



CDBG-DR/MIT

OCCUPATIONAL SAFETY & HEALTH POLICY FOR THE CDBG-DR/MIT PROGRAM



DEPARTMENT OF

HOUSING

GOVERNMENT OF PUERTO RICO

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PUERTO RICO DEPARTMENT OF HOUSING
CDBG-DR/MIT PROGRAM
OCCUPATIONAL SAFETY AND HEALTH POLICY FOR THE CDBG-DR/MIT PROGRAM
VERSION CONTROL

VERSION NUMBER	DATE REVISED	DESCRIPTION OF REVISIONS
1	June 9, 2020	Original version. This document supersedes the Occupational Safety & Health Policy for the R3 Program published in English on December 20, 2019, and in Spanish on January 29, 2020.
2	May 13, 2021	Edits provided clarification and included the most recent COVID-19 guidance.
3	September 14, 2023	Edits made to format and wording; addition of a new section for Workplace Violence and a new section of Language Access for Safety Documents. In addition, language has been added for CDBG-MIT application.
4	April 23, 2026	Edits made to format and wording; addition of new sections for Green Roof regulations, Biofuels, Hydrogen Fuel Cells, Recycling, Solar Energy, Weather Insulating/Sealing, Roof Waterproofing, Fiberglass, and Wind Energy. Updates include modifications to section titles to improve clarity and readability, and refinements in compliance

**references. These changes are highlighted in gray
for your convenience.**

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Overview

1.1 Policy Objective

This Occupational Safety and Health Policy (**OSH Policy**) covers all programmatic areas and specific programs of the Community Development Block Grant - Disaster Recovery (**CDBG-DR**) Program and the Community Development Block Grant - Mitigation (**CDBG-MIT**) Program, where construction is part of its implementation. Each section refers to the corresponding areas of the CDBG-DR/MIT Program.

Act No. 16 of August 15, 1975, as amended, 29 LPRA § 361 *et seq.*, known as the “Puerto Rico Occupational Safety and Health Act” (**Act 16**), was enacted to enforce safety and health standards in workplaces. This Act grants the Secretary of the Puerto Rico Department of Labor and Human Resources (**Secretary of Labor**) the authority to establish rules and regulations related to employee health and safety. In accordance with Act 16, the Puerto Rico Occupational Safety and Health Administration (**PR OSHA**) was established to ensure compliance with the law’s objectives. PR OSHA has jurisdiction over both public and private sector workplaces. Therefore, Program Subrecipients/Program Contractors and Subcontractors must comply with Act 16’s provisions.¹

Program Subrecipients/Program Contractors and Subcontractors must also adhere to the requirements outlined in the Contract Work Hours and Safety Standards Act (**CWHSSA**). Sections 3704 and 3705 of the Act establish health and safety standards

¹ PR OSHA has identically adopted all the Occupational Safety and Health Administration (**OSHA**) standards and regulations applicable to state and local government and private sector employment with minor revisions to the recordkeeping regulation. In addition, PR OSHA has enacted a standard to address workplace violence situations, including procedures for handling domestic violence incidents in the workplace. It also has its standards on boilers and pressure vessels, and elevators.

for the building trades and construction industry, including the implementation of safety programs, where applicable.²

The Occupational Safety and Health Act (**OSH Act**) requires employers to comply with safety and health standards and regulations promulgated by OSHA or by a state with an OSHA-approved state plan. In addition, the Act's General Duty Clause, Section 5(a)(1), requires employers to provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. In the absence of an OSHA standard, OSHA can enforce the General Duty Clause. OSHA standards cover many of the hazards in green industries and employers must use the necessary controls to protect workers.

The Puerto Rico Department of Housing (**PRDOH**) prioritizes ensuring compliance with this Policy by conducting periodic oversight of all Program areas, including applicable entities, subrecipients, contractors, safety and health officers, and any other subcontractors of either entity. Collectively, these entities are referred to as Program Subrecipients/Program Contractors, as defined below.

While Program Subrecipients/Program Contractors must comply with safety and health standards contained in Act 16, including the Act's General Duty Clause, Section 5(a)(1), and provisions under Part 1926 of the Code of Federal Regulations regarding Safety and Health Regulations for Construction (29 C.F.R. Part 1926), they are also required to comply with the requirements outlined in this Policy.

The PRDOH OSH Policy does not supersede any regulations prescribed by PR OSHA, nor does it replace or exempt contractors from directly adhering to PR OSHA regulation standards.

² 40 U.S.C. §§ 3704, 3705.

1.2 Policy Description

This OSH Policy establishes requirements and protocols aimed at preventing accidents in the construction work areas of CDBG-DR/MIT funded project sites. It outlines processes for standard communications, investigations, reporting, and correction of unsafe working conditions observed during inspections, as well as for responding to accidents and emergencies when they occur. To achieve the objectives set forth in the OSH Policy, Program Subrecipients/Program Contractors are expected to collaborate as a team to maintain safe and healthy work environments. The Policy assigns specific roles and responsibilities to Program Subrecipients/Program Contractors to ensure compliance and effectiveness.

2 Definitions

Accident/Incident Response Plan: A written document outlining the procedures for managing an unplanned, unexpected event that occurs suddenly, resulting in injury, loss of life, or damage to facilities, property, or equipment.

CM Safety Officer: Refers to an employee of the CM who is designated to oversee and enforce safety protocols on construction sites. The Safety Officer is responsible for implementing the Occupational Safety and Health Plan (**OSH Plan**), conducting regular safety inspections, providing safety training to employees, and ensuring compliance with all applicable safety regulations, standards, and guidelines. Additionally, the CM Safety Officer serves as the primary point of contact for safety-related matters within their assigned construction projects, coordinating with subcontractors, PMs, and PRDOH OSH representatives to mitigate hazards and enforce corrective actions.

Competent Person: Refers to an individual who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are hazardous, unsanitary, or dangerous to employees, and who is authorized to take prompt corrective measures to eliminate these hazards and conditions.

Construction, Prosecution, Completion, or Repair: 29 C.F.R. § 5.2 define these terms as:

All types of work done—

(i) On a particular building or work at the site of the work, as defined in this section³, by laborers and mechanics employed by a contractor or subcontractor, or

³ 29 C.F.R. § 5.2 defines the term site of work and includes all of the following:

(1)

(i) The primary construction site(s), defined as the physical place or places where the building or work called for in the contract will remain.

(ii) Any secondary construction site(s), defined as any other site(s) where a significant portion of the building or work is constructed, provided that such construction is for specific use in that building or work and does not simply reflect the manufacture or construction of a product made available to the general public, and provided further that the site is either established specifically for the performance of the contract or project, or is dedicated exclusively, or nearly so, to the performance of the contract or project for a specific period of time. A "significant portion" of a building or work means one or more entire portion(s) or module(s) of the building or work, such as a completed room or structure, with minimal construction work remaining other than the installation and/or final assembly of the portions or modules at the place where the building or work will remain. A "significant portion" does not include materials or prefabricated component parts such as prefabricated housing components. A "specific period of time" means a period of weeks, months, or more, and does not include circumstances where a site at which multiple projects are in progress is shifted exclusively or nearly so to a single project for a few hours or days in order to meet a deadline.

(iii) Any adjacent or virtually adjacent dedicated support sites, defined as:

(A) Job headquarters, tool yards, batch plants, borrow pits, and similar facilities of a contractor or subcontractor that are dedicated exclusively, or nearly so, to performance of the contract or project, and adjacent or virtually adjacent to either a primary construction site or a secondary construction site, and

(B) Locations adjacent or virtually adjacent to a primary construction site at which workers perform activities associated with directing vehicular or pedestrian traffic around or away from the primary construction site.

(2) With the exception of locations that are on, or that themselves constitute, primary or secondary construction sites as defined in paragraphs (1)(i) and (ii) of this definition, site of the work does not include:

(ii) In the construction or development of a project under a development statute.

(2) These terms include, without limitation (except as specified in this definition):

(i) Altering, remodeling, installation (where appropriate) on the site of the work of items fabricated offsite;

(ii) Painting and decorating;

(iii) Manufacturing or furnishing materials, articles, supplies or equipment, but only if such work is done by laborers or mechanics

(A) Employed by a contractor or subcontractor, as defined in this section, on the site of the work, as defined in this section, or

(B) In the construction or development of a project under a development statute;

(iv) "Covered transportation," defined as any of the following activities:

(A) Transportation that takes place entirely within a location meeting the definition of "site of the work" in this section;

(B) Transportation of **one (1)** or more "significant portion(s)" of the building or work between a "secondary construction site" as defined in this section and a "primary construction site" as defined in this section;

(i) Permanent home offices, branch plant establishments, fabrication plants, tool yards, etc., of a contractor or subcontractor whose location and continuance in operation are determined wholly without regard to a particular Federal or federally assisted contract or project; or

(ii) Fabrication plants, batch plants, borrow pits, job headquarters, tool yards, etc., of a material supplier, which are established by a material supplier for the project before opening of bids and not on the primary construction site or a secondary construction site, even where the operations for a period of time may be dedicated exclusively, or nearly so, to the performance of a contract.

(C) Transportation between an “adjacent or virtually adjacent dedicated support site” as defined in this section and a “primary construction site” or “secondary construction site” as defined in this section;

(D) “Onsite activities essential or incidental to offsite transportation,” defined as activities conducted by a truck driver or truck driver’s assistant on the site of the work that are essential or incidental to the transportation of materials or supplies to or from the site of the work, such as loading, unloading, or waiting for materials to be loaded or unloaded, but only where the driver or driver’s assistant’s time spent on the site of the work is not de minimis; and

(E) Any transportation and related activities, whether on or off the site of the work, by laborers and mechanics employed in the construction or development of the project under a development statute.

(V) Demolition and/or removal, under any of the following circumstances:

(A) Where the demolition and/or removal activities themselves constitute construction, alteration, and/or repair of an existing building or work. Examples of such activities include the removal of asbestos, paint, components, systems, or parts from a facility that will not be demolished; as well as contracts for hazardous waste removal, land recycling, or reclamation that involve substantial earth moving, removal of contaminated soil, re-contouring surfaces, and/or habitat restoration.

(B) Where subsequent construction covered in whole or in part by the labor standards in this part is contemplated at the site of the demolition or removal, either as part of the same contract or as part of a future contract. In determining whether covered construction is contemplated within the meaning of this provision, relevant factors include, but are not limited to, the existence of engineering or architectural plans or surveys of the site; the allocation of, or an application for, Federal funds; contract negotiations or bid solicitations; the stated intent of the relevant government officials; and the disposition of the site after demolition.

(c) Where otherwise required by statute.

(3) Except for transportation that constitutes “covered transportation” as defined in this section, construction, prosecution, completion, or repair does not include the transportation of materials or supplies to or from the site of the work.

Construction Manager (CM): Refers to an entity contracted by PRDOH for design and construction services. The CM is responsible for overseeing and managing all aspects of the construction project, including developing, implementing and maintaining the Occupational Safety and Health Plan (**OSH Plan**).⁴

Emergency Action Plan: Written document required by Occupational Safety and Health Administration (**OSHA**) standards (including 29 C.F.R. § 1910.38(a) and 29 C.F.R. § 1926.35) to help facilitate and organize employer and employee actions during workplace emergencies.

Evacuation Plan: A written document that establishes the criteria and procedures for carrying out a safe evacuation in case of an emergency. It includes the circumstances requiring an evacuation, the chain of command, the designation of key employees for its execution, the procedures to follow, evacuation routes, meeting points, and a system to account for personnel after the evacuation, among other essential aspects.

General Contractors: An entity contracted by PRDOH or its Subrecipients to manage the CDBG-DR/MIT Program through its various Program areas and specific programs, in coordination with project developers. This is carried out in accordance with the contract and the established Scope of Work. For additional details on the Scope of Work, visit: <https://recuperacion.pr.gov/en/contracts/> (English) or <https://recuperacion.pr.gov/recursos/contratos/> (Spanish).

⁴ For detailed information regarding the OSH Plan requirements, see the Occupational Safety and Health Plan section of this Policy.

Hazard: Hazard is the potential for harm (physical or mental). A hazard often is associated with a condition or activity that, if left uncontrolled, can result in an injury or illness. Identifying hazards and eliminating or controlling them as early as possible will help prevent injuries and illnesses.⁵

Initial Job Hazard Analysis (JHA): A recommended best practice that focuses on job tasks to identify potential hazards before they occur. A JHA examines the relationship between the worker, the task, the tools, and the work environment. Ideally, once uncontrolled hazards are identified, steps should be taken to eliminate or reduce them to an acceptable risk level.⁶ While not mandatory, conducting a JHA at the start of a project helps enhance safety planning and aligns with the PRDOH CDBG-DR/MIT OSH Policy requirements.

Pandemic Disease Plan: A Pandemic Disease Plan is a documented strategy for how an organization plans to provide essential services when there is a widespread outbreak of an infectious disease.

PM Safety Officer: Refers to the Program Manager employee designated to oversee and enforce safety policies and procedures within a project. The PM Safety Officer is responsible for ensuring that all safety regulations are followed, conducting safety inspections, and addressing any safety concerns that arise during the project.

PRDOH CDBG-DR/MIT OSH Safety Lead: The OSH Safety Lead provides guidance, assistance, and collaboration to the OSH team within the Federal Compliance and Subrecipient Management Division at every stage of its work. They ensure compliance with regulatory requirements and policies, offering insights into adherence to federal, state, and program-specific OSH regulations. As the OSH Team Leader within the

⁵ See <https://www.osha.gov/Publications/osh3071.pdf>

⁶ Id.

Federal Compliance and Subrecipient Management Division, they coordinate with team members in the development of training materials, oversight of onsite inspections, and review of reports. Additionally, they facilitate communication with legal advisors and other stakeholders to ensure that all OSH-related activities align with the objectives and policies of PRDOH's CDBG-DR/MIT Program.

PRDOH CDBG-DR/MIT OSH Safety Officer: An employee of the PRDOH CDBG-DR/MIT Program, appointed by the PRDOH Secretary, responsible for overseeing and ensuring compliance with occupational safety and health matters at both the general CDBG-DR/MIT Program level and within its various programmatic areas and specific programs.

Program Area Safety Officers: Refers to the Safety Officers assigned to oversee safety practices and regulations within a specific program or project area. They are responsible for ensuring compliance with safety standards and promoting a safe work environment.

Program Manager (PM): Refers to an entity contracted by PRDOH to oversee and manage specific projects within the scope of the CDBG-DR/MIT Program, through its various Program areas and specific programs. The PM is responsible for ensuring that projects are completed in accordance with contractual stipulations, regulatory requirements, and established timelines.

Program Subrecipients/Program Contractors: Refers to all entities contracted by PRDOH for the implementation of the CDBG-DR/MIT Program, including its Program areas and specific programs. This includes Subrecipients, Contractors, and any subcontractors of the PRDOH CDBG-DR/MIT Program, as well as their respective employees who are involved in the execution of projects authorized by PRDOH.

Qualified Person: Refers to an individual who, through education, certification, or experience, has demonstrated the ability to address issues related to the subject matter, the work, or project.

Quality Control Inspector: Implements quality control and safety plans to ensure compliance with contract specifications and applicable regulations; inspects all phases of a variety of goods, services or operation for conformity to established quality, health and safety, and other operational standards by performing on-going work for compliance with contractual provisions; ensures all services listed on the performance requirement summary are performed in a satisfactory manner; specifies areas to be inspected (scheduled and unscheduled) and how often inspections will be accomplished; communicates deficiencies to proper persons; maintains Quality Control files; and document results of all inspections.⁷

Request for Proposals (RFP): Solicitation method used under the competitive methods of procurement. Proposal evaluation and Proposer selection are based on the evaluation criteria and factors for award as stated in the RFP. The contract award is based on the best proposal that meets the requirements of the scope of work resulting in the greatest benefit and best value for PRDOH, which may not be primarily determined based on price.

Rigging Plan: Written document developed by Construction Managers for lifting operations at workplaces. It identifies and addresses the risks associated with lifting activities and outlines mitigating actions to ensure safety.

Safety Data Sheet (SDS): Refers to a sheet containing information on components of hazardous chemicals used in the construction work site and which provides guidance to workers who handle such chemicals.

Safety Task Analysis (STA): A recommended best practice in construction safety, referring to a daily assessment tool that can be used to identify, assess, and control

⁷ For more information regarding quality control inspector, see Position 99610 at: <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/SCADirectVers5.pdf>.

potential hazards before work begins. While not mandatory, an STA helps reinforce safety awareness by ensuring workers discuss potential risks, review control measures, and are equipped to perform tasks safely.

Safety Vest: Refers to an article of personal protective equipment (**PPE**) designed to have high visibility and reflectivity to be worn with the objective of making the worker more visible, thus minimizing risks of injury.

Stop Work Order (SWO): Refers to the notice issued by a regulatory authority that requires all work to cease immediately on a specific project or part of a project. Once the safety violations or regulatory non-compliance is addressed, the SWO issuing party will give the authorization for the work to resume.

Technical Assistance Session (TA): Individualized training provided to Subrecipients or Contractors who request it or who are identified as needing specialized assistance.

2.1 Program Portfolio

Portfolio Designation	Program Sector Area Summary
CDBG-DR⁸	<p>CDBG-DR Economic Development Programs: Refer to the Small Business Financing Program (SBF), Small Business Incubators and Accelerators Program (SBIA), Tourism & Business Marketing Program (TBM), Workforce Training Program (WFT), Investment Portfolio for Growth Program (IPG), and Re-Grow PR Urban-Rural Agriculture Program (RE-Grow).</p> <p>CDBG-DR Housing Programs: Refer to the Home Repair, Reconstruction, or Relocation Program (R3), Title Clearance Program (TC), Rental Assistance Program (RA), Social Interest</p>

⁸ CDBG-DR Action Plan and amendments is available in English and Spanish at: <https://recuperacion.pr.gov/en/action-plan> and <https://recuperacion.pr.gov/plan-de-accion/>.

Housing Program (**SIH**), Housing Counseling Program (**HC**), CDBG-DR Gap to Low-Income Housing Tax Credits Program (**LIHTC**), Community Energy and Water Resilience Installations Program (**CEWRI**), Homebuyer Assistance Program (**HBA**), and the Blue Roof Survey Program (**Bluerroof**).

CDBG-DR Infrastructure Program: Refers to the Non-Federal Match Program (**NFM**).

CDBG-DR Multisector Program: Refers to the City Revitalization Program (**CRP**).

CDBG-DR Planning Programs: Refer to the Municipal Recovery Planning Program (**MRP**), Whole Community Resilience Planning Program (**WCRP**), and the Puerto Rico Geospatial Framework Program (**GeoFrame**).

CDBG-DR (Energy Power System Enhancements and Improvements)	Energy Grid Rehabilitation and Reconstruction Cost Share Program (ERI)
	Electrical Power Reliability and Resilience Program (ER2)

CDBG-MIT⁹ **CDBG-MIT Housing Programs:** Refers to the Single-Family Housing Mitigation Program (**SFM**), Social Interest Housing Mitigation Program (**SIHM**), Multi-Sector Community Mitigation Program (**MSC**), and the Leverage for Low-Income Housing Tax Credits Program (**LIHTC-MIT**).

⁹ CDBG-MIT Action Plan and amendments are available in English and Spanish at: <https://recuperacion.pr.gov/en/cdbg-mit/> and <https://recuperacion.pr.gov/cdbg-mit/>.

CDBG-MIT Infrastructure Program: Refers to the Infrastructure Mitigation Program.

CDBG-MIT Multisector Community Programs: Refer to the Community Energy and Water Resilience Installations Program (**CEWRI-CI**), Economic Development Investment Portfolio for Growth – Lifeline Mitigation Program (**IPG-MIT**), the New Energy Program, the Solar Incentive Program, and the Agro-Energy Stability Program.

CDBG-MIT Planning Programs: Refer to the Risk and Asset Data Collection Program (**RAD**), Mitigation and Adaptation Policy Support Program (**MAPS**), and the Planning and Capacity Building Program (**PCB**).

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Resurge Program: Refers to the Repair, Reconstruction, and Relocation Program (**R3 Program**).

3 PRDOH Responsibilities

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

PRDOH will exercise the following oversight responsibilities through the PRDOH CDBG-DR/MIT OSH Safety Lead and PRDOH Safety Officers in the implementation of safety oversight on programs:

- Require **CM** Safety Officers to provide orientation and working knowledge to subrecipients and their contractors on the requirements of the OSH Policy.
- Engage and coordinate with PR OSHA as required.

- Require reporting from direct contractors to ensure they are following safety standards commensurate with this Policy's guidance and PR OSHA.
- Perform compliance reviews related to occupational health and safety issues, including:
 - Confirmation that the appropriate personnel at job sites have undergone the proper orientations.
 - Ensuring that safety policies and procedures are in place and are being followed by Program Subrecipients/Program Contractors.
 - Ensuring that project Safety Officers are conducting their responsibilities in accordance with provisions contained herein and their contractual obligations; and,
 - Performing site visits to observe and document adherence to OSH Policy and other local and federal regulatory requirements.
- Oversee the reporting of an accident and any follow-up investigation to its conclusion as required by PR OSHA.
- Oversee the review and approval of the OSH Plan and site safety plans as needed.
- Assist in the development of forms and templates to perform activities required by this OSH Policy.
- Require that program contractors working on PRDOH projects commit to ensuring that Program Subrecipients/Program Contractors adhere to the requirements from PR OSHA and this OSH Policy.
- PRDOH's OSH Safety Lead and PRDOH Safety Officers will provide notifications and other communications requiring subrecipients and direct contractors to respond promptly to ensure effective communication for items referenced in this Policy.
- PRDOH may request from PMs, CMs and/or PRDOH direct Contractors a report analyzing why serious and/or repetitive safety violations are occurring on job sites and which mitigating actions are recommended.

This Policy does not replace or exempt Subrecipients and/or Contractors from direct compliance obligations with PR OSHA. Rather, its objective is to establish safety standards for compliance with PRDOH CDBG-DR/MIT funded projects.

4 General Responsibilities for Construction Site Safety Personnel

This section pertains to Program Subrecipients/Program Contractors responsible for completing construction work as part of the CDBG-DR/MIT Program implementation. They are tasked with promoting and maintaining a safe work environment for their employees in their work areas and/or construction job sites.

Preventing workplace accidents is paramount. Program Subrecipients/Program Contractors must identify potential risks before commencing any task or project implement administrative and/or engineering controls to mitigate these risks prior to and during the construction projects.

PRDOH has outlined several key requirements for construction projects. Program Subrecipients/Program Contractors must:

- Submit safety-related documentation and reports as requested by PR OSHA, subrecipients, PMs, or PRDOH.
- Comply with applicable policies and rules established by PR OSHA, as well as any-relevant federal laws and regulations, including Safety and Health Regulations for Construction.
- Provide appropriate PPE, job safety materials, first-aid equipment, and pandemic job site materials to necessary personnel as required.
- Conduct frequent and regular inspections with qualified safety personnel to ensure compliance with job site safety protocols.
- Prepare written reports documenting any findings or violations for subrecipients, Contractors or PRDOH as requested.

- Ensure that all personnel receive initial and any other necessary safety orientations.
- Ensure that subcontractors have qualified safety personnel to conduct sufficient, frequent, and regular inspections to comply with PR OSHA and PRDOH Occupational Health and Safety requirements; and
- Respond promptly and in compliance with established protocols to incidents, accidents, and/or fatalities. Document and report these events as required by PR OSHA, Program Subrecipients and/or PRDOH.

5 Safety Roles and Responsibilities

5.1 Program Managers (PM) within the CDBG-DR/MIT Program for Construction Projects

The PM's Occupational Safety and Health personnel have the responsibility to:

- Develop and implement internal procedures to monitor, oversee, verify, and document the CM's compliance with OSH requirements. These procedures should include protocols for reviewing CM deliverables, recording safety observations, escalating noncompliance findings, issuing notifications, and coordinating corrective actions to ensure that contractors and subcontractors meet applicable federal, state, and Program OSH regulations and policies.
- Monitor and verify that the CM has developed, implemented, and maintains an approved OSH Plan, as well as any additional safety plans required for the project, such as an Evacuation Plan, Accident/Incident Response Plan, and/or a Pandemic Disease Plan, ensuring that these plans align with all applicable regulatory standards and Program OSH guidelines.
- Conduct spot inspections at project sites to identify potential hazards, assess risks, identify noncompliance, and report findings. PMs collaborate with and enforce applicable safety requirements under OSHA, PR OSHA, and PRDOH OSH Policy, as requested by PRDOH and/or in coordination with Program Subrecipients.

- Verify that required information and signage, as mandated by OSHA and/or other federal and local agencies, are posted at the entrance of each job site.
- Collaborate with CMs and PRDOH to ensure that safety violations at job sites are corrected promptly. Escalate serious or repeated violations that may pose imminent danger to field employees by notifying PRDOH before recommending disciplinary measures, including the potential issuance of a SWO.
- Request and review the CMs corrective action plan explaining the causes of serious and/or repeated safety violations at job sites, and documenting corrective actions taken or planned to prevent recurrence.
- Provide orientation sessions to applicable personnel on PRDOH's OSH Policy, as well as on safety policies and procedures developed by the PM OSH Officer, in alignment with PRDOH's guidelines.
- Develop orientation and training materials as part of PRDOH's OSH Policy, ensuring that all materials are reviewed and approved by the PRDOH CDBG-DR/MIT OSH Safety Lead before implementation.
- Ensure that the CM regularly conducts safety orientation sessions for new construction onsite personnel. New personnel must not enter or commence work at a construction site as a field employee without completing safety training. The PM may assist in conducting safety orientations upon request or when necessary to support compliance.
- Ensure that safety orientation details, including copies of orientation materials, attendance records, and any related photos, are properly documented using PRDOH reporting forms.
- Support the CM in the development and disclosure of project-specific safety policies. While the CM holds primary responsibility for creating and communicating these policies to new construction personnel and others accessing the work site during safety orientations, the PM may assist as needed. All safety policies must be approved by the PRDOH CDBG-DR/MIT OSH Safety Lead.

- Assist PRDOH in the development and implementation of new safety policies, as needed, to address evolving project needs, regulatory changes, or identified gaps in existing guidance.
- Review JHAs on an ongoing basis, as applicable, and provide timely feedback to the CM prior to the issuance of a Notice to Proceed (**NTP**), to ensure that identified risks are adequately addressed.
- Include ongoing suggestions for revisions or technical assistance related to safety compliance in the PM's monthly report, based on field observations and interactions with CM personnel.
- Monitor and verify that safety violations are documented by the CM and that corrective actions are developed and implemented. In cases of serious, repetitive, or unresolved issues, escalate the matter to the PRDOH OSH team using the designated escalation process.
- Ensure that the CM completes the required incident or accident reporting procedures, including submitting the OSH Incident Tracker form to PRDOH (<https://app.smartsheet.com/b/form/0ace62ddd53248c985bbe220fcc483c8>), and provide follow-up as needed to confirm closure of the case.
- Provide oversight and technical guidance to CM personnel to ensure compliance with applicable safety requirements, timely submission of required safety documentation, and consistent implementation of effective safety practices at job sites.
- Request from the CM all documentation related to any PR OSHA inspection, including findings, penalties, and evidence of resolution or corrective actions taken.
- Verify that Safety Data Sheets (**SDS**) for all chemical products used onsite are available, accessible to workers, and maintained in compliance with applicable safety regulations during the period of use.

5.2 Safety Officers, Construction Managers (CM), and Subrecipients/Contractors within the CDBG-DR/MIT Program for Construction Projects

The identified Safety Officer(s) shall be responsible for:

- Development, implementation, and maintenance of the OSH Plan and any other plan as detailed below, which may include the Evacuation Plan and Accident Response Plan.
- Development and enforcement of safety protocols related to occupational safety and health with construction field employees.
- Ensuring that required regulatory documentation related to occupational safety and health is physically accessible at the work site (via binders). Required regulatory documentation includes, but is not limited to, the OSHA 300A Form, accident report, SDS, hazard communication, and warning labels.
- Ensuring the provision and condition of PPE for onsite staff before beginning any onsite work, and verifying that the selection, wear, and use of PPE are appropriate for the task.
- Analyzing the risk for accidents/incidents, tracking accident/incident metrics, and taking remedial actions to prevent future similar accidents/incidents.
- Preparing material for and conducting safety orientations, and toolbox talks with the group leaders of the safety compliance team and any supervisors responsible for the subcontractor teams to ensure the implementation of safety procedures and knowledge of the JHA.
- Assigning tasks and manage the safety compliance team.
- Evaluation of safety compliance team, safety staff, and day-to-day performance.
- Identifying and allocating resources to occupational safety and health activities.

- Coordinate and ensure timely submission of safety-related deliverables, including rigging plans, excavation plans, risk assessments, toolbox talks, safety reports, and certifications.
- Completing the JHA prior to commencing the project and submitting it to the assigned PM for review, technical assistance, or feedback to be incorporated.
- Confirming that any SDS and JHA are reviewed, discussed, and completed by site staff before starting onsite work. SDS and JHA should be available in English and Spanish, in accordance with the Language Access Policy. The JHA's should be submitted to a competent person for review.
- Completing a risk assessment of regulatory and occupational safety issues by identifying risks and solutions for mitigation for each type of project.
- Recommending, advising, and correcting as the subject matter expert in the occupational safety and health issues.
- Conducting and documenting toolbox talks and ensuring that subcontractors are discussing toolbox talks with subcontractor's supervisors to supplement the OSH orientations and maintain safety as the highest priority in their field staff. These brief meetings use pre-written safety material that enhances employee awareness of workplace hazards and OSHA regulations.
- Assisting with orientations and presentations for safety compliance activities.
- Promoting responsible safety and health practices during the abatement, demolition, construction, closeout, and warranty phases of construction projects under the CDBG-DR/MIT Program.
- Assuming responsibility for the prevention, communication, identification and correction of safety and health issues during all phases of construction projects.
- Requiring that staff or subcontractors attend additional trainings or request consultation services by PR OSHA to ensure that all personnel can implement safety practices effectively.
- Verifying that employees and subcontractor employees comply with the standards established by PR OSHA and the PRDOH CDBG-DR/MIT Program, including the proper use of required PPE.

- Ensuring that project field staff including subcontractor field staff will implement immediate corrections flagged by safety officers including the PMs.
- Schedule routine inspection and maintenance of tools and equipment being used during any work inside and outside the project site, and validating that equipment is used in compliance with the required certifications.
- Ensuring that subcontractors implement corrective actions flagged by PR OSHA, PRDOH, and PMs for applicable occupational safety and health requirements.
- Ensuring that Accident Response Plan protocols are followed in the event of an accident, and that required documentation is completed and submitted to PR OSHA and PRDOH.
- Verifying that onsite employees have the appropriate certifications and/or valid licenses for the work to be performed, this includes rigging, excavating, and building or installing scaffolds.
- Following the protocols outlined in the Noncompliance, Corrective Actions, and Penalties section of this Policy in the event of a noncompliance finding by the PM Safety Officer, CM Safety Officer, or PRDOH CDBG-DR/MIT OSH Safety Lead.
- Informing both PRDOH and the PM and providing a copy of the finding and/or penalty if PR OSHA imposes any.
- Sending the PM and PRDOH a copy of the documents evidencing the resolution of the finding and/or penalty as soon as the decision is reached.

5.3 Construction Field Employees

Construction field employees must:

- Wear the required PPE appropriate to the task at all times, and inspect it daily to ensure it is in safe working condition.
- Refer to OSHA guidance and Program-specific policies to comply with all established safety and health standards.
- Perform work in a safe manner that aligns with Program, OSHA, and PR OSHA requirements.

- Notify the project or site supervisor immediately in the event of an incident, accident or injury.
- Identify hazards and risks in the work area before beginning any activity, and report any unsafe conditions or undocumented risks to the site supervisor.
- Inspect all tools and equipment prior to use to verify they are in proper condition and safe to operate.
- Review and acknowledge the JHA before beginning a project or when assigned new tasks.
- Understand the hazards, risks, and required controls for safe performance of work activities.
- Request technical assistance when clarification or further guidance is needed.
- Participate in the completion of the daily STA before starting each workday or critical activity.
- Sign the STA once reviewed and follow the control measures established to mitigate site-specific risks.
- Keep the STA accessible throughout the day and notify the supervisor of any changing conditions that may require an update.
- Maintain a clean, organized and hazard-free work area to prevent accidents.
- Follow all safety signage and posted instructions on the job site.
- Attend the initial OSH orientation and participate in additional trainings or toolbox talks as required by site supervisors or in response to safety observations.

5.4 Environmental Assessment Contractors onsite

The Environmental Assessment Contractor Safety Officer has the responsibility to:

- Comply with all applicable federal, state, and Program OSH regulations when conducting field-based environmental assessments on CDBG-DR/MIT construction sites.

- Develop, implement, and maintain a site-specific OSH Plan, if required for the scope of work, which may include relevant safety plans such as an Evacuation Plan or Accident Response Plan.
- Conduct a hazard assessment prior to initiating fieldwork and coordinate with the site supervisor or project owner to implement appropriate mitigation measures through administrative or engineering controls.
- Inspect tools and equipment before use to ensure they are in safe operating condition, and appropriate for the assigned tasks.
- Implement the proper selection and use of PPE for environmental sampling or inspection tasks, verifying that PPE is worn and maintained according to task-specific hazards.
- Attend the initial OSH orientation and participate in additional trainings or toolbox talks as required by project owner or site supervisors or in response to safety observations.
- Conduct safety briefings for environmental field staff, ensuring familiarity with site-specific hazards and PPE protocols prior to site entry.
- Maintain documentation of staff safety orientations, completed trainings, and certifications as applicable to the environmental scope of work.
- Immediately report any observed safety violations, unsafe conditions, or worksite incidents to PRDOH, site supervisor, project owner, and PR OSHA as appropriate.
- Respond to any written notification of noncompliance by taking appropriate corrective actions and coordinating with PRDOH, CM, or PM to ensure full resolution in accordance with the Noncompliance, Corrective Actions, and Penalties section of this Policy.

6 Orientation and Training Requirements

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Program Subrecipients/Program Contractors implementing the CDBG-DR/MIT Program must attend an initial safety orientation hosted by PRDOH and/or the project owner before beginning work under the Program. The PRDOH CDBG-DR/MIT OSH Safety Lead will provide training and ensure that this policy is available as a reference for the implementation of safety measures. Personnel whose duties involve regularly working on or accessing a construction project site must, at a minimum, complete an initial safety orientation and be able to provide evidence of its completion.

A competent individual must conduct the initial safety training. The appropriate safety personnel and program implementation team responsible for oversight and day-to-day site work must acknowledge the safety requirements for the CDBG-DR/MIT funded project. When additional or new staff are needed to work on a construction project, the Program Subrecipient/Program Contractor, project owner and/or General Contractor are directly responsible for ensuring new staff are flagged to the PRDOH OSH Safety Lead for the purpose of providing training.

It is common to see a high degree of turnover for laborers, mechanics, foremen, and other construction personnel. Therefore, the safety orientation and training sessions will be conducted on a regular basis to guide new onsite field construction personnel. The project owner and the General Contractor will hold regularly scheduled safety orientation and training sessions to ensure training opportunities are available, as appropriate. Onsite field personnel working at the site as full-time staff without an initial safety orientation will be subject to immediate removal by, but not limited to: PRDOH safety personnel, PM and CM Safety Officers, project owners and/or General Contractors. Project owners, General Contractors, and site supervisors are responsible for hosting any other additional orientations or toolbox talks, as appropriate.

Program Subrecipients/Program Contractors must also comply with 29 C.F.R. § 1926.21(b)(2) safety training and education requirements. The employer shall instruct each employee in the recognition and avoidance of unsafe conditions. Employers are responsible for ensuring site personnel understand how to perform in accordance with

the regulations applicable to the site and ensure competent and qualified safety personnel are available to address hazards, incidents, and accidents. General Contractors will be responsible for ensuring safety standards are followed by subcontractors and must exercise direct oversight of their employees and any of their subcontractor employees.

6.1 OSH Orientation Minimum Standards

OSH guidance is intended for staff working in the field on the day-to-day project basis. Safety orientations should cover, at a minimum, the following non-exhaustive general standards related to compliance with:

- Codes and standards as established by OSHA and PR OSHA.
- Required documentation as requested by PRDOH.
- Maintenance of policies and procedures related to the implementation of safety standards.
- Safety meetings at the construction site.
- Review of security policies and procedures before beginning work.
- Discussion of the JHA before beginning the construction phase and as specifically described for the Program Area.
- PPE requirements mentioning that it must be inspected before use and worn at all times according to the task being performed.
- OSHA regulations forbidding the use of mobile phones while operating equipment, 29 C.F.R. § 1926.1417(d). The use of the mobile phone during the operation of equipment shall only be allowed for signal communications.
- Act. No. 66-2006, as amended, 24 LPRA § 891 *et seq.*, known as the "Act to Regulate Smoking in Certain Public and Private Places", (**Act 66**); which states that smoking is prohibited in work environments that have more than **one (1) employee**.
- Directive stating that the use, possession, or distribution of drugs, alcohol and/or being under the influence is not allowed in the workplace.
- Directive stating that all kinds of weapons are prohibited on the premises.

- Directive stating that workers need to use a fall protection system that complies with OSHA and PR OSHA standards when working at heights to avoid injuries or accidents.
- Directive stating that the use of any jewelry or accessory that creates a danger in the work area is prohibited.
- Directive stating that food consumption is only allowed in designated areas that must be separate from the construction area.
- Directive stating that the contractor will provide drinking water, disposable cups, and a waste disposal container for its employees. It is encouraged to be mindful of the environment and opt for paper cups which are less harmful to the environment.
- Directive stating that drinking directly from the water container and using a common drinking cup is prohibited.
- Directive stating that each workplace must have an assigned assembly point and it must be clearly indicated in its Safety Plan and Accident Response Plan.
- Directive stating that a fire extinguisher, a first-aid kit, and additional PPE must be available in the work area.
- Compliance with the provisions stating the PR OSHA annual reporting requirements¹⁰.
- Notification that in the event of an accident, the contractor must take action to ensure all entities involved in the project are notified immediately. Entities include Subrecipients and PRDOH safety team.

For PRDOH directly managed programs, once staff has successfully completed the safety orientation, Contractor safety officers will complete recordkeeping requirements and report it in the PRDOH tracker, as well as share the orientation

¹⁰ PR OSHA forms are available at: https://www.trabajo.pr.gov/docs/PROSHA/Formas_300-300A-301-2006.pdf.

information with PMs. PRDOH has established the Initial OSH Training Log safety form for the submission of Safety Orientation Reports. The form is available at <https://app.smartsheet.com/b/form/57acdb8901394c1ca86339acae331e6b>.

Contractors are expected to use the online form to complete the data areas and attach the supporting documents.

Contractors will ensure that confirmed attendees of orientations receive a certificate for the orientation. Evidence of certification may be requested during an onsite field inspection. Subrecipients will ensure their contractor maintains adequate and up to date recordkeeping and shares information accordingly.

For subrecipient-led projects, Subrecipients will establish recordkeeping standards and share this information with the PRDOH CDBG-DR/MIT OSH Safety Lead.

6.2 Toolbox Talks

As part of pre task planning techniques, toolbox talks should be conducted as a best practice at the discretion of the Program Contractor and/or CM to reinforce OSH initial orientations with foremen, supervisors, and field staff to supplement the OSH orientations and maintain safety as a priority. These brief (10-15 minute) meetings use pre-written safety material that enhances employee awareness of workplace hazards and OSHA regulations. Toolbox talks should be conducted by a competent person such as a supervisor, engineer, or safety officer. Toolbox talks can include topics such as PPE, Fall Protection and Prevention, Fire Protection and Prevention, Lockout and Tagout, Scaffold Safety, Portable Tools and Equipment Safety, Ladder Safety, Electrical Safety, Hearing Protection, Chemical Warning Labels, Carbon Monoxide, Forklifts, and more. OSHA provides a Publication Guide which may be used as reference: <https://www.osha.gov/Publications/osha3252.pdf>.

Supporting documents related to these talks should be included in the weekly reports. Program Contractors and/or CMs will be responsible for providing these documents to PR OSHA and PRDOH as needed.

6.3 Recordkeeping for Orientation Material & Onsite Documents

Program Subrecipients/Program Contractors shall retain documentation evidencing orientations in accordance with the record retention provisions of their respective agreements and with the PRDOH Recordkeeping, Management, and Accessibility Policy (**RKMA Policy**). The RKMA Policy applies to the various types of records generated across the grant files at the program level; whether they are part of an activity or program as described in PRDOH's Action Plan and subsequent amendments. You may access the RKMA Policy and all CDBG-DR/MIT General Policies, in English and Spanish, at <https://recuperacion.pr.gov/en/resources/policies/general-policies/> and <https://recuperacion.pr.gov/recursos/politicas/politicas-generales/>.

Program Subrecipients/Program Contractors must provide PRDOH digital copies of:

- Final and verifiable orientation/training materials used to conduct training. For direct PRDOH contractors this material must be submitted via the established reporting systems within **seven (7) business days** after the training date. For subrecipient-led projects, subrecipients will identify location for requesting information from their contractors.
- Final signed attendance list with a count of attendees who completed the orientation or training and received a certificate of completion. Additionally, a sticker or other visual marker (such as QR code) that is easily accessible and verifiable in the field can be provided. For PRDOH contractors, this material must be submitted via the established reporting systems within **seven (7) business days** after the training date. For Subrecipient-led projects, subrecipients will identify location for requesting information from their contractors.

Construction job sites must include safety information (via a physical binder at minimum). This information will include:

- OSH Plan
- Daily Safety Task Analysis form (STA) (when applicable)

- Initial Job Hazard Analysis (JHA) (when applicable)
- Accident/Incident Response Plan
- Emergency Action Plan
- Pandemic Disease Plan
- Evacuation Plan (Hurricanes and/or Earthquakes)
- Safety Data Sheets
- Demolition Plan (when applicable)
- Electrical Safety Plan (when applicable)
- Rigging Plan (when applicable)
- Excavation Plan (when applicable)

6.4 Additional Standards

For PRDOH-led construction projects, Program Subrecipients/Program Contractors are required to contact PR OSHA within **sixty (60) days** of signing the contract with PRDOH to request training regarding the occupational safety and health standards that must be implemented during the course of the construction project. Program Subrecipients/Program Contractors are legally bound to comply with and maintain state and federal requirements. They shall provide PRDOH with evidence of compliance within **thirty (30) days** of having their field workers complete adequate training needed for their construction tasks.

6.5 Employment and Safety of Minors

The Puerto Rico Employment of Minors Act, Act No. 230 of May 12, 1942, 29 LPRC § 431 *et seq.*, establishes, among other things, the days and hours that minors between the ages of **fourteen (14) years** and less than **eighteen (18) years** of age may work, be employed, permitted or tolerated to work in or for any lucrative occupation. The Act also details the pertinent periods of continuous work and mealtimes. Employers must have a special permit, or an employment certification issued by the Puerto Rico Department of Labor and Human Resources for every minor it employs between the

ages of **fourteen (14)** and **eighteen (18) years**.¹¹ This Act also states various occupations in which a minor may not be employed. Furthermore, the employer must have a list in a visible area of the work area of the minors it has employed, their work schedule, the maximum hours that the minors can work in a day, and the schedule for the meal period. The Act defines penalties for any employer that violates any of its provisions.

The child labor provisions of the Fair Labor Standards Act of 1938 (**FLSA**), as amended, 29 U.S.C. § 201 *et seq.*, 29 C.F.R. § 570.1-570.142, are administered by the Wage and Hour Division (**WHD**). To protect young workers from hazardous employment, the FLSA provides for a minimum age of **eighteen (18) years** in occupations found and declared by the U.S. Secretary of Labor to be particularly hazardous or detrimental to the health or well-being for minors **sixteen (16)** and **seventeen (17) years** of age. Hazardous Occupations Orders are the means through which occupations are declared to be particularly hazardous for minors. Since 1995, the promulgation and amendment of the Hazardous Occupations Orders have been effectuated under the Administrative Procedure Act (**APA**), 5 U.S.C. § 551 *et seq.* The effect of these orders is to raise the minimum age for employment to **eighteen (18) years** in the occupations covered.

Seventeen (17) orders, published in 29 C.F.R. §§ 570.50-570.68, have thus far been issued under the FLSA and are listed below. 29 C.F.R. § 570.120.

§ 570.50	General
§ 570.51	Occupations in or about plants or establishments manufacturing or storing explosives or articles containing explosive components (Order 1).

¹¹ See 29 C.F.R. § 570.5 for information on the federal guidelines regarding age certificates that employers must keep on file and the effect of such certificates.

§ 570.52	Occupations of motor-vehicle driver and outside helper (Order 2).
§ 570.53	Coal-mine occupations (Order 3).
§ 570.54	Forest fire fighting and forest fire prevention occupations, timber tract occupations, forestry service occupations, logging occupations, and occupations in the operation of any sawmill, lath mill, shingle mill, or cooperage stock mill (Order 4).
§ 570.55	Occupations involved in the operation of power-driven woodworking machines (Order 5).
§ 570.57	Exposure to radioactive substances and to ionizing radiations (Order 6).
§ 570.58	Occupations involved in the operation of power-driven hoisting apparatus (Order 7).
§ 570.59	Occupations involved in the operation of power-driven metal forming, punching, and shearing machines (Order 8).
§ 570.60	Occupations in connection with mining, other than coal (Order 9).
§ 570.61	Occupations in the operation of power-driven meat-processing machines and occupations involving slaughtering, meat and poultry packing, processing, or rendering (Order 10).
§ 570.62	Occupations involved in the operation of bakery machines (Order 11).
§ 570.63	Occupations involved in the operation of balers, compactors, and paper-products machines (Order 12).
§ 570.64	Occupations involved in the manufacture of brick, tile, and kindred products (Order 13).
§ 570.65	Occupations involving the operation of circular saws, band saws, guillotine shears, chain saws, reciprocating saws, wood chippers, and abrasive cutting discs (Order 14).
§ 570.66	Occupations involved in wrecking, demolition, and shipbreaking operations (Order 15).
§ 570.67	Occupations in roofing operations and on or about a roof (Order 16).

§ 570.68	Occupations in excavation operations (Order 17).
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7 Documentation Requirements

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

7.1 Language Access for Safety Documents

Federally funded projects must ensure that onsite safety documents reviewed and considered critical to employee operations are available in both English and Spanish, as per the Language Access Policy. The Language Access Policy is available in English and Spanish at: <https://recuperacion.pr.gov/en/download/plan-de-acceso-al-idioma/> and <https://recuperacion.pr.gov/download/plan-de-acceso-al-idioma/>.

7.2 Occupational Safety and Health Plan (OSH Plan)

An OSH Plan is a structured framework that establishes the policies, procedures, and preventive measures necessary to ensure workplace safety, mitigate risks, and comply with applicable occupational safety and health regulations. The OSH Plan serves as a guiding document for construction projects under the CDBG-DR/MIT Program, outlining specific safety protocols, responsibilities, and emergency procedures to protect workers, the public, and project sites.

All projects must have an OSH Plan in place and ensure compliance with the policies and procedures outlined in the plan across all work areas.

7.2.1 Initial Safety Documents for Job Sites

Each job site must maintain and provide the following documents, as applicable:

- OSH Plan
- JHA (when applicable)
- Copies of OSH Officer Certifications
- OSHA 300A Form
- Accident/Incident Response Plan

- Emergency Action Plan
- Pandemic Disease Plan
- Evacuation Plan (Hurricanes and/or Earthquakes)
- SDS
- Demolition Plan (when applicable)
- Electrical Safety Plan (when applicable)
- Rigging Plan (when applicable)
- Excavation Plan (when applicable)

Direct PRDOH Contractors must submit this information using the PRDOH OSH Initial Safety Documents Submission Form. This form must also be used to provide copies of any amended documents. The PRDOH form is available at: <https://app.smartsheet.com/b/form/c74fa7aa2e1648f294b0e6cfae86bc1>.

7.2.2 Minimum Components of an OSH Plan

Each OSH Plan must comply with applicable federal and local occupational safety and health laws, PR OSHA regulations, and the guidance and requirements outlined in this OSH Policy. At a minimum, an OSH Plan must include:

- Company Occupational Safety and Health policy
- Responsibilities of the Work Team
- Objectives of the OSH Plan
- Personnel Orientation Protocols
- Use of PPE
- Signage in Work Areas
- Safety Talks/Toolbox Talks
- Nearest Hospital Facilities, including a Map and Contact Details
- List of Emergency Contacts
- Safety Inspections
- Drug-Free Workplace Policy
- Control of Hazardous Materials and Use of Safety Data Sheets (SDS)

- Fire Safety
- First Aid Procedures
- Environmental Protection
- Concrete Work
- Certification of Heavy Equipment Operators
- Use of Platforms and Scaffolding
- Ladder Safety and Management
- Electrical Safety
- Lockout and Tagging of Circuits and Lockout/Tagout (LOTO) Procedures
- Excavations and Trenches
- Health and Personal Hygiene
- Workplace Organization and Cleaning

By implementing a comprehensive OSH Plan, construction projects can maintain safe working conditions, reduce occupational risks, and ensure full compliance with programmatic and regulatory requirements.

7.3 Accident Response Plan

Projects must have an Accident Response Plan outlining how to address injuries, fatalities, or damages. This plan should specify the actions Program Subrecipients/Program Contractors and their personnel will take following an accident, including investigation, documentation, and communication of necessary information to PRDOH or its representative.

The plan should include the following steps:

- Seeking immediate medical attention where appropriate and following indications on how to administer First Aid such as the ones provided by the American Red Cross <https://www.redcross.org/take-a-class/first-aid/performing-first-aid/first-aid-steps>.
- Coordinating transfer of the injured person(s) to a medical facility if necessary.

- Notifying the injured person's emergency contact on file with the company.
- Notifying the Supervisor, CM and Subrecipient of the accident and providing details, as appropriate.
- Notifying the PRDOH CDBG-DR/MIT OSH Safety Lead as soon as possible but no later than **four (4) hours** after the accident. Additionally, every employer must notify the Secretary of Labor, or the person designated by them when a serious or fatal accident takes place within **eight (8) hours** following the accident. The Secretary of Labor shall determine the method of notification. See Section 6(d) of Act No. 16, 29 LPRA § 361e.
- Determining the causes of the accident and evaluating potential corrective actions. For PRDOH-led projects, the initial incident report must be submitted to PRDOH within **twenty-four (24) hours** of the accident using the reporting systems established by PRDOH. Additionally, follow-up reports should be submitted as needed throughout the duration of the case until all corrective actions are completed. Once the case is resolved, a final closing report must be submitted. For subrecipient-led projects, subrecipients will establish the information collection process.
- For PRDOH-led projects, contractors must send a digital copy of the accident report within **eight (8) hours** after the accident to the PRDOH CDBG-DR/MIT OSH Safety Lead. For subrecipient-led projects, subrecipients will establish the information collection process.
- For PRDOH-led projects, the submitted update and final report shall include insurance policies including state, local, and contractor and subcontractor's insurance policy as required. Subrecipient-led projects will identify required reporting information.
- For PRDOH-led and subrecipient-led projects, ensuring job site employees are aware of the incident and documenting corrective actions to prevent the job site from similar or repeat hazards.

For PRDOH-led projects, PRDOH has established the OSH Incident Tracker safety form to facilitate the digital submission of accident/incident reports and relevant supporting documents. This form can be accessed at <https://app.smartsheet.com/b/form/0ace62ddd53248c985bbe220fcc483c8>.

Contractors are required to notify the PRDOH safety team via telephone, provide updates by email, and submit the completed report within the specified guidelines.

7.4 Emergency Action Plan

Program Subrecipients/Program Contractors must have an Emergency Action Plan, as mandated by 29 C.F.R. § 1910.38(c) and relevant PR OSHA and OSHA guidelines.¹² The Emergency Action Plan should include procedures for responding to natural disasters, accounting for employees during emergencies, conducting rescues and providing medical assistance, reporting emergencies, and implementing contingency plans to resume work as quickly as possible.

Program Subrecipients/Program Contractors and site supervisors must ensure that employees are briefed on the Emergency Action Plan during orientation and training, and are capable of executing the plan. The Emergency Action Plan should contain essential contact information for emergency services and designated emergency personnel, as well as available resources and tools for use during an emergency response. It should also include a risk assessment, exit maps, and information on public emergency resources that may aid in incident. Records of Emergency Action Plan orientation and training for employees must be maintained by Program Subrecipients/Program Contractors.

¹² Information regarding the development and implementation of an Emergency Action Plan can be found at: <https://www.osha.gov/etools/evacuation-plans-procedures/eap/minimum-requirements>.

7.5 Evacuation Plan

Program Subrecipients/Program Contractors are required to have an approved Evacuation Plan by PRDOH, outlining procedures to be followed during a major emergency or disaster. A comprehensive Evacuation Plan aims to reduce injuries and property damage by providing clear and efficient processes.

The plan should designate responsibilities to staff, including employees, managers, supervisors, and other onsite personnel. Training on the plan should be provided to all relevant staff, with specific tasks assigned to responsible individuals and others made aware and trained accordingly.

The following minimum requirements must be met in a compliant Evacuation Plan:

- Education and training of the Evacuation Plan. Individuals shall be assigned responsibilities in writing and be known to employees.
- When possible, an assembly point shall be identified. This point should be located at a safe distance from the work area to protect employees from injury. A roll call should be conducted in the assembly area to account for employees.
- An alert system, such as a bullhorn, public-address system, or radio, shall be used to effectively communicate to personnel onsite in the event of an emergency.
- A current list of emergency contact numbers, including local emergency services, and additional key personnel should be readily available, and a designated employee onsite shall be responsible for contacting the appropriate emergency services.
- Site supervisors are responsible for ensuring employees are accounted for after evacuating a site.

7.6 Pandemic Disease Plan

7.6.1 Federal and Local Guidance

Infectious diseases, including but not limited to influenza, respiratory infections, and emerging novel viruses, pose potential risks to workplace safety and health. As part of

its commitment to occupational safety, the CDBG-DR/MIT Program requires that all entities involved in its implementation have a Pandemic Disease Plan to mitigate the impact of such diseases and ensure continuity of operations.

Government agencies such as the Centers for Disease Control and Prevention (**CDC**), OSHA, PR OSHA, the U.S. Department of Health and Human Services (**HHS**), and Ready.gov provide guidance on preventive measures, risk mitigation, and response strategies during an outbreak, epidemic, or pandemic. Entities should regularly consult these sources for updated guidance. For more information, visit: <https://www.ready.gov/pandemic> (English) or <https://www.ready.gov/es/pandemic> (Spanish).

7.6.2 Implementation Within the CDBG-DR/MIT Program

In the event of a public health emergency or infectious disease outbreak, all entities working within the CDBG-DR/MIT Program, including its programmatic areas, subrecipients, and contractors must follow applicable regulations, executive orders, and health directives issued by local and federal authorities.

As part of the CDBG-DR/MIT Program's commitment to safety, all personnel involved in its projects must adhere to workplace-specific measures tailored to the nature of the outbreak. These may include:

- Health screenings and hygiene protocols
- Use of appropriate PPE
- Workforce distancing and modified work schedules, if necessary
- Compliance with government health directives

Entities should coordinate with their safety officers, the PRDOH CDBG-DR/MIT OSH Safety Lead, and Program Area staff to ensure full compliance with the latest health and safety requirements.

7.7 OSHA 300A Form

OSHA and PR OSHA require that every employer with **eleven (11) or more employees** at any point during a calendar year complete a 300A Form at the end of the calendar year, regardless of whether a work-related injury or illness took place. The OSHA 300A Form is used to summarize work-related injuries and illnesses and must be completed and certified by a company executive as correct and complete. When applicable, the OSHA 300A Form must be posted at each job site and made visible to all employees for **three (3) months**, from February 1st until April 30th of the current year. PRDOH will request the submission of the OSHA 300A Form for the last **three (3) years** of the company to validate if the company meets the requirements or, alternatively, a letter or certification from a company executive stating the applicability of the partial exemption for employers that did not have **eleven (11) or more employees** during the previous years.

For PRDOH-led projects, PRDOH has established the Annual OSH 300A form submission tracker. The Annual OSH 300A form is available at <https://app.smartsheet.com/b/form/20008bc3c3304flab21807cd0de04fb5>.

Regardless of the partial recordkeeping OSHA exemption related to company size, all Contractors are expected to submit company information in the PRDOH Annual OSH 300A form submission tracker. However, when the Contractor did not have **eleven (11) or more employees** at any point during the last calendar year, the OSHA 300A Form does not need to be included as an attachment. Alternatively, a letter or certification stating the applicability of the exemption must be included as an attachment.

The OSHA exemption for injury and illness recordkeeping related to certain low-risk industries, as classified in the North American Industry Classification System (**NAICS**), does not apply to Puerto Rico.

Refer to 29 C.F.R. § 1904.35, which provides additional information regarding OSHA's recordkeeping rule.

7.8 Earthquake Emergency Response and Safety Plan

Puerto Rico was affected by a series of earthquakes between 2019 and 2020 that battered the Island's southern coast and caused tremors felt island-wide. Puerto Rico's geological characteristics make it susceptible to this type of natural disaster. Therefore, it is important for PRDOH, as the grantee of CDBG-DR/MIT funds, to have a plan in place that allows for an effective response in the event of future earthquakes. This also applies to CDBG-DR/MIT Program Subrecipients/Program Contractors.

The most important characteristic of an Earthquake Emergency Response and Safety Plan for construction sites is comprehensive preparedness. This includes:

- **Risk Assessment:** Understanding the seismic risks specific to the construction site and surrounding area.
- **Safety Procedures:** Clearly outlined procedures for evacuation, assembly points, and emergency response.
- **Employee Training:** Regular drills and training to ensure all workers know what to do in the event of an earthquake.
- **Structural Integrity:** Ensuring that structures under construction are built to withstand seismic activity.
- **Communication Plan:** Establishing a communication plan to quickly inform workers, emergency services, and other stakeholders.
- **Emergency Supplies:** Stocking emergency supplies such as first aid kits, water, and food in accessible locations.
- **Coordination with Authorities:** Working with local authorities to understand their response plans and how they align with the construction site's plan when appropriate.
- **Post-Earthquake Protocol:** Procedures for assessing damage, ensuring structural safety, and resuming work safely after an earthquake.

8 Initial Job Hazard Analysis (JHA) & Daily Safety Task Analysis (STA)

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Among the best practices in occupational health and safety, OSHA and PR OSHA recommend the use of a JHA at the beginning of a construction project and an STA to reinforce safety throughout the project's development. Regulation 29 C.F.R. § 1926.21(b)(2) states that employers must instruct their employees on the hazards associated with their tasks. In this context, a JHA is a highly effective tool for meeting this obligation, as it allows for the identification of hazards, assessment of risks, and determination of control measures to mitigate them before starting a project.

It is recommended that an initial JHA be reviewed by qualified safety personnel before beginning the contracted work, upon receiving a Notice to Proceed (**NTP**), and that a copy of the document be available at the worksite for consultation and reference. If significant changes occur in the project that may affect potential risks, the JHA should be updated to reflect the new process, and the most recent copy must be available at the site.

This will likely result in fewer worker injuries and illnesses, safer and more effective work methods, reduced workers' compensation costs, and increased productivity. A JHA can also be a valuable tool for training new employees on the necessary steps to perform tasks safely. For a JHA to be effective, contractor personnel, including site supervisors and on-site personnel, must correct the hazards identified.

Regular discussions with on-site personnel about potential hazards that pose an immediate danger to an employee's life or health will help educate them on the necessary steps to protect workers. Worksites must implement immediate corrective actions where possible and facilitate a corrective action resolution plan when risks are identified.

For more detailed information on JHAs, please refer to the following link:
<https://www.osha.gov/Publications/osha3071.pdf>.

8.1 Daily Risk Assessments- Safety Task Analysis (STA)

In addition to the initial JHA, conducting an STA is considered a best practice as a communication mechanism between supervisors and workers regarding safety conditions at the site. The purpose of the STA form is to promote safety awareness and ensure that appropriate measures are implemented to protect workers.

An STA consists of a brief written assessment completed by the site supervisor or a competent person before starting each workday or critical activity. This document identifies and discusses the day's potential hazards and reinforces necessary control measures. The STA must be signed by all employees and kept accessible throughout the workday.

A standard **STA form** generally includes the following elements:

- **Date and time:** The date and time when the analysis is conducted.
- **Location:** The specific area or task being analyzed.
- **Task description:** A description of the task or activity being performed.
- **Identified hazards:** A list of potential hazards associated with the task, such as falls, electrical risks, or exposure to hazardous materials.
- **Risk assessment:** An evaluation of the likelihood and severity of each hazard, typically using a risk matrix or similar tool.
- **Control measures:** A list of control measures that will be implemented to mitigate risks, such as using PPE, implementing engineering controls, or providing training.
- **Responsible person:** The person responsible for implementing the control measures.
- **Signatures:** The signatures of the person conducting the analysis, all on-site workers, and any other relevant parties, such as a supervisor or safety officer.

The STA form must be reviewed and updated regularly to ensure it remains relevant and effective in identifying and mitigating risks on the construction site.

8.2 Record-keeping and Documentation Benefits of STA Forms

Maintaining records of completed STA forms on construction sites is recommended for several reasons:

- **Regulatory Compliance:** Documenting STA forms helps ensure compliance with safety training requirements.
- **Documentation:** Keeping records of daily task risk analyses provides evidence of the steps taken to identify and mitigate risks at the construction site. This documentation may be valuable in the event of an incident or inspection.
- **Risk Management:** Regular completion and maintenance of STA forms allow site managers to identify trends and patterns in hazards, enabling proactive measures to address recurring issues and improve safety practices.
- **Legal Protection:** In the event of a legal dispute or claim, STA records can serve as evidence that the construction site took reasonable steps to identify and mitigate risks, potentially reducing liability.
- **Continuous Improvement:** Reviewing STA records can help identify areas for improvement in safety practices and procedures, leading to a safer work environment over time.

While participation in these practices is not mandatory, all Subrecipients, Contractors, Subcontractors, and other entities are encouraged to incorporate these processes into their safety systems to improve the planning and safe execution of work.

9 Periodic Reporting

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Entities working on CDBG-DR/MIT funded projects must complete oversight for annual reports, such as the OSHA 300A Form as required by PR OSHA. Additionally, PRDOH

directly implemented programs may require additional reports containing a summary of observations for areas identified in this OSH Policy and compliance oversight for PR OSHA requirements. This Policy specifies those additional reporting obligations and submission forms for PRDOH directly administered programs.

Periodic reports may include verification of documents to be reviewed, observations from onsite inspections, orientation, training, and technical assistance, as well as the reporting of any accidents or incidents during that time period.

Subrecipient-led programs are encouraged to establish their own oversight programs and determine the nature and frequency of reporting needed to comply with federal requirements.

10 Noncompliance, Corrective Actions, and Penalties

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

If a project exhibits a serious safety deficiency or an imminent safety violation, PRDOH may issue a Notice of Noncompliance requesting immediate corrective actions. Repeated or unresolved noncompliance findings may also trigger this notice. A SWO may be issued by PRDOH, the Program Area Safety Officer, or any authorized oversight entity, to temporarily halt activities at a job site or a portion of it until corrective measures are implemented and verified.

PRDOH may also escalate the matter to the CDBG-DR/MIT Legal Division for further review and potential enforcement actions. Additional corrective actions, onsite spot checks, and administrative penalties may be implemented in accordance with the executed contractual documents, applicable Program policies and relevant federal or local regulations.

11 Personal Protective Equipment (PPE)

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

All of PRDOH's CDBG-DR/MIT Program Subrecipients/Program Contractors must comply with applicable state and federal occupational safety and health regulations. Among these, some of the most common federal requirements fall under Title 29, Part 1926 of the Safety and Health Regulations for Construction (29 C.F.R. § 1926). Subpart E, Personal Protective and Life-Saving Equipment, (29 C.F.R. §§ 1926.95-1926.107), outlines the standards for protective and life-saving equipment required at construction worksites.

PPE is mandatory for employees engaged in construction work and is essential in preventing injuries and illnesses. Required PPE includes protective gear for the eyes, ears, face, head, and extremities, such as safety glasses, face shields, helmets, gloves, respiratory devices, face masks, earplugs, specialty clothing, and protective footwear. Employers must ensure that the appropriate PPE is provided, properly used, and maintained in good working condition based on the specific job requirements. Any equipment deemed unsafe must be immediately removed from the worksite and disposed of appropriately.

Field-level implementation of PPE compliance requires that site supervisors or designated field personnel inspect and verify the condition and adequacy of PPE before the start of each workday. This includes ensuring that workers are equipped with the appropriate gear for their assigned tasks, such as slip-resistant and puncture-resistant footwear, hard hats, gloves, and other required items.

The CM and/or Program Subrecipients/Program Contractors are responsible for providing initial training and reinforcing the expectation that daily PPE checks are carried out by all subcontractors. These checks are critical to protecting workers and maintaining alignment with applicable federal and local OSH standards. The responsibility for daily enforcement lies with field-level supervisors and contractors.

11.1 Use of PPE

- Program Subrecipients/Program Contractors are responsible for providing PPE to all employees at no cost, as applicable.

- Contractors must ensure that all provided PPE is in good working order.
- All employees are responsible for wearing the required PPE and should notify their supervisor of any missing or defective equipment.
- Gloves should be worn for all tasks on a job site to prevent common injuries.
- Both employees and supervisors are responsible for ensuring that the appropriate type of glove is used for each task.
- Welding work requires the use of appropriate gloves.
- Onsite personnel must wear reflective, high-visibility safety vests. Additionally, all workers exposed to traffic or construction equipment in the surrounding area must wear high-visibility safety apparel. Employees without regulatory reflective, high-visibility safety vests will not be permitted on the job site.
- Employees wearing shorts, torn pants, sleeveless shirts, or inappropriate footwear will not be allowed on the job site.

11.2 Eye and Face Protection

The Eye and Face Protection provisions of 29 C.F.R. § 1926.102 specify the following:

- Eye and face protection must be worn for tasks that pose risks to these areas, as identified in the risk analysis.
- If an employee wears prescription lenses, the Contractor must provide eye protection that incorporates the prescription or can be worn over the lenses.
- Safety glasses with dark lenses are permitted for exterior work only.
- For welding, employees must use a welding mask with the appropriate tint.
- Prior to starting any onsite work, PPE should be inspected to ensure it is appropriate for the task in terms of selection, wear, and use.

11.3 Head Protection

The Head Protection provisions of 29 C.F.R. § 1926.100 mandate the use of safety hard hats at all times while on the construction work site.

11.4 Hearing Protection

The provisions of 29 C.F.R. § 1926.101 outline the requirements for hearing protection in construction work sites. In areas where noise levels exceed the permissible exposures specified in 29 C.F.R. § 1926.52, employees must wear hearing protection. The table below provides these permissible noise exposures.

Table 11: Permissible Noise Exposure at Construction Work Sites

Duration per day, hours	Sound level cBA^{13} slow response
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ or less	115

11.5 Foot Protection

The Occupational Foot Protection provisions of 29 C.F.R. § 1926.96 mandate that employees and other personnel on a job site must wear steel-toed work shoes or boots with slip-resistant and puncture-resistant soles.

¹³ Noise is measured in units of sound pressure levels called decibels or A-weighted decibel (dBA). For more information regarding occupational noise exposure visit: <https://www.osha.gov/noise>.

11.6 Respiratory Protection

Respiratory protection provisions are outlined in 29 C.F.R. § 1926.103 and 29 C.F.R. § 1910.134. These requirements include, but are not limited to the following:

- **1910.134(a)(1):** “In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to this section.”
- **1910.134(a)(2):** “A respirator shall be provided to each employee when such equipment is necessary to protect the health of such employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protection program, which shall include the requirements outlined in 29 C.F.R. § 1910.134(c). The program shall cover each employee required by this section to use a respirator.”
- **1910.134(c)(4):** “The employer shall provide respirators, training, and medical evaluations at no cost to the employee.”
- **1910.134(d)(1)(i):** “The employer shall select and provide an appropriate respirator based on the respiratory hazard(s) to which the worker is exposed and workplace and user factors that affect respirator performance and reliability.”

- **1910.134(d)(1)(ii):** “The employer shall select a National Institute for Occupational Health and Safety (**NIOSH**) certified respirator. The respirator shall be used in compliance with the conditions of its certification.”
- **1910.134(d)(1)(iii):** “The employer shall identify and evaluate the respiratory hazard(s) in the workplace; this evaluation shall include a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant’s chemical state and physical form. Where the employer cannot identify or reasonably estimate the employee exposure, the employer shall consider the atmosphere to be immediately dangerous to human life or health (**IDLH**).”
- **1910.134(d)(1)(iv):** “The employer shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.” Masks shall comply with the NIOSH¹⁴.
- **1910.134(d)(3)(i)(A): Assigned Protection Factors (APFs):** “Employers must use the assigned protection factors listed in Table 3 to select a respirator that meets or exceeds the required level of employee protection. When using a combination respirator (e.g., airline respirators with an air-purifying filter), employers must ensure that the assigned protection factor is appropriate to the mode of operation in which the respirator is being used.”

Table 22: Assigned Protection Factors

Type of respirator ^{1, 2}	Quarter mask	Half mask	Full facepiece	Helmet/ hood	Loose-fitting facepiece
1. Air-Purifying Respirator	5	³ 10	50	.....	.....

¹⁴ The National Institute for Occupational Health and Safety is the federal agency responsible for conducting research and recommendations for the prevention of work-related illnesses and injuries.

2. Powered Air-Purifying Respirator (PAPR)	.....	50	1,000	⁴ 25/1,000	25
3. Supplied-Air Respirator (SAR) or Airline Respirator					
• Demand mode	.....	10	50	.....	.....
• Continuous flow mode	.....	50	1,000	⁴ 25/1,000	25
• Pressure-demand or other positive-pressure mode	.....	50	1,000	.....	.....
4. Self-Contained Breathing Apparatus (SCBA)					
• Demand mode	.....	10	50	50	.....
• Pressure-demand or other positive-pressure mode (e.g., open/closed circuit)	.....	.....	10,000	10,000	.....

Notes:

¹Employers may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required respirator use is independent of concentration.

² The assigned protection factors in Table 2 are only effective when the employer implements a continuing, effective respirator program as required by 29 C.F.R. § 1910.134, including training, fit testing, maintenance, and use requirements.

³This APF category includes filtering facepieces, and half masks with elastomeric face pieces.

⁴ The employer must have evidence provided by the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a Workplace Protection Factor (**WPF**) or Simulated Workplace Protection Factor (**SWPF**) study or equivalent testing. Absence of such testing, all other PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators and receive an APF of 25.

⁵These APFs do not apply to respirators used solely for escape. For escape respirators used in association with specific substances covered by 29 C.F.R. Part 1910, Subpart Z, employers must refer to the appropriate substance-specific standards in that subpart. Escape respirators for other IDLH atmospheres are specified by 29 C.F.R. § 1910.134 (d)(2)(ii).

- **1910.134(d)(3)(iv)(C):** For contaminants consisting primarily of particles with mass median aerodynamic diameters (**MMAD**) of at least **two micrometers (2**

µm), an air-purifying respirator equipped with any filter certified for particulates by NIOSH.”

Table 33: Assigned Protection Factors

Altitude (ft.)	Oxygen deficient Atmospheres (% O ₂) for which the employer may rely on atmosphere-supplying respirators
Less than 3,001	16.0-19.5
3,001-4,000	16.4-19.5
4,001-5,000	17.1-19.5
5,001-6,000	17.8-19.5
6,001-7,000	18.5-19.5
7,001-8,000 ¹	19.3-19.5.

¹Above 8,000 feet the exception does not apply. Oxygen-enriched breathing air must be supplied above 14,000 feet.

12 Elevated Work

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Many injuries and fatalities on construction sites occur due to the unsafe use of ladders, stairs, scaffolding, or elevated platforms, often resulting from a lack of proper fall protection equipment.

12.1 Ladders and Stairs

Ladders and stairs are essential for accessing elevated work areas in construction projects. However, improper use, poor maintenance, and failure to follow safety protocols contribute to many workplace injuries and fatalities. To ensure worker safety, all ladders and stairs must comply with OSHA regulations (29 C.F.R. §§ 1926.1052-1926.1053) and any additional PR OSHA requirements.

12.1.1 Ladders

Ladder safety provisions aim to prevent falls, injuries, and fatalities by ensuring proper selection, inspection, and use of ladders in construction sites. Under 29 C.F.R. § 1926.1053, OSHA's ladder safety guidelines include the following requirements:

- **Duty to Provide Fall Protection**– Employers must ensure that workers using ladders at elevated work areas are protected by personal fall arrest systems, ladder safety systems, or cages and wells where required.
- **Inspection and Maintenance**
 - Ladders must be inspected before each use for visible defects such as damaged rungs, rails, or locking mechanisms.
 - Defective ladders must be labeled as unsafe and removed from service immediately.
 - Ladders must be maintained in good condition and used only for their intended purpose.
- **Weight Capacity**
 - Ladders must be capable of supporting their maximum intended load without failure.
 - Workers must not exceed the manufacturer's weight limit, including tools and materials.
- **Proper Use of Ladders**
 - Workers must face the ladder when climbing and maintain **three (3) points of contact** at all times.
 - Ladders must be positioned on stable and level ground to prevent tipping or sliding.
 - Workers must never use the top step or rung of a ladder as a standing surface.
 - Portable ladders must extend at least **three (3) feet** above the roof or work surface and be properly secured.
- **Ladders in Electrical Work Areas**

- Non-conductive ladders (fiberglass) must be used when working near electrical equipment or overhead power lines.
- Metal and aluminum ladders must not be used in electrical work zones.

- **Extension and Fixed Ladders**

- Extension ladders must be secured to prevent movement and positioned at a **four to one (4:1) angle (one (1) foot** away from the base for every **four (4) feet** of ladder height).
- Fixed ladders taller than **twenty-four (24) feet** must have a fall protection system in place.

12.1.2 Stairs

Stairs are used in both temporary and permanent structures and pose significant safety risks if not properly designed, installed, and maintained. OSHA regulations under 29 C.F.R. § 1926.1052 set forth the following requirements for stair safety:

- **General Stair Requirements**

- Stairs must be stable, uniform in design, and free of obstructions.
- Temporary stairways must be installed before floors or other structural components are placed at higher elevations.
- Stairs must be kept clean and free from debris to prevent slips and trips.

- **Handrails and Guardrails**

- Stairs with **four (4) or more risers** or a rise of **thirty (30) inches or more** must have handrails on at least one side.
- Stairways wider than **forty-four (44) inches** require handrails on both sides.
- Guardrails must be installed at open stairwells to prevent falls.

- **Stair Tread and Riser Requirements**

- Stairs must have uniform riser height and tread depth.
- The maximum riser height is **seven and three fourths (7¾) inches**, and the minimum tread depth is **ten (10) inches**.
- Slip-resistant surfaces must be used to reduce fall hazards.

- **Job-Built and Modular Stair Towers**

- Stair towers and job-built stairways used for elevated work access must comply with OSHA's scaffold and stairway standards (29 C.F.R. §§ 1926.451-1926.454).
- These stairs must be securely anchored, with landing platforms at required intervals.

12.1.3 Safe Access and Egress

- Workers must not carry loads that prevent them from maintaining a firm grip on stair handrails.
- Emergency exit stairways must be clearly marked and kept free from obstructions at all times.
- Stairs leading to elevated work platforms or temporary structures must have adequate support to prevent structural failure.

12.1.4 Compliance with OSHA and PR OSHA Standards

Employers must ensure strict adherence to all ladder and stair safety regulations to prevent falls, trips, and other hazards. Workers should be trained to identify unsafe conditions, report damaged equipment, and follow best practices for using ladders and stairs safely

12.2 Fall Protection

Fall protection provisions are designed to ensure the safety and health of workers by reducing the risk of falls in construction sites.

Under 29 C.F.R. §§ 1926.500-1926.503, OSHA's fall protection guidelines include:

- Employers shall provide fall protection systems, when required, in accordance with OSHA guidelines.
- Fall protection equipment shall be used correctly according to the manufacturer specifications.

- Employees working in areas with unprotected sides or edges which are **six (6) feet** or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.
- Employees are responsible for notifying their supervisor if the equipment is found to be defective, or if an accident occurs.
- If using anchor points, they are required to hold no less than **five thousand (5,000) pounds** per each person connected to it.
- Fall protection equipment shall be visually inspected daily before being used.
- The equipment shall be inspected by a certified professional annually.

12.3 Scaffolding

Scaffolding safety provisions include requirements for the design, construction, and use of scaffolds to ensure the safety of workers. Under 29 C.F.R. §§ 1926.451-1926.454 OSHA's scaffolding guidelines include¹⁵:

- A Competent Person should supervise the erection, dismantling, moving, or alteration of scaffolds and ensure compliance with safety standards.
- Scaffolds must be inspected by a competent person before each work shift and after any occurrence that could affect the structural integrity of the scaffold.
- Scaffolds must comply with all relevant OSHA and PR OSHA standards, including those related to construction and general industry.
- Scaffolds must have guardrails installed at all open sides and ends to prevent falls.
- Unauthorized alterations to scaffolds are not allowed and must be avoided to maintain structural integrity.

¹⁵ Scaffolding information and requirements can be found at: <https://www.osha.gov/sites/default/files/publications/osha3150.pdf>.

- Additional security measures must be taken during scaffold installation or removal to ensure the safety of workers and the surrounding area.

12.4 Aerial Work Platforms (AWP) and Aerial Lifts

The safety provisions for aerial work platforms and aerial lifts describe the requirements for their safe use in the workplace. According to OSHA regulations, it is important to distinguish between the different types of lifting equipment:

- **Aerial Lifts:** Equipment with an articulated or telescopic arm, regulated under 29 C.F.R. § 1926.453.
- **Aerial Work Platforms (AWP):** Includes boom lifts, scissor lifts, and other mobile devices, regulated under 29 C.F.R. § 1926.451 or 29 C.F.R. § 1910.67, depending on the context.

OSHA's general guidelines for the safe use of this equipment include:

- Operators must be trained and certified by the employer before using an aerial work platform or an aerial lift. Training must cover the specific type of equipment being used and the hazards associated with its operation.
- Workers on aerial work platforms or aerial lifts must use fall protection equipment, such as a harness and a lifeline, when working at heights exceeding certain thresholds.
- All equipment must be inspected before each use by a competent person to ensure that it is in safe operating condition.
- Regular maintenance and repairs must be carried out in accordance with the manufacturer's specifications and industry standards.
- Aerial work platforms and aerial lifts must be equipped with guardrails or other fall protection measures to prevent accidents.
- The equipment's rated load capacity must not be exceeded, and workers must not exceed the platform's load limits.
- These machines should not be operated in hazardous weather conditions, such as strong winds or icy surfaces.

Given the context of construction projects in Puerto Rico, additional factors must be considered, such as terrain stability, humidity, and exposure to wind gusts, ensuring that the use of aerial work platforms and aerial lifts is safe and compliant with both local and federal standards.

13 Signage in the Work Area

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Provisions at 29 C.F.R. §§ 1926.200, 1926.201 establish the requirements related to signage at construction sites. Signage in the work area is intended to maintain order and provide clear communication to workers and visitors regarding potential hazards so that appropriate precautions can be taken.

All CMs and Program Subrecipients/Program Contractors are responsible for ensuring that the following minimum signage is clearly posted and maintained at their respective project sites:

- General project information at the main entrance.
- A list of the PPE required in the work area.
- Signage indicating hazardous areas or activities, such as:
 - Fall Hazards
 - Debris Hazards
 - Hazardous Materials
 - Heavy Equipment Use Areas
 - Flammable Materials

In addition, CMs and Program Subrecipients/Program Contractors must ensure that all signage required by PR OSHA and/or any applicable regulatory agencies is properly displayed and remains visible throughout the duration of the project.

14 Control of Hazardous Materials

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

CMs, as well as Program Subrecipients/Program Contractors, are responsible for the safe handling, use, and storage of hazardous materials at the job site. All employees must receive orientation on the safe handling, management, and disposal of hazardous materials in accordance with applicable regulations.

Each worksite must maintain readily accessible SDS for all chemical compounds or products that will be used during the course of construction activities. The CM, Subrecipient, or Program Contractor must ensure that SDS are available on site and that workers are informed about their location and use.

Additional controls shall be implemented in accordance with the Puerto Rico Department of Natural and Environmental Resources (**DRNA**, by its Spanish acronym), 29 C.F.R. Part 1926, Subpart Z, and other applicable state and federal regulations.

15 Fire Protection

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Provisions under 29 C.F.R. §§ 1926.150-1926.155 provides the requirements related to fire protection in construction work sites. Before starting work, the CM is responsible for ensuring the fire protection equipment is operable and all employees know how to use it.

The following requirements shall be met:

- Fire equipment shall be maintained in optimal conditions.
- Shall have the certification about the current inspection.
- Shall be located properly and must be visible.
- Label the location of the equipment; and

- Access to the fire extinguisher cannot be blocked.

16 Housekeeping

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Housekeeping plays a critical role in maintaining safe and efficient construction worksites. Poor housekeeping can contribute to slips, trips, falls, fire hazards, and other safety risks. Effective site maintenance practices reduce the likelihood of injuries and facilitate compliance with OSHA standards.

According to 29 C.F.R. § 1926.25, the following housekeeping requirements must be implemented and maintained throughout the duration of the project:

- During construction, alteration, or repair work, all discarded materials, including formwork, scrap lumber with protruding nails, and other debris, must be promptly removed from work areas, walkways, and stairways, inside and around buildings or structures.
- Combustible scrap and debris must be removed at regular intervals during the course of construction. Safe methods and equipment must be provided and used to facilitate this removal.
- Waste containers must be available for collecting and separating different types of waste materials, including trash, oily and used rags, and other debris.
- Containers used for garbage and flammable or hazardous waste, such as caustics, acids, and harmful dusts, must be equipped with secure covers or lids.
- Garbage and other waste materials must be disposed of at frequent and regular intervals in accordance with applicable safety and environmental regulations.

All CMs, Program Subrecipients/Program Contractors are responsible for ensuring these housekeeping standards are followed at every project site. Project supervisors

must monitor site cleanliness as part of their daily inspections and take immediate corrective actions when deficiencies are observed.

17 Tools – Hand and Power

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Provisions under 29 C.F.R. §§ 1926.300, 1926.307 set forth the requirements related to hand and power tool usage in construction work sites. These requirements include, but are not limited to:

- Hand and power tools and similar equipment, whether furnished by the employer or the employee, shall be maintained in a safe condition.
- When power operated tools are designed to accommodate guards, they shall be operated with such guards when in use.

18 Gas Welding and Cuttings

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Provisions under 29 C.F.R. §§ 1926.350, 1926.354, establish the requirements related to welding and cuttings in construction work sites. Tasks and jobs that involve gas welding and cutting can present several hazards to employee health and safety. Safety risks, such as fire, could result in fatalities, serious injuries and/or property damage. Health hazards are due to the possible inhalation of toxic fumes and vapors that could cause illnesses to employees. Contractors must train their employees to eliminate or reduce risks associated with gas welding and cutting tasks.

19 Excavations

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Excavation and trenching are among the most hazardous construction operations, posing risks of cave-ins, atmospheric hazards, equipment-related accidents, and structural instability. To ensure worker safety and regulatory compliance, all excavation activities within CDBG-DR/MIT-funded construction projects must adhere to OSHA regulations (29 C.F.R. §§ 1926.650-1926.652), PR OSHA standards, and any applicable local permitting requirements.

Before excavation work begins, a JHA or Site-Specific Safety Plan (**SSSP**) must be conducted to assess risks and establish preventive measures. Contractors must also secure necessary permits and identify the location of underground utilities such as electricity, water, gas, and communication lines. The excavation site must be regularly inspected, and all protective measures must be implemented before workers enter the trench.

All trenches, **five (5) feet (1.5 meters) deep or greater** require a protective system unless the excavation is entirely in stable rock. Trenches **twenty (20) feet (6.1 meters) deep or greater** require a protective system designed or approved by a registered professional engineer. Protective systems include:

- **Benching**, which involves cutting the excavation into horizontal steps to reduce soil pressure. This method is not allowed in Type C soil.
- **Sloping**, which requires cutting the trench walls at an angle to prevent cave-ins.
- **Shoring**, which involves installing hydraulic or structural support systems to stabilize trench walls.
- **Shielding**, which protects workers using trench boxes or other barriers to prevent soil collapses.

To prevent cave-ins and ensure stability, excavated soil (spoils) and heavy materials must be placed at least **two (2) feet (0.61 meters) from trench edges**. Equipment or activities that generate vibrations, such as heavy machinery, traffic, or drilling, must

be assessed for their potential impact on trench stability. Special consideration must also be given to excavation work in high-density urban areas, coastal zones, and mountainous terrain, where soil erosion and water infiltration can increase risks.

Because Puerto Rico's tropical climate presents additional challenges such as heavy rainfall, hurricanes, and high humidity, excavation sites must have drainage and dewatering systems in place to prevent water accumulation. Excavations must be inspected before each shift, after rainstorms or hurricanes, and following any event that could affect trench integrity.

Workers entering trenches **deeper than four (4) feet (1.2 meters)** must be protected from atmospheric hazards. Air quality tests must be conducted when required, and proper ventilation or respiratory protection must be provided if low oxygen levels, hazardous fumes, or toxic gases are detected. Workers must wear high-visibility clothing and appropriate PPE at all times.

Employers are responsible for ensuring compliance with OSHA and PR OSHA excavation safety regulations. All records of inspections, protective measures, and excavation-related incidents must be maintained, and the OSHA 300A form must be posted at excavation sites. Emergency procedures must also be established, and workers must be trained to respond to cave-ins, structural failures, and equipment malfunctions.

For additional guidance, contractors should consult:

<https://www.osha.gov/trenching-excavation>

and

<https://www.osha.gov/sites/default/files/publications/osha2226.pdf>.

20 Confined Spaces

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Working in confined spaces presents significant risks, including oxygen deficiency, hazardous fumes, engulfment, and entrapment.

Under 29 C.F.R. §§ 1926.1201-1926.1213, employers must implement a Confined Space Hazard Assessment and Control Program that includes:

- **Identification of Confined Spaces:** Any enclosed space not designed for continuous occupancy and with restricted entry/exit must be classified as a Confined Space (**CS**). If the space contains or has the potential to contain hazardous atmospheres, engulfment risks, or other serious safety hazards, it must be classified as a Permit-Required Confined Space (**PRCS**) per 29 C.F.R. § 1926.1202.
- **Common Confined Spaces in CDBG-DR/MIT Projects:** Sanitary/stormwater sewer systems, electrical vaults, tunnels, underground storage tanks, boiler rooms, mechanical spaces, and deep excavations.
- **Pre-Entry Hazard Assessment:** Before work begins, a competent person must evaluate atmospheric conditions, structural stability, and potential hazards (e.g., low oxygen, toxic gases, or flooding risks).
- **Permit System & Entry Procedures:** PRCS must follow an entry permit system detailing the location, hazards, control measures, required PPE, emergency contacts, and rescue procedures.
- **Atmospheric Testing & Ventilation:** Confined spaces must be tested for oxygen levels (**19.5%-23.5%**), flammable gases (**<10% LEL**), and toxic vapors before entry. If hazards are present, forced-air ventilation or respiratory protection is required.
- **Emergency Response & Rescue:** Employers must establish non-entry rescue procedures, including retrieval systems, tripods, and harnesses, and ensure that all attendants are trained in rescue operations without entering the space.
- **Control of External Hazards:** Excavated soil, heavy equipment, and vehicular traffic must be positioned away from confined space openings to prevent collapses or additional hazards.

- **Communication & Supervision:** Workers inside confined spaces must maintain continuous communication with attendants, and no entry should occur without an assigned attendant present.
- **Training Requirements:** Workers involved in confined space operations must be trained in hazard recognition, entry procedures, emergency response, and PPE use.
- **Recordkeeping & Compliance:** Employers must retain entry permits, hazard assessments, air quality records, and training certifications as required by OSHA and PR OSHA for compliance verification.

By implementing proper confined space safety measures, projects under the CDBG-DR/MIT Program can mitigate risks, prevent injuries, and ensure regulatory compliance across diverse construction environments.

21 Lockout and Tagging of Circuits and Lockout/Tagout (LOTO)

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Lockout and Tagging of Circuits and Lockout/Tagout (**LOTO**) are two closely related but distinct safety procedures designed to prevent the unexpected startup of machines or release of hazardous energy, which could cause serious injuries or fatalities¹⁶.

21.1 Regulatory Requirements

OSHA 29 C.F.R. § 1926.417 outlines the requirements for Lockout and Tagging of Circuits in construction work sites, specifically for electrical systems. Separately, OSHA 29 C.F.R. § 1910.147 establishes the LOTO standard, which applies to the control of all hazardous

¹⁶ See <https://www.osha.gov/dts/osta/lototraining/tutorial/tu-overvw.html>.

energy sources, including electrical, hydraulic, pneumatic, mechanical, chemical, and thermal energy.

CMs must establish a comprehensive LOTO program that includes:

- Written lockout/tagout procedures that outline energy control steps.
- Employee training to ensure personnel understand how to apply, use, and remove locks and tags.
- Periodic inspections to verify compliance and effectiveness.

If an energy control switch or valve can be locked out, then lockout procedures must be used. If locking out is not possible, a tagout system must be implemented to warn against re-energization.

21.2 Key Differences Between Lockout and Tagging of Circuits and LOTO

Aspect	Lockout and Tagging of Circuits	Lockout/Tagout (LOTO) ¹⁷
Scope	Applies only to electrical circuits	Covers all hazardous energy sources
Regulation ¹⁸	OSHA 1926.417	OSHA 1910.147
Application	De-energizing and tagging electrical circuits	Isolating and securing energy sources before servicing machinery
Primary Goal	Prevent electric shock or arc flash	Prevent unexpected startup or release of stored energy

¹⁷ Id.

¹⁸ See <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.147>

21.3 Best Industry Practices for Implementing LOTO Procedures

The best industry practices for implementing LOTO procedures include the following steps:

Step 1: Develop and Document an Energy Control Program

A written lockout policy must be developed to clearly define responsibilities, procedures, and enforcement mechanisms. The entity responsible for providing written procedures depends on project contract specifications, it may be the General Contractor, CM, or Electrical Contractor.

Step 2: Identify and Mark All Energy Control Points

All valves, switches, breakers, and plugs should be clearly labeled and marked with durable tags that indicate their function, hazard level, and control requirements.

Step 3: Train Employees and Conduct Periodic Inspections

Training must be provided to the following **three (3) categories** of employees:

- **Authorized Employees:** Those who perform maintenance and apply LOTO procedures.
- **Affected Employees:** Those who work in areas where LOTO procedures are in place.
- **Other Employees:** Workers who may encounter LOTO-protected equipment but do not directly handle it.

Employers must verify that training is up to date and that employees understand electrical safety procedures and hazard recognition.

Step 4: Provide the Necessary Lockout/Tagout Equipment

Employers must ensure workers have the correct lockout/tagout devices for each energy control point. Heavy-duty padlocks, lockable circuit breakers, warning signs, and specialized LOTO devices should be used to secure all energy sources and prevent unauthorized access.

21.4 Employer Responsibilities

Employers must:

- Develop and enforce a written LOTO program that aligns with OSHA standards.
- Ensure all employees receive training and certification in hazardous energy control procedures.
- Conduct routine inspections and audits to verify compliance.
- Provide appropriate lockout and tagging devices for all relevant equipment.
- Comply with any additional local regulations that may require specific certifications or permits for heavy equipment in Puerto Rico.

By implementing effective LOTO procedures, employers can significantly reduce the risk of workplace injuries and ensure compliance with federal and programmatic safety requirements under the CDBG-DR/MIT Program.

22 Electrical Safety Procedures

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Electrical hazards pose significant risks in construction work, including electrocution, arc flash incidents, and fire hazards. To mitigate these risks, all electrical work must comply with OSHA regulations (29 C.F.R. §§ 1926.400, 1926.449), standard 70E (Standard for Electrical Safety in the Workplace) from the National Fire Protection Association (**NFPA**), PR OSHA standards, and any applicable local codes.

All electrical installations and temporary power systems must be properly grounded, regularly inspected, and protected by Ground-Fault Circuit Interrupters (**GFCI**) in accordance with OSHA requirements. Construction sites using temporary electrical setups, such as generators, extension cords, and power distribution boxes, must ensure these systems are installed, maintained, and used safely to prevent overloads,

faults, and shocks. Workers should never use electrical equipment in wet or damp environments unless properly rated for such conditions.

LOTO procedures must be strictly followed when performing maintenance, repairs, or installations on electrical circuits to prevent accidental energization. Employers must ensure that only qualified personnel perform electrical work and that they use appropriate PPE, such as insulated gloves, arc-rated clothing, protective eyewear, and voltage-rated tools.

Emergency procedures must be in place for electrical accidents, including safe rescue protocols, first aid for electrical shock victims, and immediate reporting of incidents. Any electrical-related accidents or hazardous conditions must be documented and reported in compliance with safety regulations. Employers are responsible for providing ongoing training, ensuring compliance with electrical safety standards, and enforcing proper hazard control measures to protect workers and maintain safe construction environments.

23 Crane, Hoisting, and Rigging Safety Plan

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

OSHA regulations 29 C.F.R. § 1926.251 and 29 C.F.R. § 1926.753 establish requirements related to hoisting and rigging operations in construction work sites. Proper planning, coordination, and execution are essential to ensure safe lifting activities and prevent accidents resulting from poor planning or lack of communication between all involved personnel.

To minimize risks associated with rigging and hoisting operations, the following safety measures must be implemented:

- Ensure an underground utility assessment has been conducted prior to any lifting activity.

- Identify and document all overhead encumbrances, including power lines, adjacent structures, and obstructions.
- Verify that crane setup areas and load support areas meet the necessary stability and capacity requirements.
- If corrective action is required, indicate the responsible party and establish a corrective timeline.
- Ensure all rigging gear (slings, shackles, hooks, and chains) is inspected before each use and meets OSHA and manufacturer's requirements.
- Designate a signal person as required by OSHA to facilitate communication between crane operators and riggers.
- Avoid conducting lifting operations during adverse weather conditions, such as strong winds, heavy rain, or unstable ground conditions.

Additionally, CMs must ensure that the following required documentation is available and up to date:

- Valid Crane Operator's License
- Certified Riggers Certification
- Most recent Crane Safety and Inspection Report
- Comprehensive Site-Specific Rigging Plan

Given Puerto Rico's seismic activity, high humidity, and hurricane exposure, rigging plans must account for environmental and structural risks that may impact lifting operations. Strict adherence to OSHA and PR OSHA safety standards is required to protect workers and maintain compliance with CDBG-DR/MIT construction guidelines.

24 Beams and Columns

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Steel erection activities must comply with OSHA 29 C.F.R. Part 1926, Subpart R and consider Puerto Rico's environmental risks, such as seismic activity and hurricane exposure, to ensure stability and worker safety.

To maintain structural integrity during erection, solid web structural members used as diagonal bracing must be secured using at least **one (1)** bolt per connection, tightened to wrench-tight standards, or as specified by the project's structural engineer of record.

24.1 Double Connections at Columns and Beam Webs Over Columns

When **two (2)** structural members on opposite sides of a column web (or over a column) share common connection holes, at least **one (1)** bolt with a wrench-tight nut must remain connected to the first member unless a shop- or field-attached seat or equivalent device prevents column displacement. (See Appendix H to Subpart R of Part 1926 for mandatory guidelines on double connections.)

Each column splice must resist a minimum eccentric gravity load of **three hundred (300) pounds (136.2 kg)** applied **eighteen (18) inches (.46 m)** from the column face in each direction at the top of the column shaft.

24.2 Perimeter Columns and Fall Protection

Perimeter columns must extend at least **forty-eight (48) inches (1.2 m)** above the finished floor before the next tier is erected, allowing the installation of perimeter safety cables unless constructability constraints apply.

Program Subrecipients/Program Contractors must comply with OSHA 29 C.F.R. Part 1926, Subpart R and additional safety guidelines found in:

- Appendix F to Subpart R- Perimeter column safety requirements.
- Appendix H to Subpart R- Double connection safety requirements.

By integrating these structural safety provisions, the CDBG-DR/MIT Program ensures compliance with federal and local regulations, reducing risks associated with beam and column erection while addressing Puerto Rico-specific construction challenges.

25 Demolition and Cleanup

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Demolition work presents unique hazards due to structural instability, hidden materials, and unknown modifications, increasing the risks of collapses, hazardous material exposure, and worker injuries. To ensure safety and compliance, all demolition and cleanup operations must adhere to OSHA 29 C.F.R. Part 1926, Subpart T (29 C.F.R. §§ 1926.850 - 1926.860), PR OSHA standards, and local permitting regulations.

25.1 General Safety Requirements

Before any demolition work begins, Program Subrecipients/Contractors must:

- Conduct a written engineering survey¹⁹ to assess the structural integrity of floors, walls, and framing to prevent unplanned collapses.
- Shore or brace walls/floors when employees must work inside a fire-, flood-, or explosion-damaged structure scheduled for demolition.
- Inspect and maintain stairs, ladders, and passageways to ensure safe access and egress.
- Shut off or cap all utility lines (electric, gas, water, sewer, steam, etc.) and coordinate with utility companies.
- Identify, test, and remove hazardous chemicals, flammable materials, or gases present in pipes, tanks, or equipment.
- Conduct an asbestos and hazardous material survey, ensuring compliance with the U.S. Environmental Protection Agency (EPA) and Puerto Rico environmental disposal regulations.

¹⁹ 29 C.F.R. § 1926.850

- Ensure that fall protection systems are in place and that openings in floors and walls are properly guarded.
- Implement debris management and disposal plans, particularly for hazardous and regulated materials.

25.2 Structural Demolition and Fall Protection

- Exterior walls and floors must be demolished from the top downward, ensuring loads do not exceed floor capacity.
- Structural elements must not be removed until all stories above have been dismantled.
- No free-standing wall over **one (1)** story in height may remain without lateral bracing, unless designed to be self-supporting.
- Walkways and ladders must be provided for safe worker access.
- Openings in floors and walls must be protected with guardrails (**forty-two (42) inches** minimum height) or secured covers capable of withstanding expected loads.
- Multi-story building entrances must have sidewalk sheds or canopies extending at least **eight (8)** feet to protect workers and the public from falling debris.

25.3 Mechanical Demolition and Equipment Use

- When using wrecking balls, they must not exceed 50% of the crane's rated load.
- The crane boom and load line must be kept as short as possible to reduce swinging hazards.
- Wrecking balls must have a swivel-type connection to prevent twisting of the load line and must be securely attached to avoid accidental detachment.
- Steel members must be cut free before pulling down walls.
- All cornices, overhangs, and ornamental masonry must be removed before pulling down walls.
- Daily inspections must be conducted to assess floor stability, wall integrity, and loosened materials.

25.4 Environmental and Safety Compliance

- Debris disposal and hazardous material removal must comply with EPA and Puerto Rico environmental standards.
- All employees must wear appropriate PPE, including respiratory protection, fall protection, and high-visibility clothing.
- A competent person must conduct daily site safety inspections and workers must be trained in demolition hazards and emergency response.
- Documentation of inspections, engineering surveys, and compliance reports must be maintained throughout the demolition process.

By adhering to these demolition safety protocols, CDBG-DR/MIT projects ensure worker protection, regulatory compliance, and structural stability while addressing the specific environmental and safety challenges of construction in Puerto Rico.

26 Silica, Crystalline

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Crystalline silica is a naturally occurring mineral found in sand, stone, concrete, and mortar. It is also used in glass, pottery, ceramics, bricks, and artificial stone manufacturing.²⁰

26.1 Health Hazards of Crystalline Silica Exposure

When cutting, sawing, grinding, drilling, or crushing materials containing crystalline silica, dust particles at least **one hundred (100)** times smaller than ordinary sand are released into the air. Occupational exposure to silica occurs in various construction activities, including:

- Abrasive blasting with sand

²⁰ Additional information is available at: <https://www.osha.gov/silica-crystalline>.

- Sawing brick or concrete
- Sanding or drilling concrete walls
- Grinding mortar
- Manufacturing bricks, concrete blocks, stone countertops, or ceramic products
- Cutting or crushing stone
- Foundry work and hydraulic fracturing (**fracking**) using industrial sand

Approximately **2.3 million** workers in the U.S. are exposed to crystalline silica in the workplace. In Puerto Rico's CDBG-DR/MIT-funded construction projects, workers involved in demolition, site preparation, and masonry work face significant exposure risks due to the region's high humidity and prolonged outdoor work conditions, which may impact airborne silica concentration.

Workers who inhale respirable crystalline silica dust face increased risks of developing serious illnesses, including:

- Silicosis – An incurable lung disease that causes lung scarring, leading to disability and death.
- Lung cancer – A well-documented risk of prolonged silica exposure.
- Chronic Obstructive Pulmonary Disease (**COPD**) – A progressive lung disease that restricts airflow and causes breathing difficulties.
- Kidney disease – Exposure to silica has been linked to kidney damage and renal failure.

26.2 Compliance with OSHA Regulations

In accordance with 29 C.F.R. § 1926.1153, construction employers under the CDBG-DR/MIT Program must implement a Silica Exposure Control Plan that includes the following preventive measures²¹:

- Substituting crystalline silica with safer materials where possible.
- Implementing engineering and administrative controls, including ventilation systems and enclosed containment areas for abrasive cleaning. If exposure levels exceed OSHA's Permissible Exposure Limit (PEL), employers must provide PPE or alternative protection methods.
- Using water suppression techniques (e.g., water sprinklers) to control airborne silica dust.
- Ensuring the use of NIOSH-certified N95 respirators when respiratory protection is required.
- Prohibiting modifications to respirators and ensuring they fit properly. Beards and mustaches that prevent a secure seal must not be worn with tight-fitting respirators.
- Using only Type CE powered air-purifying respirators (PAPRs) for abrasive cleaning operations.
- Wearing disposable or washable work clothing and showering if facilities are available. Workers should use a vacuum cleaner to remove dust from clothing or change into clean clothes before leaving the job site.
- Participating in silica exposure training, medical surveillance and exposure monitoring programs to detect and mitigate health risks.
- Recognizing silica exposure risks in various job tasks and learning proper workplace protection methods.

²¹ See 29 C.F.R. § 1926.1153 *et. seq.*, for detailed information and requirements regarding silica protection and exposure control plan.

- Understanding health risks associated with silica exposure and avoiding smoking, as it exacerbates lung damage caused by silica inhalation.
- Prohibiting eating, drinking, smoking, or applying cosmetics in areas contaminated with silica dust. Hand and face washing must be done outside contaminated areas before engaging in these activities.

27 PRDOH CDBG-DR/MIT Authority to Monitor and Audit

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

PRDOH, as grantee of CDBG-DR/MIT funds, has the discretion to perform ongoing monitoring and onsite audits of Program Subrecipients/Program Contractors performance in compliance with the requirements contained herein and audit at any time to ascertain compliance with this Policy and applicable local, OSHA, and federal rules and regulations. Program Subrecipients/Program Contractors will be notified of monitoring and auditing efforts upon reasonable notice.

28 Violence in the Workplace

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

PRDOH requires all job sites to adhere to federal and local regulations including but not limited to the following:

- The Puerto Rico Occupational Safety and Health Act, Act 16 of August 5, 1975, as amended, 29 LPRA § 361 *et seq.*;
- PR OSHA inspections, citations and proposed penalties regulations, 1 OSH 1903 of December 8, 1977, as amended; and
- The Puerto Rico Criminal Code, Act No. 146-2012, as amended, 33 LPRA § 5001 *et seq.*

PR OSHA requires that employers provide their employees with working conditions that are free from known dangers. Any employee or employee representative who believes

that a violation of an occupational health and safety standard exists and that such violation threatens physical harm, or that a dangerous situation exists, may request an inspection of the job site by notifying the Secretary of Labor or his authorized representative of such violation or danger. The notification shall be in writing, detailing the reasons for the notice, and must be signed by the employee or the employee's representative. A copy shall be given to the employer or their agent no later than the time of inspection, provided that, upon request of the person providing such notice, their name and the names of individual employees named therein shall not appear on such copy or in any record published, disclosed, or made available.²²

If acts of third parties harm the health or safety of workers on a construction project, the police headquarters²³ in the municipality where the construction project is being carried out should be contacted and a complaint must be filed. If the Criminal Investigation Unit identifies a violation of the law, charges may be filed in accordance with the Puerto Rico Criminal Code of 2012.

In all cases, PRDOH and/or subrecipients administering construction projects must be notified of the incident following the guidance for reporting incidents or accidents established in this Policy.

29 Green Roofs

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Green roofs are an environmentally friendly roofing system designed to enhance sustainability and reduce energy consumption. Their construction and maintenance

²² 29 LPRA § 361p (c)(1).

²³

See

<https://policiapr.maps.arcgis.com/apps/instant/nearby/index.html?appid=178e235319e74457a5b59effbcb420bb>.

introduce significant occupational hazards, requiring strict adherence to OSH safety protocols under federal and local regulations.²⁴

29.1 Green Roofs: Hazards and Controls

Workers in the Green Roofs industry face multiple occupational hazards, including:

- Fall Protection
- PPE-Related Hazards
- Silica Dust Exposure
- Cranes, Derricks, and Hoists
- Powered Industrial Trucks (All Terrain Forklifts)
- Electrical
- Heat/Cold Stress

29.2 Green Roofs: Fall Protection²⁵

Due to the elevated nature of green roofs, falls are a primary hazard. Employers must implement OSHA-compliant fall protection measures to prevent severe injuries or fatalities.

For construction activities, workers exposed to fall distances of **six (6) feet** or more must be protected by:

- Guardrail Systems
- Personal Fall Arrest Systems
- Safety Net Systems

²⁴ The information in this section is derived from the Occupational Safety and Health Administration (OSHA) guidelines on green roof safety. For further details and additional regulatory guidance, visit OSHA's official resources: Occupational Safety and Health Administration, Green Jobs: Green Roofs, <https://www.osha.gov/green-jobs/green-roofs>.

²⁵ <https://www.osha.gov/green-jobs/green-roofs/fall-protection>

For maintenance activities, fall protection is required when exposure reaches **four (4) feet** or more, typically with standard railings. If railings are not feasible, alternative fall protection measures must be in place.

29.3 Green Roofs: PPE-Related Hazards

PPE serves as the last line of defense after implementing engineering and administrative controls. Employers must conduct a workplace hazard assessment to determine PPE requirements, which may include:

- Safety glasses
- Hard hats
- Gloves
- Respirators

Employers must ensure PPE is properly selected, maintained, and used in compliance with OSHA standards.

29.4 Green Roofs: Silica Dust Exposure²⁶

Green roof construction may involve cutting, grinding, and drilling materials containing crystalline silica, posing risks of silicosis and respiratory issues. To mitigate exposure, employers must:

- Adhere to OSHA's PEL standards (29 C.F.R. § 1926.55, and 29 C.F.R. § 1910.1000).
- Implement hazard communication training.
- Establish a respiratory protection program if engineering controls are insufficient.
- Follow OSHA's National Emphasis Program (**NEP**) for Crystalline Silica.

²⁶ <https://www.osha.gov/green-jobs/green-roofs/silica>

29.5 Green Roofs: Cranes, Derricks and Hoists²⁷

Material handling on green roofs often requires cranes and hoists, which present risks of electrocution, struck-by injuries, and structural failures. Employers must ensure:

- Cranes are to be operated only by qualified and trained personnel.
- A designated competent person must inspect the crane and all crane controls before use.
- Be sure that the crane is on a firm/stable surface and level.
- During assembly/disassembly do not unlock or remove pins unless sections are blocked and secure (stable).
- Fully extend outriggers and barricade accessible areas inside the crane's swing radius.
- Watch for overhead electric power lines and maintain at least a 10-foot safe working clearance from the lines.
- Inspect all rigging prior to use; do not wrap hoist lines around the load
- Be sure to use the correct load chart for the crane's current configuration and setup, the load weight and lift path.
- Do not exceed the load chart capacity while making lifts.
- Raise load a few inches, hold, verify capacity/balance, and test brake system before delivering load.
- Do not move loads over workers.
- Be sure to follow signals and manufacturer instructions while operating cranes.
- Rigging and load-handling procedures comply with OSHA 29 C.F.R. §§ 1910.179-1910.180, and 29 C.F.R. § 1926.1417.

29.6 Green Roofs: Powered Industrial Trucks (All-Terrain Forklifts)²⁸

Forklifts are commonly used to transport materials to rooftops, introducing risks of struck-by incidents, rollovers, and load instability. Employers must:

- Conduct daily forklift inspections before use.

²⁷ <https://www.osha.gov/green-jobs/green-roofs/cranes-derricks>

²⁸ <https://www.osha.gov/green-jobs/green-roofs/powered-industrial-trucks>

- Train operators to maintain control, proper speed, and clear visibility.
- Ensure work surfaces are stable, free of obstructions, and capable of supporting loads.

All operations must comply with OSHA 29 C.F.R. § 1910.178.

29.7 Green Roofs: Electrical Hazards²⁹

Green roof workers face heightened electrical risks, often working in proximity to power lines and rooftop electrical systems. To ensure safety:

- Only OSHA-approved electrical equipment should be used.
- Do not modify cords or use them incorrectly.
- Use factory-assembled cord sets and only extension cords that are 3-wire type.
- Use only cords, connection devices, and fittings that are equipped with strain relief.
- Remove cords from receptacles by pulling on the plugs, not the cords.
- Ground-fault circuit interrupters (**GFCIs**) must be installed on all 120-volt, single-phase, 15- and 20-ampere circuits.
- Use double-insulated tools and equipment, distinctively marked.
- Visually inspect all electrical equipment before use. Remove from service any equipment with frayed cords, missing ground.
- Look for overhead power lines.
- Workers must maintain a **ten (10) feet clearance** from overhead power lines.
- De-energize and ground lines when working near them.
- Use non-conductive wood or fiberglass ladders when working near power lines.

29.8 Green Roofs: Heat/Cold Stress

Green roof workers are continuously exposed to extreme weather conditions, particularly high temperatures and humidity levels in Puerto Rico, increasing the risk

²⁹ <https://www.osha.gov/green-jobs/green-roofs/electrical>

of heat-related illnesses such as heat cramps, heat exhaustion, and heat stroke. Cold stress, though less common, must also be considered in certain work environments.

29.8.1 Heat-Related Illnesses

Employers must implement preventive measures such as hydration stations, rest breaks in shaded areas, and acclimatization protocols to reduce risks. Workers should be trained to recognize symptoms and respond promptly to avoid serious medical emergencies.

29.8.1.1 Heat Cramps

Heat cramps are painful muscle spasms caused by the loss of electrolytes through excessive sweating. They are often an early warning sign of heat-related illness.

- Symptoms include muscle pain or spasms, typically in the legs, arms, or abdomen.
- Workers experiencing heat cramps should stop physical activity, hydrate with electrolyte-containing fluids, and rest in a cool area.

29.8.1.2 Heat Exhaustion

Heat exhaustion occurs when the body loses excessive water and salt due to prolonged exposure to high temperatures and inadequate hydration.

Signs and symptoms include:

- Profuse sweating
- Weakness or fatigue
- Dizziness or vertigo
- Headache
- Nausea or vomiting
- Thirst

Workers showing symptoms for Heat Cramps or Heat Exhaustion should be removed from the hot environment immediately and provided with hydration, rest, and cooling measures such as cool compresses or air circulation. If symptoms persist, medical attention may be required.

29.8.1.3 Heat Stroke (Medical Emergency - Call 911 Immediately)

Heat stroke is a life-threatening condition that occurs when the body's temperature regulation system fails, causing a rapid rise in body temperature. This condition requires immediate medical attention, as it can lead to organ failure, permanent disability, or death.

Signs and symptoms include:

- Confusion, disorientation, or altered mental state
- Loss of consciousness
- Seizures (convulsions)
- Hot, dry skin (lack of sweating in late stages)
- Extremely high body temperature (>103°F / 39.5°C)

In the event of heat stroke, immediate emergency response is critical. Call 911 immediately and move the affected worker to a shaded, cool area, removing any excess clothing to facilitate cooling. Apply cold, wet cloths or ice packs to key areas such as the neck, armpits, and groin to help lower body temperature. Increase air movement around the worker using fans or natural ventilation. If the worker is conscious and able to swallow, provide hydration, but do not force fluids if they are disoriented or unconscious. Prompt medical attention is essential, as heat stroke can lead to organ failure or death if not treated urgently.

29.8.2 Cold Stress

Although rare in Puerto Rico, certain work conditions, such as night shifts at high elevations or exposure to refrigerated materials, may expose workers to cold stress, leading to conditions such as hypothermia or frostbite.

Employers should ensure workers:

- Wear appropriate protective clothing for temperature variations.
- Are trained to recognize symptoms of cold stress, such as shivering, confusion, and numbness in extremities.
- Have access to warming shelters or heated areas when necessary.

29.8.3 Key Points for Prevention and Response

To mitigate the risks of heat-related illnesses in Puerto Rico's high-temperature work environments, it is essential to implement preventive measures that align with OSH regulations and CDBG-DR/MIT Program standards.

Employers must establish acclimatization protocols to help workers gradually adjust to extreme heat, reducing the likelihood of heat-related stress. Additionally, frequent breaks should be scheduled in shaded or cool areas to prevent overheating.

Workers must have continuous access to hydration stations with water and electrolyte solutions to maintain proper fluid balance and prevent dehydration. Early reporting of heat-related symptoms should be actively encouraged to allow for prompt intervention before symptoms escalate into serious medical conditions.

Finally, comprehensive training on heat illness prevention and emergency response is crucial to ensuring that workers can recognize warning signs and take immediate action when needed. Reinforcing these preventive measures not only enhances worker safety and well-being but also ensures full compliance with federal and programmatic occupational safety standards.

30 Biofuels

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

As demand for low-carbon impact, domestically sourced fuels has increased, biofuels have become a fast-growing part of the energy sector. Biofuels are produced from renewable resources, such as grains, plant biomass, vegetable oils, and treated municipal and industrial wastes. However, they are flammable or combustible, and their production may involve potentially hazardous chemical reactions. Employers must implement safety measures to protect workers from the risks associated with these fuels and their manufacturing processes.

30.1 Types of Biofuels

There are currently **two (2)** major types of biofuels being produced in the United States:

30.1.1 Ethanol

Ethanol is a flammable liquid that ignites easily at ordinary temperatures. Renewable ethanol is produced through the fermentation of grains or, using advanced technologies, from cellulosic materials such as wastepaper, wood chips, and agricultural waste.

The ethanol production process may involve the use of hazardous materials, including:

- Acids and bases
- Gasoline (used for blending or to denature the alcohol)

Most automotive fuel sold in the U.S. contains up to 10% ethanol, while higher blends, such as E85 (85% ethanol with gasoline), are available in certain regions.

30.1.2 Biodiesel

Biodiesel is a combustible liquid that burns readily when heated. However, its flammability may increase if blended with petroleum-based diesel or contaminated by materials used during its manufacturing process.

Biodiesel is produced by reacting organic materials, such as vegetable oils, with alcohol (typically methanol) using a strong base (e.g., caustic soda) as a catalyst.

During production:

- Glycerin, a combustible liquid, is produced as a by-product.
- The caustic catalyst is neutralized with sulfuric acid.

All of these materials require proper handling to ensure worker safety. Biodiesel blended with petroleum-based diesel is widely available.

30.2 Hazards and Controls

Biofuel production and handling present significant fire, chemical reactivity, and toxicity hazards. Ethanol and biodiesel are highly flammable, requiring proper storage, ventilation, and fire prevention measures to mitigate the risk of ignition. The manufacturing process involves hazardous chemical reactions, which may lead to

spills, unexpected reactivity, and exposure to corrosive or toxic substances such as methanol, sodium hydroxide, and sulfuric acid.

Employers must ensure strict safety protocols, hazard communication training, and the use of appropriate PPE to protect workers from these risks. Compliance with OSH and CDBG-DR/MIT Program standards is essential to maintaining a safe work environment.

31 Hydrogen Fuel Cells

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

A fuel cell is an electrochemical device that generates electricity without combustion, using hydrogen as a fuel source. Electricity is continuously produced as long as hydrogen is supplied. The fuel cell industry is expanding, and workers may face various occupational hazards. Fuel cells are used in transportation (e.g., buses, automobiles, boats), remote power generation (e.g., weather stations, rural locations), and stationary power plants that supply electricity to buildings, towns, and cities. When fuel cells are installed or produced in a workplace, employers must ensure compliance with OSHA regulations to protect workers.

31.1 Hazards and Controls

Workers in the hydrogen fuel cell industry face fire and explosion hazards, freeze burns, and electrical risks. Hydrogen is highly flammable and requires proper storage, ventilation, and leak detection systems to prevent ignition. Workers may also be exposed to extremely low temperatures when handling liquid hydrogen, increasing the risk of freeze burns and cold-related injuries. Additionally, fuel cells operate at high voltages, posing electrical hazards that require proper grounding, insulation, and safety training.

Employers must implement preventive measures to protect workers from hydrogen-related incidents by ensuring proper handling procedures, emergency response plans, and strict adherence to OSHA safety regulations. Compliance with CDBG-DR/MIT Program standards is essential to maintaining a safe working environment.

32 Recycling

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Recycling plays a critical role in waste management and environmental sustainability, with significant growth in the industry over the past decades. The U.S. Environmental Protection Agency (EPA) estimated that in 2008, approximately **eighty-three (83) million tons** of the **two hundred (250) million tons** of waste generated in the U.S. were recycled or composted, a figure that has continued to rise.

However, despite its environmental benefits, the recycling industry presents significant occupational risks, often affecting low-wage and undertrained workers.

32.1 Hazards and Controls

Workers in the recycling industry face exposure to hazardous materials, such as scrap metal, electronic waste (**e-waste**), batteries, used oil, and chemicals, which may contain toxic or corrosive substances. Additionally, common workplace hazards in recycling operations include traffic safety risks, moving machine parts, unexpected machine startup, lifting injuries, and slips, trips, and falls.

To mitigate these risks, employers must implement proper training programs, enforce machine guarding protocols, provide PPE, and establish safety procedures for handling hazardous materials.

Compliance with OSH and CDBG-DR/MIT Program standards is essential to ensuring worker safety and environmental responsibility within recycling operations.

33 Solar Energy

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

The solar energy sector is rapidly expanding as a green energy source, creating new job opportunities while introducing various occupational hazards during the manufacture, installation, and maintenance of solar energy systems. Employers must

implement workplace safety measures, and workers must understand how to protect themselves from job-related risks.

Two primary commercial solar energy sectors include:

- **Solar Electric Systems:** Convert solar energy into electricity using photovoltaic (PV) systems or concentrating solar power (CSP) technology. PV systems, the most commonly used, rely on semiconductors and sunlight to generate electricity. Materials used in PV technology include monocrystalline silicon, polycrystalline silicon, microcrystalline silicon, cadmium telluride, and copper indium selenide/sulfide.
- **Solar Thermal or Solar Water Heating Systems:** These systems use direct or indirect (glycol-based) heating methods to capture solar energy for water heating. The selection of solar water heating systems depends on climate conditions, as freezing temperatures can damage certain types.

33.1 Hazards and Controls

Workers in the solar energy industry may be exposed to various serious hazards, including arc flashes, electric shocks, falls, thermal burns, and other safety risks that can result in injury or fatality. Employers engaged in solar energy installation and grid connection are subject to OSHA's Electric Power Generation, Transmission, and Distribution Standard (29 C.F.R. § 1910.269) and must implement safe work practices and worker training to mitigate risks. While the solar industry is expanding, the associated hazards are well-documented, and OSHA standards provide clear guidelines for workplace safety.

Key hazards and required controls include:

- **Falls:** Workers installing solar panels are often exposed to fall risks from elevated surfaces, including rooftops and scaffolding. Employers must ensure fall protection systems, guardrails, and personal fall arrest systems are in place.

- **LOTO:** To prevent accidental energization of electrical systems during installation or maintenance, workers must follow Lockout/Tagout (**LOTO**) procedures in accordance with OSHA standards.
- **Crane and Hoist Safety:** Solar panels and heavy equipment often require lifting and hoisting, introducing risks of struck-by incidents and equipment failures. Proper crane operation and load management protocols must be enforced.
- **Electrical Hazards:** PV systems and solar electric installations expose workers to risks of electric shock, arc flash, and fire hazards. Employers must implement electrical safety protocols and provide proper training.
- **Heat/Cold Stress:** Solar energy work often occurs in outdoor environments where workers face extreme heat or cold exposure, increasing the risk of heat stroke, dehydration, frostbite, and hypothermia. Preventive measures, such as hydration, rest breaks, and protective clothing, must be enforced.
- **PPE:** Proper PPE, including insulated gloves, face shields, eye protection, and flame-resistant clothing, must be provided to workers handling electrical components and hazardous materials.

Employers must ensure full compliance with OSHA regulations and implement preventive measures to reduce risks associated with solar energy construction and maintenance. Ensuring worker safety will support the continued growth and sustainability of the solar energy industry under the CDBG-DR/MIT Program.

34 Weather Insulating/Sealing

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Weatherizing, insulating, and sealing are essential components of energy efficiency and conservation programs, contributing to sustainability efforts and creating a growing market for green jobs. Various insulation and sealing methods include blow-in and spray-on applications, which require specialized training to ensure correct application and compliance with product specifications.

Common weatherization materials include:

- **Blow-in insulation:** Fiberglass and cellulose.
- **Spray-on applications:** Spray polyurethane foam (**SPF**), spray polystyrene, and spray latex sealant.

The demand for weatherization jobs has increased significantly over the past decade, covering new construction, commercial/public buildings, and retrofitting of existing structures. These jobs include direct installation of weatherization materials, assisting with installation, and post-installation cleanup.

34.1 Hazards and Controls

While weatherization applications contribute to energy conservation, they also introduce workplace hazards that require strict safety protocols. Common risks include chemical exposure, fire hazards, confined spaces, falls, electrical risks, and respiratory protection concerns. Employers must implement preventive measures to protect workers from these hazards.

Key hazards and required controls include:

- **Chemical Hazards – SPF/Isocyanates:** SPF contains isocyanates, which can cause respiratory irritation, skin sensitization, and long-term health effects. Proper ventilation, PPE, and respiratory protection are required.
- **Fire Hazards:** Some insulation materials are flammable or may release toxic fumes when exposed to heat. Employers must ensure fire prevention measures and provide fire-resistant PPE.
- **Confined Spaces:** Installation may require work in tight, enclosed spaces, increasing the risk of oxygen deficiency, heat stress, and exposure to hazardous fumes. Proper ventilation and confined space entry procedures must be followed.
- **Falls:** Weatherizing buildings often requires working at heights, leading to fall risks. Employers must implement fall protection systems, scaffolding safety measures, and personal fall arrest systems.

- **Medical and First Aid:** Workers handling insulation materials may experience chemical burns, skin irritation, or respiratory distress. Employers must provide first aid stations, emergency response training, and access to medical care.
- **Electrical Hazards:** Insulation and sealing work often occurs near live electrical systems, posing shock and electrocution risks. Proper LOTO procedures and electrical safety training are required.
- **Respiratory Protection:** Workers exposed to fiberglass, cellulose dust, or spray foam vapors must wear NIOSH-approved respirators and follow proper air quality controls.
- **PPE:** Workers must use protective clothing, gloves, safety goggles, and respirators when handling insulation materials to prevent skin and respiratory exposure.
- **Ventilation:** Adequate air circulation and exhaust systems must be in place when applying spray-on insulation or working in enclosed areas to prevent exposure to hazardous fumes and airborne particulates.

Employers must ensure full compliance with OSHA regulations and implement preventive safety measures to protect workers in weather insulating and sealing applications. Establishing proper training programs, hazard controls, and PPE enforcement will help maintain a safe and compliant work environment under the CDBG-DR/MIT Program.

35 Roof Waterproofing

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Roof waterproofing is a critical component in construction projects under the CDBG-DR/MIT Program in Puerto Rico, ensuring structural durability, moisture control, and resistance to extreme weather conditions. Given the tropical climate, frequent heavy rainfall, high humidity, and hurricane exposure, waterproofing measures are essential for long-term building performance and compliance with local construction standards.

35.1 Hazards and Controls

Workers involved in roof waterproofing are exposed to specific occupational hazards that require stringent safety measures:

- **Chemical Exposure:** Many waterproofing materials contain volatile organic compounds (**VOCs**) and other hazardous chemicals. Employers must ensure proper ventilation, provide appropriate PPE such as gloves and respirators, and implement SDS protocols.
- **Fire Hazards:** Some waterproofing applications involve flammable materials or the use of open flames (e.g., torches). Employers must implement fire prevention measures, provide fire extinguishers on-site, and ensure workers are trained in fire safety procedures.
- **Falls:** Working on roofs presents significant fall risks. Employers must provide fall protection systems, including guardrails, safety nets, or personal fall arrest systems, and ensure workers are trained in their proper use.
- **Heat Stress:** Roof work in Puerto Rico's climate can lead to heat-related illnesses. Employers should implement heat illness prevention programs, provide access to water and shaded rest areas, and schedule work during cooler parts of the day when possible.
- **Electrical Hazards:** Proximity to overhead power lines or rooftop electrical installations poses electrocution risks. Employers must ensure that workers maintain a safe distance from electrical hazards and use non-conductive tools and equipment.

35.1.1 Regulatory Compliance

Employers must comply with local building codes and standards related to roof waterproofing in Puerto Rico. For instance, the 2018 Puerto Rico Building Code specifies requirements for waterproofing roof openings and joints to ensure water tightness.³⁰

35.1.2 Training and Certification

Employers should ensure that workers receive proper training in roof waterproofing techniques and safety protocols to minimize risks and comply with industry standards and OSHA regulations. Training should cover the correct application of waterproofing systems, safe handling of materials containing VOCs, fire safety procedures for torch-applied or heat-activated systems and fall protection measures. Additionally, workers should be trained on the proper use of PPE and hazard identification, as well as emergency response protocols related to waterproofing activities. Employers must verify that training is provided by qualified professionals and aligns with recognized industry standards applicable in Puerto Rico and the U.S.

36 Fiberglass

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Fiberglass has long been used as an insulation material, but its fibers can cause skin, eye, and respiratory irritation. Workers handling fiberglass should wear protective clothing, gloves, eye protection, and respiratory masks as needed. Additional safety guidelines can be found through the North American Insulation Manufacturers Association (**NAIMA**).

³⁰ For further details and additional regulatory guidance, visit codes.iccsafe.org.

36.1 Other Insulation Materials

- **Cellulose:** One of the oldest insulation materials, cellulose can be applied dry or wet in both new and retrofitted buildings. It is a respiratory irritant, requiring workers to use dust respirators. If untreated with fire retardants, it is highly flammable and must not be used near open flames.
- **Spray Polyurethane Foam (SPF):** Common in new construction and retrofitting, SPF contains isocyanates, a leading cause of work-related asthma (**WRA**). SPF also presents fire hazards, requiring proper ventilation and PPE for protection.
- **Polystyrene:** Used similarly to SPF, polystyrene releases styrene vapors, which can cause respiratory and neurological effects. Styrene is also flammable, requiring the same safety measures as SPF, including respiratory protection and fire prevention protocols.
- **Latex Sealant:** Often used with fiberglass insulation, latex sealants can cause allergic skin and respiratory reactions. Workers should use protective gloves, eyewear, and respiratory protection to minimize exposure.

Employers must ensure proper training, ventilation, PPE usage, and compliance with OSHA regulations to mitigate chemical exposure, fire hazards, and respiratory risks associated with insulation materials.

37 Wind Energy

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

Wind turbines generate electricity by harnessing wind energy and are increasingly being manufactured and installed nationwide. While the wind energy industry continues to expand, it presents occupational hazards that require proper worker protection. Employers must implement safety measures, and workers must be trained to identify and mitigate risks.

37.1 Hazards and Controls

While the hazards in wind energy are not unique, they can lead to serious injuries or fatalities if not properly managed. OSHA regulations provide safety standards to address these risks, which include:

- **Falls:** Wind turbine maintenance often requires working at extreme heights, increasing the risk of falls. Employers must ensure the use of fall protection systems, guardrails, and personal fall arrest equipment.
- **Electrical Hazards:** Workers face electric shock risks, arc flashes, and electrical fires during installation, maintenance, and repair of wind turbines. Proper LOTO procedures and electrical safety training are required.
- **Crushing Injuries:** The movement of heavy turbine components and rotating machinery presents risks of struck-by or caught-in incidents. Workers must follow machine guarding protocols and wear appropriate PPE.

Employers must ensure strict compliance with OSHA safety standards, implement preventive training, and provide workers with adequate protective equipment to reduce risks associated with wind energy construction and maintenance.

38 Project Closeout

This section applies to all programmatic areas and projects under the CDBG-DR/MIT Program that include construction activities within their scope.

As part of the project closeout process, PRDOH will conduct a comprehensive review of safety reports, submitted documentation, and other required records to ensure compliance with CDBG-DR/MIT Program requirements.

Subrecipients/Program Contractors are responsible for:

- Ensuring full compliance with the OSH Policy throughout the entire project lifecycle.
- Providing all required documentation upon request, both during program implementation and before project closeout.

- Addressing any outstanding safety concerns or corrective actions before finalizing the project.

A complete and accurate closeout file is essential to demonstrate compliance with federal and programmatic safety standards, mitigate potential risks, and uphold the integrity of the CDBG-DR/MIT Program.

END OF POLICY.