232, Section 232/223(f), Section 241(a), and Section 232/223(a)(7) require various submissions related to contamination as detailed in Section 7.3, unless the exemption for FHA-insured projects described at Section 7.1.A.5 applies.
2. The Lender will address NEPA environmental factors and the environmental laws and authorities at 24 CFR 50.4 within the Lender Narrative, and will provide supporting documentation as applicable.

3. HUD environmental policy requires that there be a limitation of certain activities or actions by any direct or indirect parties to the transaction, from the time of application submission until HUD has completed the environmental review process. Specifically, no action concerning the proposal shall be taken which would: (1) have an adverse environmental impact, (2) limit the choice of reasonable alternatives or (3) prejudice the ultimate decision on the proposal.
 - a. Certain actions, such as development of plans or designs, or performance of other work necessary to support an application for Federal, state or local permits, do not fall within such limitations.
 - b. Other actions, such as the acquisition, demolition or modification of a wetland, or actions significantly affecting a historic property, do fall within such limitations. Additionally, pursuant to the “anticipatory demolition” requirements of Section 110(k) of the National Historic Preservation Act (16 U.S.C. 470h-2(k)), with guidance provided by the Secretary of Interior at 63 FR 20496, even before application submission takes place, any action by a potential Lender or Borrower, or any action by another party that the Lender or Borrower has the legal power to prevent, that is taken with the intent to avoid Section 106 review and that significantly adversely affects a historic property, could result in eventual rejection of an application.
 - c. If any party is unsure as to whether an action would fall within such limitations, they should seek advice, and possibly approval, from the Office of Residential Care Facilities (ORCF). These requirements are distinct and separate from any early start of contractually related construction activities.

B. HUD Staff Responsibility:

1. In accordance with 24 CFR 50.32, HUD, not the Lender, is responsible for performing the environmental review, completing the review in HEROS-Form HUD-4128, and determining that the project raises no environmental conditions prohibited by law, Executive Order, or regulation, or that would endanger health or safety, or that would put FHA mortgage insurance or the U.S. Government at financial risk or liability. The HUD reviewer will obtain interdisciplinary assistance from professional experts and other HUD staff as needed. The Lender/Borrower are expected to provide information needed for the review and, as HEROS becomes available, to input applicable data into that system. Additional information may also be requested of the Lender/Borrower.
2. HUD staff must review the Phase I Environmental Site Assessment (ESA) submitted by the Lender and will make a site visit for new construction and substantial rehabilitation projects. Other projects may be visited on a case by case basis. A site visit will help validate the information provided in the Phase I ESA, and it is useful for evaluating other environmental factors. The HUD reviewer will sign the completed review in HEROS - Form HUD-4128 as the preparer, and the form will be co-signed by a HUD approving official, consistent with the then-current Delegation of Authority.

3. Regulation 24 CFR 50.32 requires that a NEPA Environmental Assessment for a project with more than 200 dwelling units or 200 beds be sent for review and comment to the appropriate Field Environmental Officer. Projects such as Section 232/223(f), which are deemed categorically excluded from NEPA but require compliance with the Federal laws and authorities cited in 24 CFR 50.4 pursuant to 24 CFR 50.20(a), do not require review and comment from the FEO. However, it is recommended that FEOs be given the option to review and comment when special analysis is required under such laws and authorities.
4. Completed environmental records must be available for the FEO to review. Up to ten percent (10%) of files may be reviewed in any given year.
5. As part of its environmental review responsibilities, HUD may require additional environmental material from a Lender, such as a Phase II ESA, even when the Lender might not believe that such additional environmental material is necessary.
6. HUD staff should refer to the specific directions and guidance contained in Section 7.4 for projects that involve remediation and/or monitoring.

C. When to Submit Required Exhibits to Resolve Environmental Issues:

1. Lenders are required to submit all the exhibits necessary to resolve any environmental issues with the Firm Commitment application.
2. Any environmental problems present at the site will require a discussion of impacts to human health and appropriate mitigation measures. The Lender must provide mitigation plans for those environmental problems when the application for a Firm Commitment is submitted. Remediation of site contamination is discussed in Section 7.3 of this chapter, and requires that remediation plans and LSTF approval of those plans be submitted with the application for Firm Commitment. The implementation of mitigation and remediation plans may, with HUD approval, continue throughout the construction period. HUD will review the Lender's plan and make it a condition of the Firm Commitment, if HUD considers the plan acceptable. This would include any plans for remediation of site contamination, wetlands impacts, noise impacts, historic preservation, and/or floodplain management issues.
3. Removal or containment of lead-based paint or asbestos may continue beyond initial and final closing if HUD approves.

D. Qualifications of Professionals:

1. The Borrower may select the professionals to be used to prepare the Phase I ESA and the other required environmental information discussed in Sections 7.5, 7.6 and 7.7,

but the Lender must verify that the professionals used are qualified for their assigned responsibilities. It is recommended that the professionals have prior HUD experience, since the analyses of some related laws and authorities are unique to HUD.

2. The environmental professional preparing the Phase I ESA must meet all of the qualification requirements of Appendix X2 of ASTM E1527-13 (or similar section of the most recent edition). Additionally, the environmental professional must meet the license/certification, educational, and experiential requirements of Section X.2.1.1. (2)(i), (ii), or (iii), of Appendix X2 of ASTM E1527-13 (or similar section of the most recent edition). The environmental professional must describe how he or she meets these qualifications in the Qualification(s) of Environmental Professional(s) Section of the Phase I ESA. For “relevant experience” such discussion must be specific as to how the requirements of Section X.2.2 of Appendix X2 of ASTM E1527-13 (or similar section of the most recent edition) have been met. The Phase I ESA must clearly indicate that HUD is an authorized user of the report.
 3. When a Phase II study is conducted, the “Phase II Assessor” must meet all of the qualification requirements of Section 3.1.33 of ASTM E1903-11 (or similar section of the most recent edition).
 4. Other professionals may be required to evaluate technical areas, such as asbestos, radon, noise, fire safety, wetlands, flooding, historic preservation or soil stability conditions. The Lender should verify that these technicians are also qualified. When these professionals are required, the Lender may contract for those services if the Borrower has not done so.
- E. **Consulting with ORCF:** Lenders are encouraged to consult early with ORCF on environmental requirements. Local conditions and interagency relations affecting environmental review requirements differ from state to state. For instance, coastal zone management requirements are not applicable in most states, but in states where they are applicable, compliance procedures differ. In some states, a letter from the state coastal zone management agency for projects in the coastal zone is required. In others, alternative review procedures make this unnecessary.

ORCF is available to review key environmental issues prior to application via its Lean Thinking email box. Lenders may submit questions on unusual site conditions, such as soil contamination, explosive hazards, unacceptable noise levels, fall hazards, etc., to LeanThinking@HUD.gov.

7.3

Contamination Analysis: Phase I and Phase II Environmental Site Assessments and Remediation

The purpose of this section is to first, identify any contamination on a site other than

contamination from in-place building components such as asbestos containing materials (see Section 7.7) and second, to ensure that any contamination so identified, is mitigated to the point where it would be unlikely to “affect the health and safety of occupants or conflict with the intended utilization of the property” as stated in HUD-wide policy at 24 CFR 50.3(i)(1).

Any potential contamination issues should be discussed with HUD as soon as possible. It is recommended that lenders consult with HUD before a Phase II ESA is prepared.

A. Phase I Environmental Site Assessment (ESA):

1. **Submission:** The Lender shall submit a complete Phase I ESA with the mortgage insurance application. A summary or “draft” submission is not acceptable. The Lender and/or the Borrower must inform the ESA preparer of all of the following Phase I ESA requirements:
 - a. **Purpose:** The Phase I ESA will make an initial determination as to the presence of “hazardous substances” as defined by CERCLA, and of petroleum and petroleum products. In addition, a purpose of the Phase I ESA is to document compliance with 24 CFR 50.3(i), which states HUD’s policy that all properties for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property. This purpose must be described in the “Purpose” subsection of the required “Introduction” Section of the Phase I ESA. To meet this purpose, in addition to the standard Phase 1 determination of whether Recognized Environmental Conditions (RECs) have been identified in connection with the site, the Evaluation section’s discussions on Findings, Opinions and Conclusions should state whether further investigations or corrective actions are recommended to meet 24 CFR 50.3(i).
 - b. **Phase I ESA Format:** The Phase I ESA must be prepared in accordance with the requirements of ASTM E1527-13, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” (or most recent edition), using the table of contents and report format specified in Appendix X4 therein. The Phase I ESA must incorporate a vapor encroachment screen performed in accordance with ASTM E 2600-10 (or most recent edition). The Phase I must clearly indicate that HUD is an authorized user of the report.
 - c. **Phase I ESA Timing:** The Phase I ESA must be conducted (meaning the earliest of the date of the site visit, records review, or interviews) within one year of the mortgage insurance application’s submission date to HUD. However, a Phase I ESA that was conducted more than 180 days prior to the submission date to HUD, but within the allowable one-year period, must be updated pursuant to Section 4.6 of ASTM E1527-13 (or similar section of the most recent edition). A Phase I ESA originally prepared more than one year prior to submission to HUD, even if updated within 180 days of submission to HUD, is not acceptable. The ESA

- timing requirements cannot be waived.
- d. Phase I ESA Professional Preparers' Qualifications: The Qualifications of Environmental Professionals section of the Phase I ESA must describe the preparer's qualifications.
 - e. Vapor Encroachment Screen: The Phase I ESA must incorporate an initial vapor (a.k.a. gas) encroachment screen to determine if there is a potential for vapors to occur in the subsurface below existing and/or proposed on-site structures. Those hazardous substances may be petroleum and petroleum products that consist of volatile organic compounds (VOC), semi-volatile organic compounds (SVOC) and inorganic volatile compounds. The vapor encroachment screen shall be performed using Tier 1 "non-invasive" screening pursuant to ASTM E2600-10 "Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions," Section 8 (or similar section of the most recent edition). If the Tier 1 vapor encroachment screen determines that, as indicated in ASTM E2600-10 Section 8.7.1 (or similar section of the most recent edition), there is a "vapor encroachment condition" (VEC) which is the "presence or likely presence" of such vapors in the subsurface below existing and/or proposed on-site structures, a likely VEC, or that a VEC "cannot be ruled out", it shall also be deemed to be a REC for purposes of the Phase I ESA. Analyses regarding the VES must be integrated within the various sections of the Phase I ESA.
 - f. Findings Section: The Findings section of the Phase I ESA must list all known or suspect Recognized Environmental Conditions (REC), Controlled Recognized Environmental Conditions (CREC), Historical Recognized Environmental Conditions (HREC), and de minimis conditions (such as minor soil staining). The Findings section must also list VECs, likely VECs, and circumstances in which a VEC cannot be ruled out.
 - g. Opinions Section: The Opinions section, pursuant to section 12.6 of ASTM E1527-13 (or similar section of the most recent edition), must discuss the impact on the property of conditions identified in the Findings section, and provide rationale for concluding that a condition is or is not currently a REC. The justification for any Finding deemed not to be a REC must be included in the Opinions section. If the Phase I ESA preparer cannot make a statement as to whether a condition is or is not a REC, the Opinions section must state what information or further investigation— e.g. gaining access to a building (a so called "data gap" per section 12.7), but not including a Phase II ESA—would be deemed necessary to make such a determination. When previous remediation has been performed or is ongoing, i.e., not yet an HREC at the proposed site, the Phase I ESA must fully discuss the extent of such remediation in the Opinions section, including any involvement of LSTF Authorities. The Phase I ESA preparer must justify whether such ongoing remediation should resolve any RECs or undecided issues identified in the ESA.

Note: Even if the environmental professional preparing the Phase I ESA determines that a Finding does not rise to the level of a REC, HUD may nevertheless determine that there is a business environmental risk that requires testing and/or remediation.

- h. **Conclusions Section:** The Conclusions Section must make a determination of whether a REC, including a CREC, exists on the site in accordance with one of the two statements at Section 12.8 of ASTM E1527-13 (or similar section of the most recent edition), i.e.:
 - i. “We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 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,” or
 - ii. “We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 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).”
- i. **User Provided Information Section:** The Borrower and the current property owner, if different from the Borrower, shall complete the User Questionnaire(s) according to Appendix X3 of ASTM E1527-13 (or similar section of the most recent edition). The User Questionnaire(s) must be included in the “User Provided Information Section” of the Phase I ESA and the preparer must take into account any information provided in the User Questionnaire(s) in the preparation of the Phase I ESA.
- j. **Testing Not Required:** The Phase I ESA does not require sampling and testing, which will be performed during the course of a Phase II ESA or as part of a remediation plan. However, the Phase I ESA may reference and discuss a prior Phase II ESA performed in general accordance with ASTM E1903-11 (or most recent edition), including whether a condition is a REC.
- k. **Lead-based Paint (LBP):** During any proposed repair work, the removal and disposal of LBP must be performed in accordance with regulations as published and enforced by the State and the Department of Labor - Occupational Safety and Health Administration (OSHA).

LBP chips that are not inside or part of a structure may be deemed to be a hazardous substance under CERCLA (see EPA document referenced at Section 7.3.C.1.c.(5) below). Therefore, if there is or was a structure on the site that was built prior to 1978 (when the use of LBP was

discontinued), any evidence of paint chips not inside or part of any current structures must be discussed in the “Site Reconnaissance” section of the Phase I ESA, must be listed in the Findings Section, and must be discussed further as to whether the paint chips are either a REC or a de minimis condition in the Opinions section.

- l. Previous Remediation: When previous remediation has been performed, or remediation is currently taking place, the Phase I ESA must fully document the status of such remediation, including any involvement from local, state, tribal, or Federal (LSTF) authorities.
- m. Evaluation of the Phase I ESA: The Phase I ESA will be evaluated by HUD. HUD may require additional information or a Phase II ESA based on Findings that indicate an unacceptable business environmental risk. Any Phase I ESA that identifies a Recognized Environmental Condition requires a Phase II ESA, unless it can be determined from the Phase I ESA that corrective action is not feasible. If no corrective action is feasible, HUD may reject the property.

B. Phase II ESA:

1. Purpose: The purpose of the Phase II ESA is to ascertain by chemical testing of samples and within the requirements of ASTM E1903-11, “Environmental Site Assessments: Phase II Environmental Site Assessment Process,” (or most recent edition) whether the RECs and/or business environmental risks identified from the Phase I ESA have resulted in the presence of “hazardous substances” as defined by CERCLA, and/or of petroleum and petroleum products at levels that would exceed the Statewide, non-site specific criteria (de minimis levels).
2. Timing: The Phase II ESA shall be submitted at the same time as the Phase I ESA. For new construction or substantial rehabilitation using the initial stage of processing, the Phase II ESA, if required, must be submitted by the Lender at the initial stage of submission.
3. When Required: A Phase II ESA is required if:
 - a. The Phase I ESA indicates that there is a REC and corrective action is potentially feasible,
 - b. The Phase I ESA comes to no definite conclusion regarding the presence of a REC, or
 - c. HUD requires a Phase II ESA for business environmental risk reasons that are described to the Lender.
4. Exception to the Phase II Submission Requirement: In cases where it is obvious that remediation will be required, with HUD’s permission, a separate Phase II ESA may be bypassed and instead incorporated within the “site characterization” segment of the remediation plan referenced in Section 7.3.C.1 below.

5. Standards to Use: The Phase II ESA is to be performed pursuant to the logic model of ASTM E1903-11, Section 7 (or similar section of the most recent edition), including developing the conceptual model and validation.
6. Report Format: The Phase II ESA must be prepared in accordance with the requirements of ASTM E1903-11, using the table of contents and report format specified in Appendix X3.2 as amended by X3.3 (or similar section of the most recent edition). Some of the steps that a Phase II assessor might perform may be intuitive in nature, but they nevertheless must be included in the report so as to ensure its scientific validity.
7. Historical Recognized Environmental Conditions (HREC): If the Phase I ESA indicates that there is a HREC as described in ASTM E1527-13 (or most recent edition), i.e., a hazard has been remedied and an LSTF Authority has issued a No Further Action (NFA) letter or similar approval, HUD may either deem the NFA letter as the completion of the remediation or it may require a Phase II ESA and/or further remediation.
8. Nature and Extent of the Study: The Phase II ESA need not necessarily be a complete site characterization (total nature and distribution) of contamination, but must proceed to a point where it indicates the location of greatest concentration and risk. However, when the existence of elevated levels of contaminants is confirmed, a complete site characterization will be required as a first step in remediation per Section 7.3.C.1 below.
9. Vapor Encroachment/Vapor Intrusion: If it is determined that there is a potential for vapors to occur in the subsurface below existing and/or proposed on-site structures, either identified from the Phase I ESA as a REC or from this or a prior Phase II ESA, the Phase II ESA shall include either a Tier 2 vapor encroachment screen (per ASTM E2600-10, Section 9 (or similar section of the most recent edition)), a vapor intrusion assessment (VIA) pursuant to LSTF policy and/or procedure (as discussed in ASTM E2600-10, Appendix X7.1 (or similar section of the most recent edition)), or go directly to a Tier 4 “mitigation” (per ASTM E2600-10, Appendix X7.1 or 7.2 (or similar section of the most recent edition)).

If a Tier 2 screen was performed and it determined that there was a VEC, a likely VEC, or that a VEC could not be ruled out, either a VIA pursuant to LSTF policy and/or procedure or Tier 4 “mitigation” (per ASTM E2600-10, Appendix X7.1 or X7.2 (or similar section of the most recent edition)) is required.

If a VIA was performed, any mitigation (remediation) deemed necessary must follow LSTF policy and/or procedures.

10. Phase II Conclusion. The Phase II ESA must conclude that:

- a. There are “hazardous substances” as defined by CERCLA, and/or petroleum and/or petroleum products at levels that exceed the Statewide, non-site specific criteria and list any chemicals so found, or
 - b. No hazardous substances, petroleum or petroleum products have been identified above de minimis levels.
11. Off-site contamination conclusion: The Phase II ESA must address the risk of off-site contamination migrating on to the proposed site including if:
- a. There is no known or perceived off-site contamination in the vicinity of the proposed site,
 - b. It is unlikely that any known or perceived off-site contamination will migrate on to the site, or,
 - c. It is likely that known or perceived off-site contamination will migrate on to the site.
12. LSTF Requirements: The Phase II ESA written report must describe how it conforms to any applicable LSTF requirements and must include a detailed, common language summary.
13. Exception of requirement for Phase II preparation and submission for ongoing remediation: A Phase II ESA is not required when remediation is ongoing to the point of not yet being an HREC (see Section 7.3.A.1.f, above), if the Phase I ESA preparer states that such remediation should resolve any RECs and undecided Phase I ESA issues (see Section 7.3.A.1.g, above), and if the remediation plan preparer indicates that all of the Phase II ESA requirements have been met.

C. Remediation Plans – General:

Remediation plans are required if the Phase II ESA cannot make the determinations required by Section 7.3.B.10.b, and B.11.a or B.11.b. The following requirements apply to all remediation plans:

- 1. Complete site characterization.
 - a. Anytime a site has been identified from a Phase I or Phase II ESA as having contamination (or contamination exposure pathways), be it vapor (gas), liquid, solid, dissolved, or non-aqueous phase liquid (NAPL), above de minimis levels, a complete site characterization (sometimes known as special site assessment report, a detailed Phase II ESA, or a Phase III ESA) must be prepared as the initial step of any remediation plan.
 - b. Such a report must determine the total horizontal and vertical extent of such contamination, exposure pathways, and potential receptors (a.k.a., conceptual site model). However, if the remediation plan preparer determines that the Phase II ESA preparer has already determined the total nature and distribution of such contamination, exposure pathways and potential receptors, then such determination shall be so indicated and the Phase II ESA shall be made a part of the remediation plan.

- c. The report must also be based on the appropriate combination of the following ASTM Practices and Guides (or similar section of the most recent edition), as amended, as determined by the remediator's environmental investigator. Lesser degrees of site assessments or non-conformance are not acceptable. For lead contaminated sites, refer to the listed EPA Handbook.
 - i. D6235-04, "Practice for Expedited Site Characterization of Vadose Zone and Groundwater Contamination at Hazardous Waste Contaminated Sites"
 - ii. E1689-95, "Standard Guide for Developing Conceptual Site Models for Contaminated Sites"
 - iii. E1903-11, "Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process", as amended
 - iv. E1912-98, "Guide for Accelerated Site Characterization for Confirmed or Suspected Petroleum Releases"
 - v. EPA, Superfund Lead-Contaminated Residential Sites Handbook, 2003
 - d. All of the requirements of Sections 7.3.C.2, 3, and 4 below must be met.
 - e. The report must discuss how it complies with the listed Practices or Guides and/or the appropriate LSTF procedures.
 - f. The report must indicate how it meets the requirements of any applicable LSTF regulatory procedures.
2. Any remediation studies and plans must be in the form of a report that includes a detailed, common language summary and discusses how it meets the listed Practices or Guides and/or the appropriate LSTF procedures.
 3. Any remediation studies and plans, including the site characterization as described in Section 7.3.C.1, above, must be presented to HUD at the same time as the Phase I ESA and, if applicable, the Phase II ESA. For new construction or substantial rehabilitation projects using the initial stage of Firm processing, the remediation plan and evidence of approval of the plan by the LSTF Authority must be submitted with the initial submission.
 4. The remediation plan preparer's qualifications must be discussed in any remediation reports.
 5. Evidence of approval of the remediation plan by the LSTF Authority must be submitted with the application submission.
 6. The remediation plan must cover all relevant contaminant phases: vapor (gas), liquid, solid, dissolved, and NAPL.
 7. The remediation plan must require either the removal of contamination (bringing the contamination to de minimis levels) pursuant to Section 7.3.D or incomplete removal of contamination in the form of a Risk-Based Corrective Action pursuant to section 7.3.E.

8. Remediation Timing - Uncertain Determination of Cost and/or Effectiveness of Remediation: If HUD determines that it is uncertain whether implementation of the remediation plan will meet the requirements of either 7.3.D or 7.3.E, the remedial work must be completed, including clearance testing, and the remediation itself must be approved by the LSTF authority, including issuance of any clearance and closure documents, prior to the issuance of the Firm Commitment.
9. Remediation Timing - Definitive Determination of Cost and Effectiveness of Remediation: If the extent of contamination can be definitively determined and the cost of removing that contamination can be specified pursuant to a contract for remediation (see Section 7.4), HUD may allow a remediation plan that has been approved by the LSTF authority that:
 - a. permits the remediation including site testing, any clearance and closure documents, and the approval by the LSTF, prior to initial closing, or
 - b. if the applicant can show cause why it would be impractical to complete the remediation prior to initial closing, permits the remediation including site testing, any clearance and closure documents, and final approval by the LSTF, prior to both final closing and initial occupancy.
10. Disclosure protection during the course of remediation activities. All persons living or regularly working on site while remediation is taking place shall be duly informed and protected from contamination. This requirement must be a part of the remediation plan.
11. Remediation contract insurance. Unless HUD determines otherwise, the remediation contract shall require cost cap and reopener insurance coverages, copies of which are to be included in the remediation plan.
12. Ongoing Remediation. If remediation is taking place, or has been completed but has yet to receive approval by the LSTF at the time of submission of the Phase I ESA, the remediation plan and all remediation studies shall be submitted, along with a detailed common language summary, at the same time as the Phase I ESA.

D. Remediation Plans – Complete Removal of Contamination:

1. General Requirements: Except for those situations where Section 7.3.E (Remediation Plans – Incomplete Removal of Contamination) below applies, the Lender must submit a remediation plan designed to bring the contamination identified by the complete site characterization per Section 7.3.C.1 to de minimis levels or eliminated to the extent necessary to meet the LSTF authority standards, with no active or passive remediation. There must not be any need for engineering controls, institutional controls, or monitoring wells.
2. All of the requirements of Section 7.3.C must be met.

3. Offsite Contamination, Groundwater Contamination and/or Vapor Intrusion Mitigation: A remediation plan that involves control of off-site contamination and/or vapor intrusion remediation is not permitted under this section but may be allowed under Section 7.3.E, “Remediation Plans – Incomplete Removal of Contamination,” below.

E. Remediation Plans – Incomplete Removal of Contamination:

1. Justification: If the costs are deemed to be exorbitant and/or the feasibility is deemed impractical for remediation of on-site contamination to de minimis levels, or if there is known or expected offsite contamination that poses a risk to the project site, the remediation plan may allow for incomplete removal, as described below. Justification for such incomplete removal must be submitted along with the remediation plan. Such justification must include documentation that shows that the costs of the incomplete removal of contamination, including any life cycle costs for Operation and Maintenance, and any applicable enforcement requirements of LSTF authorities, are sufficiently below the costs of complete contamination removal. The extent of the contamination must be fully understood, including possible exposure pathways, as part of a Risk-Based Correction Action (RBCA).
2. All of the requirements of Section 7.3.C must be met.
3. The corrective action must be a Risk Based Corrective Action (RBCA) based on the appropriate combination of:
 - a. The following ASTM Guides and Practices (or their most recent edition), as amended, as determined by the remediator’s environmental investigator: (For lead contaminated sites, refer to the listed EPA Handbook.)
 - i. E1689-95 (2014), “Standard Guide for Developing Conceptual Site Models for Contaminated Sites”
 - ii. E1739-95 (2015), “Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites”
 - iii. E1943-98 (2010), “Standard Guide for Remediation of Ground Water by Natural Attenuation at Petroleum Release Sites”
 - iv. E2081-00 (2015), “Standard Guide for Risk-Based Corrective Action”
 - v. E2091-11, “Standard Guide for Use of Activity and Use Limitations, Including Institutional and Engineering Controls”
 - vi. E2435-05 (2015), “Standard Guide for Application of Engineering Controls to Facilitate Use or Redevelopment of Chemical-Affected Properties”
 - vii. E 2616-09 (2014), “Standard Guide for Remedy Selection Integrating Risk-Based Corrective Action and Non-Risk Considerations”
 - viii. E2600-10, “Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions”
 - ix. For Lead Contaminated Sites. “EPA, Superfund Lead-Contaminated Residential Sites Handbook, 2003”

- b. LSTF regulatory procedures may be followed in lieu of the ASTM Guides and Practices listed above, when the remediator's environmental investigator determines their equivalence or greater stringency.
- 4. LSTF requirements: The RBCA must always meet the requirements instituted by any applicable LSTF regulatory authority.
- 5. The RBCA report(s) must:
 - a. meet all of the requirements for Section 7.3.C,
 - b. discuss how the remediation plan meets with the applicable ASTM Guides and Practices and LSTF regulatory procedures as listed/discussed in Section 7.3.E.3 and 7.3.E.4 above,
 - c. discuss how it meets or will meet all of the requirements of Section 7.3.E.6, and
 - d. discuss how it meets or will meet all of the requirements of Section 7.3.F through J.
- 6. Risk-Based Corrective Action (RBCA): The corrective action must be a RBCA supported by the applicable combination of:
 - a. Engineering and Institutional Controls (EC/IC).
 - i. An appropriate mix of engineering controls, such as capping and slurry walls, and institutional controls such as protective covenants and access restrictions are usually required for all RBCAs, and shall follow the guidance in ASTMs E2435-05 and E2091-05 (or most recent editions). The RBCA must indicate how it met these Guides.

LSTF regulatory provisions may be followed in lieu of these ASTM Guides, as amended, when the remediator's environmental professional determines their equivalence.

- ii. Operations and Maintenance Plan (O&M) Plan: Any time there is an EC/IC, there must also be an O&M plan which itself is an IC. The O&M plan must be approved by the LSTF authority, and must discuss any associated enforcement required by LSTF authorities. An O&M plan must be in place for management of all contamination remaining on the site and any controls thereof. If HUD determines that the Borrower does not have sufficient capacity to manage the O&M plan, the Borrower must contract with an appropriate servicer to do so. (See Section 7.4. for costing)
 - iii. Hard/Soft Cap Engineering Control: A hard cap EC, such as concrete, generally is required if any contamination will remain on the site after final closing. Unless the applicant can justify why a lesser depth to contamination would be protective of the health and safety of occupants, the depth of any remaining contamination should be greater than:

- the depth of the foundations of any existing or proposed structures including sumps,
- the depth of any existing or proposed utilities on site, and
- five feet below the surface.

In certain situations, HUD may allow for a soft cap (e.g. dirt) if other engineering controls such as an impenetrable geotextile fabric are included. Even if engineering controls are not required for such RBCAs, institutional controls (IC) are still required.

- iv. **Slurry Wall or Equivalent Engineering Control:** A slurry wall or equivalent type EC may be required to prevent offsite contamination from migrating onsite, or to prevent onsite contamination from migrating onsite or offsite. If the Phase I and/or Phase II ESA determines that the likely existence of off-site contamination presents a risk to the site, such a slurry wall or equivalent type EC will be required.
 - v. **Monitored Natural Attenuation and Enhanced Passive Remediation (MNA/EPR):** MNA/EPR such as by bio-augmentation where no additional active input is required and passive engineering controls such as a slurry wall may be allowed as part of the RBCA. In such cases the LSTF authority must issue a conditional No Further Action (NFA) Letter or similar approval. Monitoring wells pursuant to the above RBCAs and meeting the requirements of Section 7.3.F will be required to monitor the progress of the remediation. When MNA/EPR is part of the RBCA, the remediation may continue beyond initial endorsement provided that the LSTF authority has determined in writing that such undertakings would present no threat to health, safety or the environment.
 - vi. **Vapor Encroachment/Vapor Intrusion Mitigation:** If a VEC is present, a VEC is likely present, or a VEC cannot be ruled out, then mitigation as discussed in ASTM E2600-10, Section 7.2 (or similar section of the most recent edition) is required, unless a VIA performed pursuant to LSTF policy and/or procedure and in accordance with ASTM E2600-10, Appendix X7.1 (or similar section of the most recent edition) has determined that it is in compliance with such policy, or would be in compliance after instituting mitigation. When remediation goes directly from a Tier 1 screen or a Tier 2 screen, such controls shall, where feasible, consist of a poured-on vapor barrier to be used in conjunction with the active and passive venting systems.
 - vii. **Institutional Controls (IC) regarding groundwater contamination, if applicable, must be put in place.**
- b. **No Further Action Letter (NFA):** The LSTF authority must issue an NFA, or similar approval, except that a conditional NFA may be allowed pursuant to MNA/EPR (see Section 7.3.E.6.a.5 above). The NFA or conditional NFA must be issued pursuant to the time lines stated earlier in Section 7.3.C.8 and 9. Additionally, the LSTF authority must indicate that the remediation that

has taken place, or will take place, is protective of health, safety and the environment.

- c. Groundwater Requirement: A site that is/will be otherwise acceptable may be approved if contamination exists in the groundwater after completion of remediation, if:
 - i. Institutional controls (ICs) regarding the groundwater are/will be put in place, along with an O&M plan, approval by the LSTF authority, and any applicable enforcement requirements of LSTF authorities. The ICs must prohibit any and all uses of the groundwater; and
 - ii. The highest anticipated levels of groundwater based on high groundwater and/or 100 year flooding events, are below the levels of any construction or potentially anticipated utility work, unless it can be shown how such high groundwater levels will not modify the nature and distribution of contamination to such a degree that it could affect the health and safety of residents and workers; and
 - iii. Any vapors from groundwater and/or soils are shown not to present a significant risk pursuant to Tier 1 vapor encroachment assessment, Tier 2 vapor encroachment assessment, VIA, or mitigation.
- d. Safety of and Disclosure to Residents and Workers: Any time contamination above de minimis levels is allowed to remain on site after initial occupancy and final closing, all construction workers who might perform activities that could compromise the EC and/or IC, as well as facility staff, and building residents, etc. are to be informed of the general nature and distribution of contamination and the protective measures that have been taken.
- e. Hazardous Substance Quantification: If any RBCA plan identifies hazardous substances listed in 40 CFR 302.4 that will remain on the property after final closing, such plan shall determine the quantity of such hazardous substances and whether it exceeds the levels indicated at 40 CFR 373.2. (This is a requirement under CERCLA that would apply to HUD at any time that HUD might own the property or take over its management.)

F. Monitoring Wells, Flushing Wells, or Testing Wells:

- 1. General Requirements: The presence of a testing or monitoring well on the property does not bar the property from consideration for mortgage insurance. If a monitoring well is required or exists to confirm that contaminants have been removed to intended levels or to determine that an MNA/EPR is working properly, EC/IC will be required until such time as contaminants are reduced to de minimis levels and a Final NFA letter is issued by the LSTF Authority.
- 2. Monitoring Well Protocols: Monitoring protocols must be specified in the RBCA and monitoring must proceed to the point that indicates that contaminants have been removed to intended levels or that passive MNA/EPR is working properly.
- 3. Off-site Contamination – Acceptability: If a monitoring well is required or exists to determine if existing or assumed off-site contamination has migrated or might

migrate on-site, the site is generally not acceptable unless associated EC/IC are put in place pursuant to a RBCA or unless the LSTF authority provides a statement that such off-site-site contamination would not present a risk to the health of the project's occupants if it were to migrate on-site.

4. **Flushing Wells – Unacceptable:** In no case may final closing or initial occupancy take place when a flushing well is in operation or will be required.
 5. **Testing or Monitoring Wells Ordered by LSTF:** A testing or monitoring well may also be placed on the property by order of the LSTF. The well may test or monitor contamination on the site or from a neighboring site. If a monitoring well would be required or exists solely to monitor the general health of an aquifer used as a water supply or potential water supply, but not in relation to an existing or potential hazardous condition, it is not a bar to environmental approval. However, the Lender must notify HUD if there is any current or intended placement of a monitoring or testing well on the site.
 6. **Non-operating Wells:** Non-operating wells are not a barrier to environmental approval, but must be capped over and closed out by the appropriate LSTF authority.
- G. Off-site Contamination:** If the Phase I and/or Phase II ESA determines that the existence of off-site contamination presents a risk to the site or the residents of the project and the Borrower has no management control over the offsite locations of the contamination, the site is not acceptable unless such off-site contamination is subject to a RBCA meeting all of the requirements of Sections 7.3.C and E.
- H. Escrow:** An escrow account must be set up and held by the Lender for the maintenance of any monitoring wells and engineering controls, such as caps or slurry walls.
- I. Waivers:** If ORCF intends to waive any of the requirements in this Section 7.3 that are not regulatory in nature, the advice of the Housing Environmental Clearance Officer shall be obtained before the waiver is granted to ensure that such waiver is in compliance with the environmental requirements of 24 CFR 50.3(i).
- J. LSTF Approvals and Reviews:** Any approvals by an LSTF authority must be given directly by that authority and may not be given by a third party approved by that authority to act in lieu of the authority itself. Approvals by local authorities are only acceptable when such authority is acting under delegation from the State.
- K. Unacceptable Sites:** A site over a former solid waste landfill/dump and/or Superfund (National Priorities List (NPL)) site generally is not acceptable for development unless the hazardous substances, petroleum, and petroleum products are completely removed, the site is delisted, or for an NPL site only, the Federal Agency with management authority over the site gives approval of the site for residential usage.

HUD Responsibilities in Reviewing Cases Requiring Remediation

A. General Responsibilities

The Department assumes greater risk anytime that a Firm Commitment is issued on a contaminated site. The risk is even greater when a loan is closed on a site where complete removal of contamination is not possible, requiring monitoring possibly with continuous remediation techniques such as Monitored Natural Attenuation and Enhanced Passive Remediation (MNA/EPR). Therefore, HUD staff must exercise great care in the review process to assure that all reasonable measures are taken to mitigate HUD's exposure and that an accurate determination is made of any remediation costs that are included in the FHA-insured mortgage. Any special site assessment reports, Phase II or Phase III ESAs should be reviewed so that the extent of the contamination is fully understood. Although the Lender is responsible for assuring that environmental remediation contractors are qualified and experienced, HUD staff must still review references and qualifications, and are strongly encouraged to consult with an Environmental Officer.

B. Complete Removal of Site Contamination Valuation

1. The HUD staff preparing the environmental review in HEROS – Form 4128 is generally responsible for reviewing and documenting the adequacy of the proposed remediation plan.

Any estimates of value or rents should be made as if the project is unaffected by contamination and conditioned on successful removal. The appraisal must address any effect on marketability that may be present due to the prior environmental history.

If an environmental issue involves areas of special engineering expertise, environmental science, or State and local procedure, the HUD reviewer may request technical assistance from the Field Environmental Officer (FEO) assigned in that jurisdiction, and defer to their guidance and judgment in the matter. HUD reviewers may also request the attention of HUD Regional Environmental Officers (REO) or the Program Environmental Clearance Officers and/or Specialists when unusual or controversial issues arise.

2. Underwriting: The ORCF Underwriter is responsible for determining if the cost estimate of the remediation plan is reasonable and if the remediation and removal contractor is appropriately bonded and qualified. The ORCF Underwriter may consult with HUD Architectural/Engineering and Cost staff, and with local environmental remediation professionals about costs for similar work. Cost data for remediation is not as plentiful as with more routine construction tasks. "Environmental Remediation Estimating Methods" might be helpful in some cases and is available through RS Means (Please see ORCF Environmental Resource Page located on the Section 232 Program website).

The amount of escrow or bond shall be based on the estimated cost of the mitigation work from the contractor. The bond should be for 150% of the estimated cost, or in an escrow established for the same amount. Higher escrow or bonding requirements will be necessary if HUD staff determines that there is a greater than average risk that unforeseen problems may arise, resulting in increased cost. This determination should be based on previous experience with similar work and/or research through local environmental remediation contractors about their experience in containing the cost within their stated estimate.

3. Account Executive: The Account Executive shall administer the escrow, performance, and bond payment requirements. The cash requirements for the escrow or bond, and the Lender and Account Executive's procedures for administering the escrow, shall be in accordance with existing instructions in the Office of General Counsel's Closing Guide.

C. Incomplete Removal of Site Contamination:

1. All disciplines should follow the guidance in Section 7.4.B above regarding initial remediation costs.
2. A HUD Staff Appraiser must assure that the annual operating expenses concluded by the Contract Appraiser and the Lender includes the cost of any requirement for continuous monitoring and/or ongoing mitigation. It may be categorized as a maintenance expense, and would include fees charged by service providers who are engaged to perform monitoring. If an expense is for actual or anticipated replacement of a component such as a pump, it should be added to the Reserves for Replacement. The basis for the expense or additional replacement reserve will be obtained from a qualified engineer and/or contractor. The engineer/contractor's estimate should be sufficiently detailed and supported to allow review by HUD staff. Any effect on marketability, income or value related to the need for continuous monitoring/mitigation must be quantified and thoroughly discussed in the appraisal.

D. Management, Coordination and Communication:

The Department assumes greater risk in cases involving environmental mitigation that will occur after Initial Closing, especially when mortgage proceeds are used to fund the cost of remediation. Extra attention must be given to the need for frequent communication between technical disciplines, preferably with written documentation, relating to levels of contamination, cost estimates, and the certainty of the effectiveness of mitigation.

E. Insurance/Guarantee Requirements:

Borrowers are required to obtain separate insurance for environmental hazards from an insurer acceptable to HUD if remediation work will be done on the site during the insured loan period, if such coverage is available. The insurance typically covers liability and cost of completion.

The environmental remediation contractor will almost always be different from the project's general contractor. Aside from the contractor qualifications and bonding requirements addressed above, the remediation contractor must also provide HUD a separate guarantee of completion for their work.

7.5

Environmental Information for the Lender Narrative

In addition to the reports and submission requirements discussed above, ORCF requires the Lender to provide a Lender Narrative with environmental issues discussed, along with any available supporting documentation for the project in the application submission. Supporting documentation may be included in the Phase I ESA report or it may be submitted separately within the application to HUD.

The following important environmental issues must be discussed in the Lender Narrative when applicable:

1. Coastal Zone Management (24 CFR 50.4(c)(2))
2. Coastal Barrier Resources (24 CFR 50.4(c)(1))
3. Floodplain Management (24 CFR 50.4(b)(2))
4. Historic Preservation (24 CFR 50.4(a))
5. Noise Analysis (24 CFR Part 50.4(k))
6. Explosive/Flammable Hazards (24 CFR 50.4(k))
7. Airport Clear Zones (24 CFR 50.4(k))
8. Wetlands Protection (24 CFR 50.4(b)(3))
9. Toxic Chemicals and Radioactive Materials (24 CFR 50.3(i))
10. Other Applicable Federal Laws
 - a. Endangered Species (24 CFR 50.4(e))
 - b. Sole Source Aquifers (24 CFR 50.4(d))
 - c. Farmlands Protection (24 CFR 50.4(j))
 - d. Flood Insurance (24 CFR 50.4(b)(1))
 - e. Environmental Justice (24 CFR 50.4(l))
11. Additional Hazards and Nuisances (radon, pipelines, vibrations, fall hazards, etc.)

The existence of mold in a structure is not a topic that is covered during the environmental review. It is addressed in the Project Capital Needs Assessment (PCNA) as part of the building inspection. Lenders and ORCF underwriters will refer to the PCNA to determine if mold assessment and remediation is required.

The issues discussed below must be analyzed by HUD staff during their preparation of the environmental review in HEROS - Form HUD-4128 and provide guidance by which the Lender can assist HUD. These brief descriptions are not substitutes for the requirements in the statutes, regulations, Executive Orders, notices and handbooks.

- A. **Coastal Zone Management** (24 CFR 50.4(c)(2)): Projects located within a state’s coastal management zone must be found consistent with the approved state Coastal Zone Management program. In many states, HUD will require a letter from the State Coastal Zone Management Agency confirming consistency with the approved program. Lenders should be aware of the extent of coastal management zones in coastal states and contact HUD early when examining a proposal in a coastal zone.
- B. **Coastal Barriers** (24 CFR 50.4(c)(1)): Under the Coastal Barriers Resources Act cited in 24 CFR 50.4(c), HUD is prohibited from insuring a project located within designated coastal barriers of the Atlantic Ocean, Gulf of Mexico, or the Great Lakes, known as Coastal Barrier Resource System (CBRS) units, and shown on associated Fish and Wildlife Service maps. A project located within a CBRS unit, or that includes a facility (such as a water main) to a CBRS unit, will not be eligible for application processing.
- C. **Floodplain Management** (24 CFR 50.4(b)(2)):
1. Applications for Firm Commitment for mortgage insurance are subject to regulations regarding floodplain management found at 24 CFR Part 55 which implements Executive Order 11988 (Floodplain Management).
 2. All Section 232 projects are considered “critical actions” as defined in 24 CFR 55.2(b)(3).
 3. The Lender must utilize the Federal Emergency Management Agency’s best available data to comply with Floodplain Management requirements, which is the latest Advisory Base Flood Elevations (ABFEs), Preliminary Flood Insurance Rate Maps (P-FIRMs), or Flood Insurance Rate Maps (FIRMs). However, base flood elevations from an advisory or preliminary map may not be used if the elevations are lower than the elevations on the current FIRM used for ratemaking purposes. An online resource for finding the relevant FIRM and ABFE may be found on the ORCF Environmental Resource Page located on the Section 232 Program website. If any part of the site or integral offsite development is located within the 500-year floodplain (0.2% chance of annual flood) according to the best available data, the project must comply with HUD’s floodplain management regulations. Note: the 500-year floodplain includes the 100-year floodplain (1% chance or greater chance of flood in any given year, known as the Special Flood Hazard area). The project will need to comply with current standards in 24 CFR part 55 if they are more restrictive than this handbook. Visit the ORCF Environmental Resource Page for the latest guidance.
 4. Mortgage insurance shall not be approved for a property located in (a) a floodway, (b) a coastal high hazard area, or (c) a FEMA identified Special Flood Hazard Area (SFHA) in which the community has been suspended from or does not participate in the National Flood Insurance Program. The terms “coastal high hazard area”, “floodway”, and “functionally dependent use” are defined in 24 CFR 55.2.

- Exceptions: 24 CFR 55.12 lists categories of proposed actions to which the floodplain management requirements in 24 CFR 55 are not applicable. As such, the floodway and coastal high hazard area prohibitions do not apply to Section 232 projects if only an incidental portion of the project site is in the 100-year or 500-year floodplain, and the following conditions are met:
- a. All construction (including existing improvements) or landscaping activities (except for minor grubbing, clearing of debris, pruning, sodding, seeding, etc.) must not occupy or modify the relevant floodplain. Due to the constraint that activities must “not occupy or modify” the floodplain, the 100-year or 500-year floodplain cannot be utilized in the development or support of any project activity, except as passive open or green space. Open space is a portion of a development site that is permanently set aside for public or private use and will not be developed. Green space is considered to be undeveloped land or land restored to its natural state.
 - b. Appropriate provision is made for site drainage; and
 - c. In accordance with 24 CFR 55.12(c)(7)(iii), a protective covenant or comparable restriction must be placed on the property’s continued use to preserve the 100-year or 500-year floodplain. The covenant or comparable restriction must run with the land to provide for permanent preservation of the floodplain, and must not be dependent on the mortgage instrument.
5. If a stream coursing through a proposed site is designated as being in the 100-year floodplain according to FEMA’s best available data, but there is no designated floodway area (a so-called “regulatory floodway”), development will be prohibited in the channel of the stream.
6. HUD strongly discourages new construction projects in mapped 100-year floodplains. This flood buffer zone is extended to the 500-year floodplain for Section 232 projects. Section 232 project sites for new construction, and for rehabilitation activities not meeting the criteria at 24 CFR 55.12(a)(3), which are in the 100-year or 500-year floodplain according to the FEMA Flood Insurance Rate Map, Advisory Base Flood Elevation Map, Preliminary FIRM, or any of their official FEMA digitized equivalents, will not be considered for mortgage insurance unless one of the following steps is taken:
- a. A Conditional Letter of Map Amendment (CLOMA) or Conditional Letter of Map Revision (CLOMR) removing the entire site from the floodplain (100-year and 500-year) has been obtained from FEMA prior to the initial submission or, in the absence of an initial submission, prior to submission of the application for Firm Commitment. In cases where the applicant has a CLOMA or CLOMR, HUD approval for a Firm Commitment will be conditioned on the Borrower: (1) meeting the requirements of the CLOMA or CLOMR; (2) obtaining a Final Letter of Map Amendment (FLOMA) or Final Letter of MAP Revision (FLOMR) removing the entire site from the applicable floodplain prior to final endorsement; and (3) maintaining

- flood insurance on any building in the 100-year floodplain during the construction period until the FLOMA or FLOMR is issued; or
- b. If Section 7.5.C.6.a does not apply, HUD must determine if there may be extraordinary circumstances leading to the conclusion that there are no practicable alternatives to the project site being in the floodplain. In order to make this determination, HUD must conduct an 8-step decision-making process that includes publishing two public notices and taking comments, as summarized in 24 CFR 55.20. In such instances, prior to issuing the first public notice, HUD will need detailed information regarding how the property will be altered and the improvements designed. This information includes the elevation of the property, the elevation of the floodplain, and the location of life support systems.

Except in circumstances where it would not be practicable, in order to minimize adverse impacts, the 8-step process shall require as a condition of any project approval that a CLOMA or CLOMR be issued prior to initial closing, and a FLOMA or FLOMR be issued prior to final closing.

The 8-step process shall require that new construction in a floodplain be elevated to the 100-year floodplain according to FEMA's best available data. If higher elevations are required by locally adopted code or standards, those higher standards would apply. The 8-step process shall also require that any new construction in Coastal A zones must utilize Zone VE construction practices in accordance with the FEMA Coastal Construction Manual, as recommended by FEMA. Information on those construction practices can be found on the ORCF Environmental Resource Page.

The 8-step process shall be completed before issuance of the Firm Commitment. HUD must develop the two notices but the costs of publication will be borne by the Borrower. HUD approval for a Firm Commitment will be conditioned on the Borrower maintaining flood insurance on any building located in the 100-year floodplain until the issuance of the FLOMA or FLOMR.

7. As required by 24 CFR 55.20(e), all critical actions in the 100-year or 500-year floodplain shall be designed and built at or above the 100-year floodplain (in the case of new construction) according to FEMA's best available data or as otherwise required by current standards in 24 CFR part 55, and modified to include:
 - a. Preparation of and participation in an early warning system;
 - b. An emergency evacuation and relocation plan;
 - c. Identification of evacuation route(s) out of the 500-year floodplain; and
 - d. Identification marks of past or estimated flood levels on all structures.

8. Projects that are converting from a non-residential use to a residential use are considered the same as “new construction” for floodplain management purposes.
9. For Section 223(f) purchase or refinancing actions described in 24 CFR 55.12(a)(2), or repair, rehabilitation, modernization, weatherization or improvement actions described in 24 CFR 55.12(a)(3), an abbreviated decision-making process pursuant to 24 CFR 55.12(a) may be used by HUD to determine their acceptability. The Department will evaluate risks and mitigation measures in making its decision but it discourages these actions if either the lowest floor, or the life support facilities, or egress and ingress of the existing building, are below the 100-year floodplain line.
10. Where a site does not appear to be located in the floodplain on official FEMA maps, but shows evidence of flooding, HUD is not precluded from qualitatively evaluating the acceptability of the site. Lenders will be required to provide extensive data to aid HUD in evaluating floodplain sites.
11. At the time of the application for Firm Commitment, the Lender must submit a completed Standard Flood Hazard Determination Form ([FEMA Form 086-0-32](#)).
12. Any building accepted for mortgage insurance that is located within a FEMA mapped 100-year floodplain is required to carry flood insurance. General flood insurance requirements as well as required insurance coverage amounts are set forth in Production, Chapter 14.7.H. When the facility’s contents such as major movables are part of the mortgage security, the maximum available coverage amount consists of the total available for both the building and contents. Whenever flood insurance is required for a project, proof that the Borrower has a commitment for flood insurance effective as of the loan closing must be submitted with the mortgage insurance application.
13. All new and renewal leases must contain acknowledgements signed by the residents indicating that they have been advised that the property is in a floodplain and flood insurance is available for their personal property. This applies to all Section 232 properties within the 100-year and 500-year floodplains.
14. Section 232/223(a)(7) and FHA-insured Section 232/223(f) refinances: Pursuant to 24 CFR 50.19(b) (21), refinances of currently FHA-insured mortgages are exempt from the 8-step decision making process when the refinance will not result in any physical impacts or changes except for routine maintenance. Guidance for clarifying the difference between routine maintenance and repair is available on the on the ORCF Environmental Resource Page. All other requirements discussed in this section are being extended by HUD to such §50.19 Categorical Exclusions. In particular, the

following are required for all Section 232 applications when the project is located in a 100-year or 500-year floodplain:

- a. Preparation of and participation in an early warning system;
- b. An emergency evacuation and relocation plan;
- c. Identification of evacuation route(s) out of the 500-year floodplain; and
- d. Identification marks of past or estimated flood levels on all structures.

15. In considering the safety of residents, offsite floodways and other flood hazards will be evaluated in terms of separation distance, elevation differences, and the nature of the hazard in question. Unacceptable proximity to hazards may result in rejection of the application. Pre-submission guidance can be requested through

LEANThinking@hud.gov.

D. Flood Insurance: In accordance with 24 CFR 50.4(b)(1), and as described in Section 7.5.C.12 above, flood insurance is required when any portion of a structure is located in a 100-year floodplain.

E. Historic Preservation (24 CFR 50.4(a)):

HUD must follow the procedures implementing the National Historic Preservation Act (54 U.S.C. § 300101 et seq.) with regulations found at 36 CFR Part 800. Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. All applications for Firm Commitment for HUD mortgage insurance, whether new construction, rehabilitation, refinancing or conversion from non-residential to residential property, except those categorically excluded under 24 CFR 50.19(b) (21), are considered “federal undertakings” that require HUD to make a determination of no historic properties affected, no adverse effect, or adverse effect upon historic properties. A historic property means any prehistoric or historic district, site, building, structure, object, or traditional cultural property or landscape included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior.

1. **Defining the Area of Potential Effects (APE):** HUD must consider the Area of Potential Effects (APE). Establishing a project’s APE is part of a ‘reasonable and good faith effort’ to identify historic properties that may be affected by the project. The APE defines where to look for historic properties, based on where direct and indirect impacts of the project are anticipated. Sometimes the APE is simply the project parcel, and other times, it is a larger area, neighborhood, or historic district. The APE should be based on project activities, without regard to whether there actually are historic properties in the area. Identification of historic properties in the APE comes later. Establishing the APE requires consideration of the effects a project might have on and beyond its site. The effects of an interior rehabilitation project will likely be limited to the building footprint itself. The APE for a simple exterior rehabilitation would likely be the property parcel, including the building and its immediate setting. Substantial earthmoving on a site may indicate the need for a vertical dimension to the APE. Direct effects may also occur outside a project site. A

new construction project might have new roads and utility lines leading to the site and they might be included within the APE. In major infrastructure projects that require large amounts of fill, the source of the fill (“borrow area”) may be included in the APE. Determination of the APE also needs to take into account possible indirect effects that might negatively alter the character or use of adjacent properties. For example, the review should consider whether the project will significantly increase traffic or change traffic patterns in the vicinity of the project, whether the project will introduce excessive light or noise in the area, and whether the project will have visual ramifications on the surrounding area through its relatively massive scale or height. If potential effects extend beyond the project site, the Section 106 documentation should delineate the larger APE on a map.

2. After the APE is defined, and historic properties within it are identified, the potential impacts to those historic properties may be evaluated. Because of the technical nature of historic property identification, evaluation and treatment, it may be appropriate to retain a qualified historic preservation professional to prepare the findings. Such consultant should meet the Secretary of the Interior’s Professional Qualifications (36 CFR Part 61) and have experience in Section 106 reviews.
3. The Section 106 review must be completed before HUD approves and/or commits funds to a project.
4. All Section 232 new construction and substantial rehabilitation projects, and all non-excepted Section 232/223(f), 223(a)(7) and 241(a) applications require consultation with the State Historic Preservation Officer (SHPO) and with any applicable Tribal Historic Preservation Officer (THPO) and affected tribes.

Exceptions:

- a. Projects that will not involve new construction or rehabilitation, nor result in any physical impacts or changes except for routine maintenance, have “no potential to cause effects” to historic properties, as described in 36 CFR 800.3(a)(1), and therefore HUD has no further obligations under Section 106 of the NHPA or 36 CFR Part 800. For such transactions there is no obligation to contact the SHPO or THPO/affected tribes, and HUD staff’s historic preservation responsibilities are limited to documenting this determination in HEROS-Form HUD 4128). Guidance for clarifying the difference between routine maintenance (Please reference HUD Notice CPD-16-02 “Guidance for Categorizing an Activity as Maintenance for Compliance with HUD Environmental Regulations, 24 CFR Parts 50 and 58” or succeeding guidance. Note that this definition of maintenance is specifically for environmental review purposes and applies to all HUD programs.) and a repair is available on the ORCF Environmental Resource Page.
- b. Some states may have a Programmatic Agreement (PA) with HUD and the proposal may be part of a class of actions that do not require Section 106 consultation under the MOA or PA.

5. To assist HUD in making its historic preservation determination, the Borrower or Lender may submit a letter to the appropriate State Historic Preservation Officer (SHPO). Doing so may greatly expedite the Section 106 consultation process. The letter must consist of a narrative explaining the proposal, and should follow the procedures outlined by the individual state. The letter also should include a map identifying the site location, the APE, and an opinion as to whether the proposal would have any effect on historic properties. The letter to the SHPO, and the SHPO response, if any, must be included in the application submission. Lenders may obtain from HUD a sample letter as well as the name and address of the SHPO who has the right to comment on the proposal. If a response from the SHPO is not received within 30 days, the lender must alert HUD of this fact in their application. Some SHPOS will only respond to federal agencies. Note: HUD, not the Lender, is responsible for contacting the THPO and any affected tribes. The information contained in the letter that was submitted to the SHPO as described above will assist HUD in carrying out its tribal and THPO consultations.
6. The request from the Borrower or Lender to the SHPO should be made as early as possible in the application process. The response from the SHPO need not be received by HUD prior to the application submission, but must be received by HUD before a Firm Commitment is issued. Additional guidance on historic consultation is available on the ORCF Environmental Resource Page.
7. The SHPO/THPO is allowed 30 days from the receipt of sufficient information to reply to requests for consultation. If there is no reply within that time, and if there is no reason to anticipate an objection to the proposal, HUD may make a determination of no effect, and a Firm Commitment may be issued. Where an undertaking (such as HUD mortgage insurance) affects a historic property or historic district, the result of the consultation may be design change, research and preservation, salvage, or in rare cases, rejection of the application for Firm Commitment. Consultation for these procedures may take considerable time before a Firm Commitment can be issued. Note that a review of published historic listings does not provide a conclusive determination of a property's historic significance. The Section 106 review gives equal consideration to properties that have already been included on the National Register as well as those that have not been so included, but that meet the National Register criteria. A project whose historic significance is not initially apparent may still affect a historic property. While age and integrity are considerations for historic listing eligibility, additional criteria include significance in American history, architecture, archeology, engineering, and culture, which can apply to more modern properties. Therefore, SHPO consultation is required for all transactions other than the exceptions listed at Section 7.5.D.3.a above.
8. Tribal Consultation:
 - a. When Section 106 consultation is required, consultation with federally recognized Indian tribes and Native Hawaiian Organizations may be required as part of the Section 106 process. Not all projects that require Section 106

review require consultation with Indian tribes. Consultation with federally-recognized tribes is only required when a project includes activities that have the potential to affect historic properties of religious and cultural significance to tribes. These types of activities include:

- i. ground disturbance (digging),
- ii. new construction in undeveloped natural areas,
- iii. introduction of incongruent visual, audible, or atmospheric changes,
- iv. work on a building or structure with significant tribal association, or
- v. transfer, lease or sale of historic properties of religious and cultural significance.

Further guidance may be found in HUD's Notice on Tribal Consultation can be found on the ORCF Environmental Resource Page.

- b. When tribal consultation is required, the HUD reviewer will utilize the HUD Tribal Directory Assessment Tool (TDAT) (see the ORCF Environmental Resource Page) during the environmental review process to determine if the site is located in an area of tribal significance. The tribal consultation requirement applies to properties off tribal lands as well as on tribal lands. Properties with religious and cultural significance to native people may include ancestral archaeological sites and natural areas where traditional practices or ceremonies have been carried out as well as more familiar historic properties. Some traditionally used places have very strong religious associations, and it may be difficult or even inappropriate for native people to talk about their significance. If this situation arises, hiring a qualified professional with experience in tribal consultation may be required. The cost of such an interpreter shall be paid by the Borrower.
- c. Pursuant to the "anticipatory demolition" requirements of Section 110(k) of the National Historic Preservation Act (54 U.S.C. 306113), even before the concept meeting or application submission takes place, any action by a potential lender or borrower, or any action by another party that the lender or borrower has the legal power to prevent, that is taken with the intent to circumvent Section 106 review and that significantly adversely affects a historic property, could result in rejection of an application.
- d. The Section 106 review must be completed before HUD approves and/or commits funds to a project. Additional guidance on historic consultation is available on the ORCF Environmental Resource Page.

F. Noise (24 CFR 50.4(k)):

1. New Construction/Conversion Projects: HUD standards regarding the acceptability of noise impacts on residential property are found at 24 CFR Part 51, Subpart B., which standards must be met for new construction and conversion from nonresidential to residential projects. Where a project is within the criteria on distance

from noise generators, a noise analysis utilizing the methodology in the most current version of HUD's Noise Guidebook will be performed as part of HUD's environmental assessment. HUD's automated Day/Night Noise Level electronic assessment tool is available on the ORCR Environmental Resource Page.

- a. Standards: The degree of acceptability of the noise environment at a site is determined by the sound levels external to buildings or other facilities containing noise sensitive uses. The standards shall usually apply at a location 2 meters (6.5 feet) from the building housing noise sensitive activities, in the direction of the predominant noise source. Where the building location is undetermined, the standards shall apply 2 meters (6.5 feet) from the building setback line nearest to the predominant noise source. The standards shall also apply at other locations where it is determined that quiet outdoor space is required in an area ancillary to the principal use on the site.
 - i. Sites with a day-night average exterior noise level of 65 DNL (Day Night Level) and below are acceptable.
 - ii. HUD assistance for the construction of new noise sensitive uses is discouraged for projects with normally unacceptable noise exposure (above 65 DNL but not exceeding 75 DNL) and is prohibited generally for projects with unacceptable noise exposures above 75 DNL.
 - iii. New construction or conversions of existing structures to residential housing in the Unacceptable Noise Zone, where outdoor noise levels are above 75 dB, are generally prohibited. If the Regional Office wants to consider such a proposal, it must:
 1. Prepare an Environmental Impact Statement (EIS). If ORCF believes that the proposal is acceptable based on the EIS, it must then obtain project approval, including approval of noise mitigation measures, from the Assistant Secretary for Community Planning and Development but must also obtain project approval, including approval of noise mitigation measures, from the Assistant Secretary.
 2. If ORCF determines that noise is the only environmental issue and no outdoor noise sensitive activity that is not mitigated to below HUD's 65-decibel standard will take place on the site, it may request a waiver of the EIS Requirement by the Assistant Secretary for Community Planning and Development but must also obtain project approval, including approval of noise mitigation measures, from the Assistant Secretary.
- b. Projections of Noise Exposure: In addition to assessing existing exposure, future conditions should be projected. To the extent possible, noise exposure shall be projected to be representative of conditions that

are expected to exist at a time at least 10 years beyond the project application date.

- c. HUD should be consulted prior to designing mitigation measures.
2. Existing and Rehabilitation Projects: For rehabilitation and refinancing, noise exposure will be considered as a marketability factor. For rehabilitation projects, HUD will encourage appropriate noise attenuation measures for inclusion in the alterations.
 3. Railroad Vibration, Noise, and Location:
 - a. Buildings closer than 100 feet to a railroad track are often subject to excessive vibration transmitted through the ground. New construction at such sites is discouraged. For existing properties, the structure should be examined for damage caused by vibrations. A railroad vibration study may be required.
 - b. For new construction applications, a noise study for the railroad should be projected out 10 years to cover increased usage of the railway tracks.
 - c. A rail line may not bisect a property, nor should a rail line's right-of-way generally encroach upon the site. Whenever rail lines are less than 100 feet from a facility, approval should be obtained prior to the application submission.
 - d. Railyards (areas of multiple track sections used for assembling and disassembling trains) have been determined to create loud, impulsive sounds. Projects adjacent or with a direct line-of-sight to railyards must add 8 decibels to the noise exposure.

G. Explosive/Flammable Hazards (24 CFR 50.4(k)): HUD will not insure a property where structures and residents will be exposed to unacceptable risks posed by proximity to explosive or flammable hazards.

1. For new construction projects, rehabilitation projects where residential density is increased, projects where there is a conversion from non-residential to residential use, or projects where a vacant building is made habitable:
 - a. Aboveground storage facilities with explosive or flammable material contents must comply with the Acceptable Separation Distance (ASD) standards at 24 CFR Part 51 Subpart C. Analysis of sites near or in the vicinity of these types of facilities must be performed by HUD as part of the NEPA environmental assessment in accordance with the HUD guidebook: "Siting of HUD-Assisted Projects Near Hazardous Facilities (Form HUD-1060-CPD)".
 - b. If a plan is agreed upon with HUD before the issuance of a Firm Commitment, these hazards may be mitigated during the construction period, if the work can be done on the subject property. In cases where off-site mitigation is required, the remediation must be completed prior to initial closing.

2. A useful tool for calculating ASDs can be found on the ORCF Environmental Resource Page.
3. If a barrier will be constructed as hazard mitigation, HUD's Barrier Design Guidance (Guidebook 6600.G) for flammable/explosive hazards mitigation is available on the ORCF Environmental Resource Page.

As stated in the guidebook, only a licensed professional engineer (civil or structural) should design and oversee the construction of mitigation barriers.

4. For existing projects to be refinanced or purchased that do not involve an increase in residential density, HUD will substantively evaluate the risks associated with proximity to hazardous facilities. HUD reviews of existing projects will consider the potential danger presented by existing and proposed liquid fuel and gas storage tanks, and may require mitigation.
 - a. Whenever aboveground tanks (ASTs) exist on site, whether containing liquid fuel (over 100 gallons in size), or containing pressurized gas (stationary tanks of any size), a conformance letter from the governing Fire Department/District is required. The letter must specifically address the safety of the AST(s).
 - b. In cases where safety letters cannot be obtained for existing ASTs, where new ASTs are being added, or where off-site tanks are in close proximity to the existing subject building, an acceptable separation distance (ASD) calculation must be included in the application, and mitigation may be required.

H. Runway Clear Zone, Runway Protection Zones, Clear Zone, or Accident Potential Zone (24 CFR 50.4(k)):

1. HUD standards regarding the acceptability of property located in Runway Clear Zones (also known as Runway Protection Zones), Clear Zones, and Accident Potential Zones are found at 24 CFR Part 51 Subpart D. An Accident Potential Zone is an area at a military airfield that is beyond the Clear Zone.
2. Construction or major rehabilitation of any property located within a Clear Zone is prohibited. Acquisition, refinance, and minor rehabilitation which do not extend the physical or economic life of projects within Clear Zones are allowed. HUD must determine that projects located in Accident Potential Zones are generally consistent with Department of Defense land use compatibility guidelines for Accident Potential Zones.
3. In acquisition transactions, HUD, as part of its environmental review for an existing property, shall advise the Lender, who will inform the Borrower purchasing the property, that the property is in a Runway Protection Zone or Clear Zone. Furthermore, it shall be explained that the implications of such a location are an increased likelihood of airplane crashes on the property and the possibility that the airport operator will acquire the parcel. The buyer must sign a statement

acknowledging receipt of this information. HUD may reject applications for mortgage insurance on an existing property within a Runway Protection Zone or Clear Zone because of the possibility that the property may be acquired at a later date by the airport operator.

I. Wetlands Protection (24 CFR 50.4(b)(3)):

1. Applications for mortgage insurance for new construction as defined in Executive Order 11990 (Protection of Wetlands) are subject to regulations regarding wetlands in 24 CFR Part 55 that implement EO 11990. EO 11990 prohibits the development or disturbance of wetlands unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to the wetland. Proposals impacting wetlands must be reviewed by HUD under the 8 step process in Part 55 to determine consistency with requirements of EO 11990.
2. The process for identifying wetlands is set out in Part 55. As primary screening, HUD will verify whether the project area is located in proximity to wetlands identified on the National Wetlands Inventory maintained by the U.S. Fish and Wildlife Service (FWS); if so, HUD will attempt to consult with FWS. Construction projects that will result in new construction as defined in EO 11990 in a wetland will be considered only after HUD conducts an eight-step decision-making process, which is the same as the decision making process used for floodplains and includes consultation, issuing two public notices and taking public comment. However, the first five steps are not required if the project involves new construction outside the 100-year floodplain or 500-year floodplain and the applicant has submitted with its application to HUD an individual Section 404 permit (including approval conditions) issued by the U.S. Army Corps of Engineers, or by a State or Tribal government under Section 404(h) of the Clean Water Act, and all wetlands adversely affected by the project are covered by the permit. Wetlands under local or state jurisdiction are subject to state or local review as appropriate. However, compliance with state or local requirements is not a substitute for the eight-step process.
3. The Lender must provide extensive data to aid HUD in evaluating wetland impacts. The Lender should consult early with HUD when a site could potentially impact a wetlands area.
4. Only in rare cases will rehabilitation, purchase, and refinancing proposals be permitted to involve wetlands impacts.
5. When on-site wetlands exist, HUD will require assurance from the Borrower that no activities that may impact a wetland will be undertaken without prior approval from HUD.

J. Other Applicable Federal Laws (24 CFR 50.4):

1. Endangered Species: Under Section 7 of the Endangered Species Act, HUD must consult with the U.S. Fish and Wildlife Service (FWS) and/or, the National Marine

Fisheries Service (NMFS), whenever a proposal may affect an endangered or threatened species or its habitat. A required consultation should be completed for any site within the critical habitat of a listed species, but consultation may also be required even if no critical habitat is. In areas where impacts on endangered or threatened species are a concern, all appropriate information and the results of research regarding possible impacts of the project should be included in the application submission. Lenders should not contact FWS or NMFS directly. Consultation under Section 7 may result in more stringent conservation measures than would otherwise be imposed.

2. **Sole Source Aquifers:** An aquifer is an underground body of water usually kept in place by rock, gravel, or sand. New construction and some rehabilitation projects located within the boundaries of the recharge area of a designated sole source aquifer must be reviewed by EPA for their potential to contaminate the sole source aquifer.
3. **Farmlands Protection:** If the site of a proposed new construction project has not been previously developed, the project must conform to the Farmland Protection Policy Act. The environmental review must determine if the proposed HUD assisted project site is located in an area committed to urban uses and if not, whether it includes Important Farmland as identified by the Natural Resources and Conservation Service (NRCS), Department of Agriculture. If the proposed project site includes Important Farmland, the environmental review must include an evaluation of the land using form AD 1006, "Farmland Conversion Impact Rating." This requirement applies only to new construction activities and the acquisition of undeveloped land.
4. **Environmental Justice:** HUD will also determine whether or not Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," is applicable to the project. This EO requires that federal actions not result in disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. When a project impacts a minority or low-income population, or when siting of a project raises questions of discrimination, HUD will perform the necessary analysis before determining acceptability of the project. Whenever possible, the Environmental Justice review should reflect input from affected minority and low-income communities. For more information, see HUD's website at: <https://www.hudexchange.info/environmental-review/environmental-justice>.

HUD will advise the Lender of any Environmental Justice concerns including recommendations for their resolution. In most cases the preferred resolution would be to modify the project to eliminate or at least reduce the adverse effects, when feasible.

5. Applications for Firm Commitment for mortgage insurance are also subject to provisions of other Federal authorities, including the Wild and Scenic Rivers Act, and regulations implementing the Clean Air Act. There are state regulations implementing air quality requirements. HUD may require mitigation of a variety of nuisances and

hazards on the property that would affect the health and safety of residents and the security of the collateral.

K. Commonly Found or Observed Additional Nuisances and Hazards:

The following requirements apply to existing projects as well as to new construction and substantial rehabilitation activities.

1. All parts of any structure must be at least 10 feet from the outer boundary of the easement for any high pressure gas or liquid petroleum transportation pipeline.
2. No structure shall be located within the easement of any overhead high voltage transmission line. In addition, all structures shall be located outside the engineered fall distance of any support structure for high voltage transmission lines, radio antennae, satellite towers, cellular towers, etc. This does not apply to local service electric lines and poles. This policy does not apply to water towers.
3. Compliance with HUD requirements regarding operating and/or abandoned oil or gas wells, sour gas wells, and slush pits is recorded.
 - a. Operating or planned drilling site: No residential structures may be within 300 feet from the boundary of the drilling site.
 - b. Operating well: No residential structures may be within 75 feet of an operating well unless the following mitigating measures are taken:
 - i. Maintenance of nuisance controls,
 - ii. Controls of noise levels caused by pumping,
 - iii. Restrictions on hours of operation,
 - iv. Limits on supporting truck traffic, and
 - v. Spill controls to reduce risk of contamination.
 - c. Abandoned well
 - i. Confirmation by the State government that the well is safely and permanently abandoned and that no residential structures are within 10 feet must be obtained.
 - ii. If there is no confirmation letter, no residential structures may be within 300 feet of an abandoned well.
 - d. Sour gas (hydrogen sulfide bi-product) wells: Separation distance must be determined by a petroleum engineer, with concurrence by State government.
 - e. Slush pits (used for drilling mud mixes for well lubrication):
 - i. If on-site, hazards analysis is required to be performed pursuant to Section 7.3 above. Mitigation must include, but not necessarily be limited to, removal of all drilling mud from the site and backfilling with clean compacted material.
 - ii. If offsite, an analysis must be performed pursuant to Section 7.3 regarding offsite hazards.
4. If any part of a site appears to be developed on filled ground, HUD may require that all grading be properly controlled to prevent differential earth movement, sliding,

erosion, and/or other occurrences which might damage dwellings, streets or other improvements. Soil boring samples from filled areas must be submitted, as well as any other documentation regarding soil fill composition and compaction, to satisfy HUD as to its stability in place, re-grading or re-use.

5. If an existing property has a legal non-conforming use/structure, and the current zoning regulations will not allow the property to be rebuilt to the current density, then the owners are required to purchase Ordinance and Law insurance coverage with their property insurance; see Production, Chapter 14.5.B.
6. HUD may adopt additional requirements to address unique local concerns in specific geographic areas, but if any local requirement is mandated, ORCF must inform the HUD Headquarters Housing Environmental Clearance Officer of the requirement.

7.6

Lead Based Paint

- A. Lead-based paint (LBP) may be present in buildings built prior to 1978. During any proposed repair work, the removal and disposal of the LBP must be performed in accordance with regulations as published and enforced by the State and the Department of Labor - Occupational Safety and Health Administration (OSHA). If required, appropriate lead paint remediation can be a required Firm Commitment condition on the HEROS Form HUD-4128. LSTF lead based paint requirements must be complied with.
- B. HUD's lead-based paint requirements at 24 CFR Part 35 are applicable to housing built before 1978, but do not apply to housing designated exclusively for the elderly or persons with disabilities, unless a child of less than 6 years of age resides or is expected to reside in such housing. In addition, the requirements do not apply to 0-bedroom dwelling units. With the exception of Section 7.6.A, the requirements are not applicable to rehabilitation, refinancing or purchase of health care facilities under Section 232.

7.7

Asbestos

- A. While many uses of asbestos are technically allowed today, several uses of asbestos were banned starting in the early 1970s, and many commercial enterprises have stopped installing asbestos products as of the late 1970s. Some of the more common examples of asbestos-containing materials include insulation, sprayed-on finishes, ceilings, vinyl floor tile and the adhesive to fix the tile in place, siding, and roofing. For any proposed project site containing structures built before 1978, asbestos should be discussed in the Lender Narrative, and an asbestos survey per 7.7.B. or C. is required.

- B. For any structures on the site built before 1978 that are to be demolished, a comprehensive building asbestos survey by a qualified asbestos inspector is required. It must be based on a thorough inspection to identify the location and condition of asbestos throughout any structures and performed pursuant to the “**pre-construction survey**” requirements of ASTM E2356-10 “Standard Practice for Comprehensive Building Asbestos Surveys” (or the most recent edition). The survey must be completed prior to HUD issuance of a Firm Commitment.
- C. Other than for structures to be demolished per 7.7.B, a qualified asbestos inspector must perform a comprehensive building asbestos survey on any building that was in whole or part constructed prior to 1978, based on a thorough inspection, to identify the location and condition of any asbestos throughout any structures pursuant to the “**baseline survey**” requirements of ASTM E2356-10 (or the most recent edition). The survey must be completed prior to HUD issuance of a Firm Commitment. In those cases where suspect asbestos is found, it should either be assumed to be asbestos or confirmatory testing should be required. If the asbestos survey indicates the presence of asbestos or the presence of asbestos is assumed, and if the application for Firm Commitment is approved, HUD will condition the approval on an appropriate mix of asbestos abatement and an asbestos operations and maintenance plan (O&M plan). O&M programs which establish management protocols for asbestos containing materials should be accompanied with evidence of hazard awareness training for maintenance staff. Training is to include Local, State and Federal regulations, as applicable.
- D. If Asbestos Containing Materials (ACMs) or suspect ACMs are identified at a facility, HUD requires that a response action be appropriate to address the hazard. Response actions may include complete removal, limited removal/repair, encapsulation, enclosure or management under an O&M Program, as recommended by an accredited professional. The following are examples for when certain response actions may be appropriate.

Removal

- Damaged friable materials
- Friable materials in good condition with high potential for disturbance (e.g., accessible pipe or tank insulation, ceiling tiles where air exchanges occur in plenum above, ceiling tiles that are required to be moved to access mechanical equipment or piping on a routine basis, etc.)

Limited removal/repair, encapsulation or enclosure

- Damaged non-friable materials (limited removal/repair)
- Limited damage to ceiling texture (limited removal/repair)
- More extensive wall and/or ceiling texture damage or highly friable texture
- Pipe insulation with limited damage but with limited potential for disturbance/impact (enclosure or removal)

O&M

- Non-friable materials in good condition
- Joint compound or wall and ceiling textures in good condition
- Adhesive ceiling tiles with no real potential for disturbance

- Friable pipe insulation materials in mechanical areas in good condition with limited potential for disturbance/impact by routine maintenance activities.

- E. Other than for asbestos abatement on a structure that will be completely demolished, the cost of any asbestos abatement activities may be included in the proposed mortgage loan, with HUD approval. If required, appropriate asbestos remediation can be indicated as a required Firm Commitment condition if HUD approves.
- F. All asbestos abatement shall be done in accordance with EPA requirements for air pollution prevention pursuant to 40 CFR subpart M, especially 40 CFR 61.145, and with OSHA requirements for Worker Protection, pursuant to 29 CFR 1926.1101. Any LSTF asbestos abatement and worker protection rules also apply. All asbestos abatement must be performed by a qualified asbestos abatement contractor.

7.8

Radon

A. Background. One common constituent of soil and rock is the unstable element uranium. One of the decay products of uranium is radon, a colorless, odorless gas. Under certain natural conditions, the radon gas can enter surface soils and become part of the “soil gas” environment, which then can enter the air, including air inside of buildings. When soil gas that contains radon enters a building, radon and its decay products are either directly inhaled, or attached to dust on walls, floors and in the air, which then can be inhaled. These decay products then undergo further decay, resulting in the release of subatomic alpha particles. This alpha particle radiation can cause mutations in lung tissue which can lead to lung cancer. The risk of contracting lung cancer from radon increases with an increase in the concentration of radon in the air that is breathed by building occupants. EPA recommends mitigation for residences with radon concentrations at or above 4 picocuries per liter of air (pCi/L). Please see EPA Radon Map on the Environmental Resource Page located on the Section 232 Program website.

B. General Requirements

1. Radon Report.

- a. The radon report is required for all mortgage insurance applications, unless an exception listed in Section 7.8.B.3 applies.
- b. The radon report shall be included in the application, as applicable. For New Constuction, please see Production, Chapter 7.8.E.
- c. Contents. The radon report shall include the results of any testing performed, the details of any recommended mitigation, and the timing of any such mitigation. An amended radon report must be issued if the testing and/or mitigation must occur after application submittal according to the requirements below. The radon report must be signed and certified as to its compliance with the requirements of this section by a Radon Professional.

2. Radon Professional.
 - a. All testing and mitigation must be performed under the direct supervision of a Radon Professional, in accordance with the protocols referenced in this section.
 - b. Radon Certification/License of the Radon Professional is required as follows:
 - i. Certification from either the American Association of Radon Scientists and Technologists (AARST) National Radon Proficiency Program (NRPP) or the National Radon Safety Board (NRSB); and
 - ii. Certification/License from the state in which the testing or mitigation work is being conducted, if the state has this requirement.
3. Exceptions to Radon Report.
 - a. A Radon Professional may conclude that neither testing nor mitigation is necessary based on a physical inspection of the property, the characteristics of the buildings, and other valid justifications. An example of a valid justification is having only a garage on the surface level that is open to the air and is fully ventilated. Any such justifications as to why neither testing nor mitigation is necessary must be provided by the Radon Professional (signed letter) and documented in the Environmental Report. Any waiver requests submitted for this section (7.8.) must be made in accordance with this exception. Requests for waiver of this section 7.8 that do not meet the requirements of this exception will not be granted.
 - b. A radon report is not required for applications that are categorically excluded under 24 CFR 50.19(b) (21) (see 7.1.A.5, above).
 - c. Applicants are encouraged to test for radon even if a radon report is not required per the exceptions above. Any such testing must follow the testing protocols and resident notification protocols below, and must then be incorporated within a radon report as described within this section. If the results of such testing indicate levels of radon above the threshold for unacceptability, mitigation as described in this section is required, with the mitigation requirements for Section 223(a)(7) projects the same as those for 223(f) projects.
4. Testing Protocols.
 - a. Radon testing must follow the protocols set by the American Association of Radon Scientists and Technologists, Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings (ANSI-AARST MALB-2014, or most recent edition) (Please see ORCF Environmental Resource Page located on the Section 232 Program website). Applicant has the option to test 25% of ground level units/rooms in each building (sampling). If any of the sampled units/rooms is tested above the 4.0 picocuries per liter (4.0 pCi/L), then they have two options:
 - i. Mitigation in 100% ground level units/rooms or
 - ii. Test 100% ground level units/rooms. If during 100% ground level test, any units/rooms test above 4.0 pCi/L level, then follow the requirements of the standard above.

- b. Threshold for unacceptability: 4.0 picocuries per liter (4.0 pCi/L) based on initial and any confirmatory testing, if performed.
5. Occupant Notification.
 - a. Testing. Occupants of all new applications for OHP mortgage insurance programs shall be informed of forthcoming testing in the manner described in AARST MALB-2014.
 - b. Mitigation. Occupants shall be informed both prior to and after mitigation activities. In the case of new construction, incoming occupants shall be informed of radon mitigation activities.
6. Mitigation Standards. Radon resistant construction is required for all new construction, and radon mitigation is required for existing construction where testing has revealed that radon levels exceed the threshold for unacceptability. The Radon Professional must assure that radon resistant construction or radon mitigation, when required, conforms to the following standards.
 - a. Existing buildings:
ANSI-AARST RMS-LB 2014, Radon Mitigation Standards for Schools and Large Buildings (Please see the ORCF Environmental Resource Page located on the Section 232 Program website).
 - b. New construction: Radon Prevention in the Design and Construction of Schools and Other Large Buildings EPA 625-R-92-016, June 1994 (Please see the ORCF Environmental Resource Page located on the Section 232 Program website).
7. Mitigation Timing. For new construction and substantial rehabilitation properties, all mitigation, including follow-up testing, must be completed prior to Final Closing. Radon mitigation included as part of a Section 223(f) or 223(a)(7) project's repairs must be completed as quickly as practicable, and in any event, no later than 12 months after Closing.
8. Certificate of completion. A certificate of completion from the Radon Professional must be submitted and appended to the radon report once radon testing and/or mitigation is completed.
9. HUD requires an operation and maintenance (O+M) plan for any mitigation project that is active. A condition shall be attached to the Firm Commitment requiring that the borrower operate and maintain the property consistent with the referenced O+M plan(s) for the duration of the insured mortgage. Given the ongoing risk associated with radon, an O+M requirement for maintaining active mitigation systems should be implemented when an active mitigation system is present on the property.
10. Cost estimate. Use detailed plans and specifications supplied by the lender's architectural analyst as a basis for the cost estimate. Estimates must reflect the general level of construction costs in the locality where construction takes place. Costs must be projected to the estimated construction start date.

C. Section 223(f) and Non-Excepted Section 223(a)(7).

1. All Section 223(f) and non-excepted 223(a)(7) projects must be tested for radon in accordance with 7.8.B.4, above. Testing must be performed no earlier than 1 year prior to application submission.
2. Mitigation. See requirements at 7.8.B.6. If estimated costs exceed the allowable cost for the Section 223(f) program, the application cannot be approved but may be considered under the substantial rehabilitation program.

D. Substantial Rehabilitation and Conversions. (Applies to all Radon Zones)

1. Testing prior to substantial rehabilitation or conversion.
 - a. Early testing not feasible. For some proposals, such as a conversion of an existing building from non-residential to residential, the building envelope may change to such an extent that early testing would not be appropriate and in some cases not possible. If this is the case, proceed directly to mitigation as discussed at Section 7.8.D.2. Radon reports are required with the post-construction testing prior to Final Closing.
 - b. Early testing when feasible.
 - i. Must be performed no earlier than 1 year prior to application submission in accordance with 7.8.B.4.
 - ii. If test results are below the threshold, no mitigation is required.
 - iii. If test results are at or above the threshold, mitigation must be built into the project design per Section 7.8.D.2.a.
2. Mitigation.
 - a. If mitigation is built into project design, it must be conducted in accordance with the requirements at 7.8.B.6.
 - b. If mitigation is not built into project design, after construction is complete but prior to Final Closing, radon testing must be conducted. If testing results are above the threshold, retrofit pursuant to the requirements at 7.8.B.6 is required.

E. New Construction.

1. Radon resistant construction is required for all radon zones.
2. Radon reports are required with the post-construction testing prior to Final Closing.
3. Radon Zone 1:
 - a. Construction Requirements: All new construction in Radon Zone 1 must meet all of the requirements of ASTM E1465-08a for installation of passive systems.

- b. Post-construction testing is required prior to Final Closing. If testing results are above the threshold, conversion from a passive system to a fan-powered system is required.
4. Radon Zones 2 and 3:
- a. Construction requirements.
 - i. Gas permeable layer. The gas permeable layer must meet all of the requirements of ASTM E1465-08a, Section 6.4.
 - ii. Ground cover. The concrete slabs and plastic membranes that seal the top of the gas permeable layer must meet all of the requirements of ASTM E 1465-08a, Section 6.2.
 - iii. Foundation walls. Foundation walls must meet all of the requirements of ASTM E1465-08a, Section 6.3.
 - b. Post-construction testing is required, except as provided at 7.8.B.3.
 - i. Radon testing must be performed after construction is complete, but prior to Final Closing.
 - ii. If testing results are above the threshold, retrofit based on the applicable standard at 7.8.B.6 is required, with installation of a passive system. If testing results remain above threshold, a fan-powered system is required.