



# A GUIDE TO BUILDING HEALTHY AND SAFE EARLY CHILDHOOD FACILITIES AFTER A NATURAL DISASTER



NATIONAL CENTER ON

Early Childhood Health and Wellness

Rebuilding an early childhood facility after a natural disaster is a step toward resilience and recovery. These efforts provide an opportunity for Head Start program leaders to address important health and safety considerations in facility design.

The recommendations in this guide represent evidence-informed health and safety practices in the design and construction of early childhood centers that serve children ages birth to 5. While the health and safety recommendations in this guide may apply to any early childhood program, the guide was specifically created for Head Start and Early Head Start programs (collectively described as “Head Start” in this document) that were affected by hurricanes. The guide also includes considerations that may help programs prepare to build new or renovate existing facilities.



## SECTION 1. INTRODUCTION

### Purpose of the Guide

As program leaders—governing body, Policy Council, and key management staff—you can use this guide when building a new facility or renovating a facility after a hurricane or other natural disaster. The purpose of the guide is to inform and support your conversations about health and safety with your building team. Your building team may include architects, contractors, engineers, construction or project managers, and others who will contribute to the design and construction of your facility.

### Head Start’s Role on the Building Team

Each member of the building team brings specific content expertise needed for planning and constructing a new building or making improvements to an existing structure. Together, you can develop safe, healthy, and nurturing environments for children to learn and grow. Members of your building team may have limited experience in designing facilities for young children. You and your staff are the experts about your program. Your role is to ensure that your whole team understands the design elements of an early childhood center including creating the space you need to operate your program effectively, providing optimal learning experiences for children, and protecting the healthy development and safety of children and adults in all indoor and outdoor areas of the facility.

Members of your Health Services Advisory Committee (HSAC) may be able to inform your building team about the unique health and developmental needs of young children. They may also be able to identify credentialed professionals with the right expertise to work with your team on specific health and safety issues for infants, toddlers, and preschool children.

## Building and Health Codes, Regulations, Licensing, and Standards

You can help the members of your building team become familiar with the relevant [Head Start Program Performance Standards](#) and the requirements set forth in the [Head Start Act](#). You can also help your team understand the evidence-based best practice standards in [Caring for Our Children](#) (CFOC) that apply to healthy and safe learning environments in Head Start facilities.”

Your building team can help ensure your facility complies with all relevant regulations that protect life and property, such as building codes (including those that address natural disasters), fire codes, zoning, and child care licensing regulations applicable in your jurisdiction. This document does not address these requirements.

## Resources for Early Childhood Facility Design

A number of other resources provide guidance for planning and designing early childhood centers. For general recommendations on early childhood facility design, you may want to consult the following resources:

- *The Child Care Center Design Guide*
  - *The Child Care Center Design Guide* is available in [English](#), with an additional [amendment](#) to Chapter 8. The [Spanish translation](#) of these resources is available on Mis Colegas, the Spanish language community on MyPeers, an online, collaborative platform created by the Office of Head Start. To join MyPeers, visit the [MyPeers](#) page on the Office of Head Start [Early Childhood Learning and Knowledge Center](#) (ECLKC).
- *The Public Playground Safety Handbook*, available in [English](#) and [Spanish](#)
- The ECLKC [Facilities](#) page

Head Start Program Performance Standard 1303.44 (available in [English](#) and [Spanish](#)) requires grantees to submit “certification by a licensed engineer or architect that the facility is, or will be upon completion, structurally sound and safe for use as a Head Start facility and that the facility complies, or will comply upon completion, with local building codes, applicable child care licensing requirements, the accessibility requirements of the Americans with Disabilities Act, section 504 of the Rehabilitation Act of 1973, the Flood Disaster Protection Act of 1973, and the National Historic Preservation Act of 1966.”

### A Note about CFOC Standards

*Caring for Our Children* (CFOC) is a collection of national standards, based on evidence, expertise, and experience, for quality health and safety policies and practices for today’s early care and education settings. These are voluntary, best practice recommendations. The CFOC standards hyperlinked throughout this guide will direct you to the [CFOC Standards Online Database](#), which is only available in English. A [Spanish translation](#) of the CFOC standards in **Chapter 5: Facilities, Supplies, Equipment, and Environmental Health** is available. The translated Chapter 5 standards are current through January 30, 2020 and may not reflect revisions to the CFOC standards made after this date.



## Content and Organization of the Guide

This guide covers the following content areas:

### Critical Health and Safety Information For Your Building Team

- Illness Prevention
- Injury Prevention
- Accessibility
- Emergency Planning and Preparedness

### Safe Sites

- Physical Hazards
- Environmental Contaminants

### Buildings

- Structure
- Entryway
- Windows
- Building Materials for Floors, Ceilings, and Walls
- Plumbing
- Electricity and Back-up Power
- Heating, Ventilation, and Air Cooling (HVAC)
- Emergency Alert Systems
- Waste Management and Pest Control
- Mold Reduction

### Indoor Spaces

- Classroom Design
- Other Indoor Spaces

### Outdoor Spaces

- Outdoor Play Areas
- Parking Lots, Driveways, and Walkways



### Each section includes:

- **Important Messages** related to the topic.
- **What You and Your Team Can Do** to ensure the health and safety of your facility and caregiving practices. These recommendations can help you address relevant health and safety considerations when planning your facility with your building team.
- **Regulations and Standards** from relevant Head Start Program Performance Standards and the *Caring for Our Children Online Database*.
- **Where to Find More Information** to promote easy access to resources related to the topics addressed in the section. Most of these resources are available in both English and Spanish.

If you have questions about any of the information in this guide or need additional resources, contact [health@ecetta.info](mailto:health@ecetta.info). You may also find more information about the environmental health considerations addressed in this guide by contacting the [U.S. Environmental Protection Agency \(EPA\) Region 2 Office](#) and the [Pediatric Environmental Health Specialty Unit \(PEHSU\) Region 2 Office](#).

## SECTION 2.

# CRITICAL HEALTH AND SAFETY INFORMATION FOR YOUR BUILDING TEAM

One of the first steps in rebuilding or renovating a Head Start facility is to gather information from the people using the facility to ensure that the design or renovation of indoor and outdoor spaces reflect the needs of the young children, families, and staff who use those spaces. A building project is your opportunity to create a facility that supports high quality programming.

You are the expert on your program and the spaces you require to support the needs of the children and families you serve. Talk with your building team about how children see their world from a level that is lower to the ground and how they explore their environments. Your building team will need your help to understand how the design of the space can facilitate the daily routines of children, families, and staff. **Children are the primary users of the space, and classroom design must take their unique size, development, and caregiving needs into account.** Other spaces within the center used primarily by adults will require different design considerations to support their needs.

Develop a vision for your facility that will best meet the health and safety needs of your community. Be sure to ask everyone who will use the facility for their input—administrators, teachers, support staff, and families. Find out what worked best in your facility before the hurricane so you can replicate features that met everyone’s needs.

You will also need to gather input about how you can make improvements. Find out what changes staff and families would recommend. Consider asking the following questions to inform your next steps:

- Are there any features of the facility that negatively affected the health and safety of the children, staff, and families?

### Dream big!

Don’t limit your vision to what you had before. Focus on creating a nurturing environment that will promote children’s learning and development and allow staff to do their best work.



- What are the most important new features to include in designing our facility?
- What problems emerged after the hurricane that we should aim to prevent in the future (such as mold and pests or parts of the building that were ruined)?

Your greatest responsibility as a Head Start program leader is to protect the children in your care. This section of the guide addresses critical information that you will want to communicate to your building team. These overarching ideas apply to the whole building design, including the location and construction of indoor and outdoor spaces. You can help building teams design healthy and safe learning environments for young children, their families, and staff by sharing information about how Head Start programs:

- Prevent illness
- Prevent injuries
- Ensure accessibility
- Plan for natural disasters

## Illness Prevention

### Important Messages

Preventing the spread of infectious disease is central to the health of children and adults who use your facility. You can help your building team understand that young children get sick often and germs spread easily. There are elements of building design that can make it easier for staff to keep the facility clean and limit the spread of germs.

### What You and Your Team Can Do

- Provide enough space to prevent crowding. For example, napping and sleeping areas should have ample room between cribs and cots or mats to reduce the spread of germs (CFOC [5.4.5.1](#)).
- Ensure adequate access to fresh air (CFOC [5.2.1.1](#)).
- Choose non-porous smooth surfaces that can be easily cleaned, sanitized, and disinfected.
- Make sure you have enough sinks for adults and children that are accessible in each classroom (CFOC [5.4.1.10](#)). Children and adults wash hands frequently throughout the day.
- Prevent cross contamination and the spread of germs by installing separate sinks for handwashing, food preparation, and cleaning anything that may contain human waste (CFOC [4.8.0.4](#) and [5.4.1.11](#)).
- Include areas in your facility design for laundry and dishwashing machines to make it easier for staff to reduce the spread of germs.



## Injury Prevention

### Important Messages

Young children acquire new physical skills every day. They are naturally curious and learn and grow through exploration with their senses. This means that children touch anything within reach and may put objects in their mouths. This constant exploration and practicing of new skills also mean that they are at risk of injury if their environment is not safe. Two of the most important injury prevention strategies include eliminating hazards and using active supervision. Building teams need to ensure that indoor and outdoor spaces are hazard-free, and adults can see and hear children all the time.

### What You and Your Team Can Do

- Consider design elements to prevent falls and eliminate trip hazards. Use impact-absorbing surfaces under climbing equipment and guard rails around elevated surfaces.
- Anchor heavy furniture, appliances, shelving units, and other equipment to prevent tipping.
- Plan for adequate storage to keep dangerous materials out of children's reach.
- Design environments to ensure staff can see, hear, and reach children easily.
- Design environments including cupboards, diapering areas, and storage, to minimize staff injuries from excessive bending, lifting, and twisting.

## Accessibility

### Important Messages

Your facility must be readily accessible and usable by individuals with disabilities. These design elements have benefits for everyone in your program. For example, wheelchair accessible surfaces are good for crawling babies and young toddlers learning to walk. Someone on your building team should know about ADA requirements so you can ensure your facility is accessible. As a team, you can all work together to ensure the facility welcomes and includes all children, families, and staff who use the space.

### What You and Your Team Can Do

- Ensure the design of indoor and outdoor spaces allows all users equal access (CFOC [5.1.1.4](#)).
- Design spaces that accommodate a wide range of preferences and abilities. Designing with flexibility in mind not only addresses the needs of those with different abilities but also provides more options for how to use each space.
- Use design elements that require minimal effort. For example, doors that automatically open and ramps are helpful for everyone in the center, including those who have mobility impairments and families with strollers.
- Ensure all elements in the space are easy to use for people of all ages and abilities.
- Provide clear, wide paths and safe floor coverings throughout rooms, hallways and outdoor play spaces.



## Emergency Planning and Preparedness

### Important Messages

Head Start programs need to be prepared for any type of emergency or disaster. As you rebuild or renovate your facility, you have an opportunity to discuss disaster planning and preparedness with your building team and take steps to minimize the impact of future disasters.

You may also want to consider whether you want your program to have a role in supporting the community in the event of a future disaster. For example, you could include enhancements to your facility such as bathrooms with showers, expanded laundry facilities, a larger kitchen area, additional storage for emergency food and water supplies, and other features that would allow your program to serve families after a disaster.

## What You and Your Team Can Do

- Plan for power outages during and after a disaster by obtaining and safely installing alternative power sources such as generators.
- Consult an engineer about steps to take to protect your water system during and after a natural disaster.
- Use building materials that may mitigate damage to your facility such as impact-resistant glass and hurricane shutters on windows.
- Use the Mitigation Checklist in the *Emergency Preparedness Manual for Early Childhood Programs* ([English](#) and [Spanish](#)) to identify possible structural and nonstructural hazards that you may need to address to reduce the risk of damage or injury in the event of a future emergency.
- Dedicate a specific and easily accessible storage area for emergency supplies (CFOC [4.9.0.8](#)).

## Regulations and Standards

### Head Start Program Performance Standards

[1302.31](#) Teaching and the learning environment

[1302.47](#) Safety practices

[1302.61](#) Additional services for children

[1303](#) Subpart E Facilities

### Caring for Our Children Standards

[4.8.0.4](#) Food Preparation Sinks

[4.9.0.8](#) Supply of Food and Water for Disasters

Chapter 5: Facilities, Supplies, Equipment, and Environmental Health ([English](#) and [Spanish](#))





## WHERE TO FIND MORE INFORMATION

English	Español
<a href="#">10 Actions to Create a Culture of Safety</a>	<a href="#">10 acciones para crear una cultura de seguridad</a>
<a href="#">Active Supervision</a>	<a href="#">Supervisión activa</a>
<a href="#">Anchor It</a>	<a href="#">Asegúrelos</a>
<a href="#">Best Practices for Minimizing Wind and Water Infiltration Damage</a> (English only)	
<a href="#">Creating Playgrounds for Early Childhood Facilities</a> (English only)	
<a href="#">Designing Early Childhood Facilities</a> (English only)	
<a href="#">Developing Early Childhood Facilities</a> (English only)	
<a href="#">Disaster Checklist for Child Care Professionals</a>	<a href="#">Lista de verificación en caso de desastre para profesionales del cuidado infantil</a>
<a href="#">Emergency Preparedness Manual for Early Childhood Programs</a>	<a href="#">Manual de preparación para emergencias para programas de primera infancia</a>
<a href="#">Equipping and Furnishing Early Childhood Facilities</a> (English only)	
<a href="#">How to Get Ready for Earthquakes</a>	<a href="#">Cómo prepararse para los terremotos</a>
<a href="#">How to Get Ready for Hurricanes</a>	<a href="#">Cómo prepararse para los huracanes</a>
<a href="#">How to Get Ready for a Power Outage</a>	<a href="#">Cómo prepararse para un corte de energía</a>
<a href="#">How to Get Ready for an Emergency at Work</a>	<a href="#">Cómo prepararse para una emergencia en el trabajo</a>
<a href="#">Injury Prevention</a>	<a href="#">Prevención de lesiones</a>
<a href="#">Keeping Food and Water Safe in an Emergency</a>	<a href="#">Cómo conservar los alimentos y el agua en una emergencia</a>
<a href="#">Making Water Safe in an Emergency</a>	<a href="#">Cómo hacer que el agua sea segura en una emergencia</a>
<a href="#">Prepare for the Unexpected</a>	<a href="#">Prepárese para lo inesperado</a>
<a href="#">Reducing the Spread of Illness in Child Care</a>	<a href="#">Cómo evitar la propagación de enfermedades en la guardería o centro de cuidado infantil</a>
<a href="#">Reopening Your School Kitchen After a Flood</a> (English only)	
<a href="#">Salvaging Food After a Flood</a> (English only)	
<a href="#">The Sustainable Facilities Tool</a> (English only)	
<a href="#">The Universal Design of Early Education: Moving Forward for All Children</a> (English only)	
<a href="#">Whole Building Designing Guide</a> (English only)	

## References:

1. American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education. CFOC Standards Online Database. Aurora, CO; National Resource Center for Health and Safety in Child Care and Early Education; 2019. [<https://nrckids.org/CFOC>]. Accessed [2/3/2020]



## SECTION 3. SAFE SITES

The first step in building a new facility is finding a suitable location that protects children and adults from hazards and exposure to toxic substances. This involves assessing whether there are any physical or chemical hazards that require mitigation. If you are renovating an existing facility, many of the items in this section will help you determine whether you need to mitigate any existing hazards. If an assessment of the location identifies health and safety risks that you cannot eliminate, the site is not appropriate for an early childhood center. This section includes health and safety considerations related to choosing a safe site for your facility. It addresses physical hazards and environmental contaminants.

### Physical Hazards

#### Important Messages

Together, you and your building team will need to determine whether a potential building site is safe for use as an early childhood center. Some physical features of the site, such as proximity to busy roads, open water, or cliffs, may pose risks to children's safety. Your building team may be able to address these risks by designing appropriate barriers, fencing, and other elements that will protect children from coming into contact with these areas or hazards.

#### What You and Your Team Can Do

- Ensure the location is protected from natural hazards, such as cliffs, drop-offs, and open water. Speak with your building team about how to ensure everyone's safety if any of these elements are nearby.
- Determine whether the building site is in a [flood hazard zone](#). Discuss elements of hurricane and flood resistant design needed to protect the building from flood damage.
- Discuss whether the site has any natural features, such as trees, rocks, or steep hills, that may need to be removed or re-graded to ensure safe outdoor play areas and walkways.
- Consider whether nearby businesses produce noise that may interfere with the ability to be clearly heard and understood in a normal conversation without raising one's voice. Excessive sound levels can damage hearing, impede communication, and cause distress (*CFOC 5.2.3.1*).
- Discuss the following transportation considerations:
  - Are there times of day when traffic near the site is especially busy? Would the program's arrival and departure schedule affect traffic patterns that could be unsafe for children, families, and staff?
  - Is the site convenient for your staff and the families you serve? Can they safely walk, drive, or take public transportation to the site? Will you need to install or maintain sidewalks?
  - Does the location have roads that provide for more than one way to get to and depart from the center?
  - Are evacuation routes easily accessible when there is a known risk of flooding, hurricanes, or other natural disasters?
  - Is there space for vehicles to enter and exit in a way that is safe and does not endanger children?

## Environmental Contaminants

### Important Messages

There are many reasons why the environmental health of your site matters to the young children you serve. These reasons include:

- Their behaviors (such as crawling and putting their hands in their mouth) expose them to more contaminants in the environment than adults.
- Their body size is smaller, and they are more affected by what they eat, drink, and breathe.
- They are growing and more at risk for life-long health and developmental problems from exposure to harmful substances.

Exposure to toxic chemicals puts children at risk for health problems including cancer, asthma, and learning disabilities. Children can be exposed to harmful chemicals in the air they breathe, the water they drink, or the soil they touch. Often, environmental contaminants are invisible, and it is important to learn about possible hazards, how to test for them, and what can be done to mitigate risks. (Sources: [CFOC 5.1.1.5](#) and [Eco-Healthy Child Care: Air Quality](#))



### What You and Your Team Can Do

- Find a professional to conduct an environmental audit of your site. The audit should cover these four elements:
  - **Former use of site:** It is important to find out what was on a site previously because harmful substances may stay on a site long after the activity that caused the contamination has stopped. If you are renovating or rebuilding, keep in mind that natural disasters can cause new contamination, and it is important to complete a new audit of your environment after these events.
  - **Nearby sites and nearby activities:** Nearby sites and activities may also be a source for hazards. Find out if neighboring properties house businesses that could cause potential hazards (such as air pollution, lead contamination, or oil contamination from tanks). If there is undeveloped property close to the area you are considering for your facility, find out if it is zoned for uses that could produce potential hazards.
  - **Naturally occurring contamination:** Many naturally occurring contaminants are invisible, such as asbestos or radon. Work with local health departments and other government agencies to find out if the area you are considering is at risk for any naturally occurring hazards.
  - **Safe drinking water:** It is important to find out what type of water system (public system or private system such as a well or cistern) is available, as well as any possible contamination. Have an expert review water sample reports. (Source: [Choose Safe Places for Early Care and Education](#))

- Talk with the public health agency in your jurisdiction and your building team about working with environmental health experts to mitigate any contamination risks. Ideally, consult with trained and accredited professionals to mitigate environmental hazards such as lead, radon, asbestos, arsenic, and water contamination.
- Evaluate the air quality of the surrounding area and consider the site's proximity to common sources of air pollution, such as busy roads, smoke or fires, and agricultural and manufacturing. Your facility may be exposed to excessive levels of diesel exhaust if it is located less than 500 feet from major roadways or close to heavy bus traffic (Source: [Eco-Healthy Child Care: Air Quality](#)). Because air pollutants tend to settle in valleys and basins, avoid choosing a low-lying site for your facility if possible.
- Consider potential lead contamination in water and soil. Lead can contaminate soil via dust from deteriorating lead paint, major roadways from the past use of leaded gasoline in cars, or industrial sources (past or present) such as a battery recycling facility. Test the soil and water for lead. (Source: [Eco-Healthy Child Care: Lead](#)).
- Find out about any agricultural activities near the facility site that may use pesticides that could drift in the air or contaminate food or drinking water.
- Learn about potential nearby sources of Volatile Organic Compounds (VOCs). VOCs are compounds that evaporate easily and form a vapor or gas in the air. Sources include gas stations, dry cleaners, nail salons, funeral homes and industrial operations. VOCs can seep into nearby buildings and pollute indoor air. Some agricultural sites and farms also store waste products, such as manure, that could contaminate water supplies during a flood. (Source: [Eco-Healthy Child Care: Safe Siting](#)).

- Discuss installing a radon reduction system during construction. Radon is an invisible radioactive gas produced by the natural breakdown of uranium in rock, soil, and water. Radon can be drawn into a building and accumulate in high levels, but soil tests prior to construction are ineffective at predicting whether radon will accumulate. In existing buildings, test for radon and if the levels are high, determine what action you need to take to reduce radon levels. (Source: [Building Radon Out: A Step-by-Step Guide On How to Build Radon-Resistant Homes](#) and [Eco-Healthy Child Care: Radon](#)).

## Regulations and Standards

### Head Start Program Performance Standards

[1302.47](#) Safety practices.

### Caring for Our Children Standards

[5.1.1.2](#) Inspection of Buildings

[5.1.1.5](#) Environmental Audit of Site Location

[5.2.1.1](#) Ensuring Access to Fresh Air Indoors

[5.2.6.1](#) Water Supply

[5.2.6.2](#) Testing of Drinking Water Not From Public System

[5.2.6.3](#) Testing for Lead and Copper Levels in Drinking Water

[5.2.6.4](#) Water Test Results

[5.2.9.4](#) Radon Concentrations

[5.2.9.6](#) Preventing Exposure to Asbestos or Other Friable Materials

[5.2.9.13](#) Testing for Lead

[5.2.3](#) Noise

[5.2.3.1](#) Noise Levels

[5.2.9.11](#) Chemicals Used to Control Odors

[5.2.9.12](#) Treatment of CCA Pressure-Treated Wood

Chapter 5: Facilities, Supplies, Equipment, and Environmental Health ([English](#) and [Spanish](#))

## WHERE TO FIND MORE INFORMATION

English	Español
<a href="#">Air Quality</a>	<a href="#">Calidad del aire</a>
<a href="#">Arsenic: Treated Wood and Water</a>	<a href="#">Arsénico: En la Madera Tratada y el Agua</a>
<a href="#">Asbestos</a>	<a href="#">Asbesto</a>
<a href="#">Building Radon Out: A Step-by-Step Guide on How to Build Radon-Resistant Homes (English only)</a>	<a href="#">El manual de orientación cómo escoger lugares seguros para la atención y educación de la primera infancia (CSPECE)</a>
<a href="#">Choose Safe Places for Early Care and Education (CSPECE) Guidance Manual</a>	CSPECE <a href="#">Lista de verificación para la elaboración del programa</a>
<a href="#">CSPECE Program Development Checklist</a>	
<a href="#">EPA Map of Radon Zones including State Radon Information and Contacts (English only)</a>	
<a href="#">Ground Water and Drinking Water</a>	<a href="#">Agua</a>
<a href="#">Lead</a>	<a href="#">Plomo</a>
<a href="#">Mercury</a>	<a href="#">Mercurio</a>
<a href="#">Noise Pollution</a>	<a href="#">Contaminación acústica</a>
<a href="#">Radon</a>	<a href="#">Radón</a>
<a href="#">Safe Siting (English only)</a>	

## References:

1. American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education. *CFOC Standards Online Database*. Aurora, CO; National Resource Center for Health and Safety in Child Care and Early Education; 2019. [<https://nrckids.org/CFOC>]. Accessed [2/3/2020]
2. Children's Environmental Health Network. *Eco-Healthy Childcare Fact Sheets: Air Quality*. Children's Environmental Health Network: Washington, DC; 2016. [https://cehn.org/wp-content/uploads/2015/12/Air\\_Quality\\_4\\_16.pdf](https://cehn.org/wp-content/uploads/2015/12/Air_Quality_4_16.pdf). Accessed February 3, 2020.
3. Children's Environmental Health Network. *Eco-Healthy Childcare Fact Sheets: Lead*. Children's Environmental Health Network: Washington, DC; 2016. [https://cehn.org/wp-content/uploads/2019/08/Lead\\_7.25.19.pdf](https://cehn.org/wp-content/uploads/2019/08/Lead_7.25.19.pdf). Accessed February 3, 2020.
4. Children's Environmental Health Network. *Eco-Healthy Childcare Fact Sheets: Radon*. Children's Environmental Health Network: Washington, DC; 2017. [https://cehn.org/wp-content/uploads/2017/03/Radon\\_3\\_17\\_final.pdf](https://cehn.org/wp-content/uploads/2017/03/Radon_3_17_final.pdf). Accessed February 3, 2020.
5. Children's Environmental Health Network. *Eco-Healthy Childcare Fact Sheets: Safe Siting*. Children's Environmental Health Network: Washington, DC; 2016. [https://cehn.org/wp-content/uploads/2019/07/Safe-Siting\\_Fact-Sheet-6.24.19.pdf](https://cehn.org/wp-content/uploads/2019/07/Safe-Siting_Fact-Sheet-6.24.19.pdf). Accessed February 3, 2020.
6. United States Environmental Protection Agency. *Building Radon Out: A Step-by-Step Guide on How to Build Radon-Resistant Homes*. Washington, D.C. April 2001. <https://www.epa.gov/sites/production/files/2014-08/documents/buildradonout.pdf>. Accessed February 3, 2020.
7. U.S. Department of Health and Human Services Centers for Disease Control and Prevention Agency for Toxic Substances and Disease Registry. *Choose Safe Places for Early Care and Education (CSPECE) Guidance Manual*. Washington, D.C. April 2016. [https://www.atsdr.cdc.gov/safeplacesforECE/docs/Choose\\_Safe\\_Places\\_508\\_final.pdf](https://www.atsdr.cdc.gov/safeplacesforECE/docs/Choose_Safe_Places_508_final.pdf). Accessed February 3, 2020.

## SECTION 4. BUILDINGS

Early childhood centers must be safe for children, their families, and the staff who care for them. Both the outside and inside construction must be structurally sound. The materials used in constructing your facility can affect the health and safety of everyone in the program. You can share details about routines and activities as well as cleaning, disinfecting, and sanitizing requirements with your building team to help them understand what types of materials are the best fit for your facility. Because young children explore their environments through touch and by putting things in their mouths, all of the materials you choose need to be safe to touch and nontoxic. The building team should select materials and make design choices that help protect children and adults from physical injuries and exposure to hazards such as toxins, mold, poor air quality, and pests. This section provides information about health and safety considerations related to the physical structure and materials used in building the facility.

### Structure

#### Important Messages

The structure refers to the exterior building materials used to construct the facility. A structurally sound building will protect the interior space and inhabitants from harmful exterior conditions, such as extreme weather or pests. Remind your building team that children spend a lot of time outdoors and will be exposed to the exterior surfaces of the building as they play and explore, so it is important to use safe materials.

#### What You and Your Team Can Do

- Discuss building codes with the building team so you understand the requirements for ensuring facilities are structurally sound. This includes discussing which building materials will be most durable during high winds and flooding from hurricanes as well as earthquakes and other natural disasters (Source: [Well-built: The importance of safe buildings](#)).
- Talk about best practices in roofing to minimize the impact of wind and rain. In hurricane-prone areas, there are building methods that can reduce the risk that your roof could be damaged or will be blown away (Source: [Well-built: The importance of safe buildings](#) and [Best Practices for Minimizing Wind and Water Infiltration Damage](#)).
- Use exterior materials that are free of harmful chemicals, sharp edges, or other hazards, especially in areas near where children are walking or playing since they will interact with these materials as they explore the area.

#### Look for This Resource!

The [Local Initiatives Support Corporation/Community Investment Collaborative for Kids](#) has useful information to learn more about early learning facility planning and development, quality design features, funding sources, outdoor playgrounds, classroom furnishings, green strategies, and other topics (English only).





- Talk with your building team about the importance of selecting exterior materials that are easy to clean and maintain.
- To protect against flood damage, make sure that your building team is planning to seal walls with waterproof coatings and install flood shields on doors and windows (Source: [Well-built: The importance of safe buildings](#)).



## Entryway Important Messages

The entryway provides the first impression of your program to all who enter your facility. It sets the tone for accessibility, warmth, and security. The entryway should enforce a standard of building security to safeguard children and staff while allowing children and families to enter the building with ease.

### What You and Your Team Can Do

- Discuss the following details about the entryway at your facility:
  - What activities will take place in the entryway, and how can the design of the entrance facilitate those activities?
  - How will you handle security at the door?
  - Will you use intercoms or cameras to monitor individuals as they enter or leave the building?
  - Do you need a reception desk with someone stationed at the door?
  - Do you want space for families to congregate and store car seats, strollers, or other items in the entryway?
- Will you need a separate entrance for deliveries or service workers? (Source: [Designing Early Childhood Facilities](#))
- Discuss a design for the entrance that includes two sets of doors to allow for a main exterior entrance and an interior entrance with a cleanable walk-off mat or carpet between them. Separating the two entrances will capture dirt and allergens, keeping indoor air cleaner (Source: [Sustainable Facilities Tool: Entrances](#)).
- Determine whether you will have a covered porch or covered walkway at the entrance, which can provide protection from inclement weather.
- To withstand strong winds, make sure your entry door has at least three hinges and a deadbolt security lock (Source: [Well-built: The importance of safe buildings](#)).
- Make sure the building team understands that the door needs to function in a manner that is safe for children. Ensure doors have finger-pinch protection features that cover the space created at the front and on the hinge-side of doors when open.
- Discuss how to keep children from exiting the building unsupervised while also ensuring that doors do not have locks or devices that prevent free exit from the building. You may want to have a sound alert whenever someone opens the door.
- Ensure doors will work in the event of a power outage.



## Windows

### Important Messages

Windows allow for fresh air, improve air circulation, and provide natural light. Fresh air and good air circulation reduce the spread of airborne infections and prevent mold growth. Natural light is associated with improved mood and better vision (Source: [Sustainable Facilities Tool: Lighting](#)). However, windows also pose a safety risk if they do not have mechanisms to keep children from breaking glass or falling out.

### What You and Your Team Can Do

- Discuss safety factors to consider when planning where to locate windows in your facility:
  - Include safety features (glazing, frames, guards, screens, anchorage to supporting walls, etc.) to protect against broken glass and panes.
  - Ensure windows and glass door panels within 36 inches off the floor have safety guards (such as rails or mesh) or are made of safety-grade glass or polymer (CFOC [5.1.3.4](#)).
  - Ensure the exit opening on all windows accessible to children is less than four inches or has guards that prevent exit by a child and do not block outdoor light. Windows used for emergency rescue and evacuation should be equipped to enable staff to release the guard and open the window fully when required (CFOC [5.1.3.2](#)).
  - Choose a window design that opens from the top to prevent children from climbing or falling out.
  - Window coverings should not have any dangling cords or other elements that pose an entanglement risk, and children should not be able to pull them down. Do not use imported vinyl mini-blinds that could be a potential source of lead (CFOC [5.2.9.13](#)).
- Strive for windows in every room, ideally with natural light from two directions. It is preferable for classrooms without windows to have full spectrum, indirect lighting sources and a variety of lighting types (Source: [Child Care Center Design Guide](#)).
- Control light and heat through windows using window glazing, outdoor sunshades, or outdoor awnings.
- Talk with your building team about strategies to reduce the amount of exterior noise that enters the facility, such as window glazing specially designed to mitigate high noise levels.
- Ensure windows used for ventilation have screens to prevent insects from entering interior spaces. Screens will not prevent a child from falling through the window, so install additional barriers to prevent falls.
- Design exterior windows so children can observe the outdoor environment.



## Building Materials for Floors, Ceilings, and Walls

### Important Messages

Children spend many hours in your facility and are often in close contact with floors and walls. Choosing safe interior construction materials is important for ensuring a safe environment for children to explore. Appropriate building materials can also reduce injury risks and help manage noise levels. It is important to share how adults and children will use each space with your team to select appropriate flooring, ceiling, and wall materials to fit the types of activities (such as art projects, water play, and eating) that are likely to take place in the area.

### What You and Your Team Can Do

- Choose materials that are noncombustible, nonflammable, and mold and mildew resistant.
- Choose materials that lessen noise levels, such as acoustic ceiling panels and rugs.
- Look for building materials with labels that indicate they have zero or low volatile organic compounds (VOCs). VOCs are synthetic and natural chemicals that are harmful, especially for young children. Many building materials (such as paint, vinyl, carpet, acoustic tiles, and upholstered furniture) release VOCs when they are new and require time to off-gas or release the volatile compounds. Plan up to a month between the installation of materials and the occupancy of the facility to allow time to off-gas (Source: [The Child Care Center Design Guide](#)).
- Choose materials that are easy to clean, sanitize, and disinfect, such as ceramic tile set in cement containing a waterproofing compound, low-VOC vinyl composite tile, or linoleum. Wall-to-wall carpeting is a place for mold, viruses, bacteria, and dust mites to hide and multiply. Instead, use washable area rugs for comfort (Source: [How to Build a Mold-Resistant Home or Commercial Building](#)).

- Ensure that rugs have non-slip backing. Use slip-resistant flooring in wet areas (such as kitchens and bathrooms).
- Use only smooth, nonporous surfaces, such as low-VOC sheet vinyl, linoleum, or ceramic tile, in areas that are likely to be contaminated by body fluids or in areas used for activities involving food.
- Each bathroom, toilet room, shower room floor if applicable, and wall should be waterproof up to a height of five feet and maintained in a clean and sanitary condition (CFOC [5.3.1.6](#)).

## Plumbing

### Important Messages

Plumbing includes the gas, water, sewer piping, and other fixtures for sinks, toilets, showers, and appliances that require fuel or water in your facility. Think about all the places in your facility where cooking, cleaning, handwashing, and diapering or toileting will take place, and share information about these routines with your team. Safety considerations related to plumbing prevent injuries and ensure sanitary conditions.

### What You and Your Team Can Do

- Discuss all plumbing needs, including the following safety and sanitation considerations:
  - Sinks and toilets used by children should be child-size and accessible for all children. For toddlers and preschoolers, the maximum toilet height should be 11 inches, and maximum height for handwashing sinks should be 22 inches (CFOC [5.4.1.6](#)).
  - Adults should have access to appropriate adult-size bathroom facilities.
  - All pipes and fixtures should be lead-free.

- The temperature on the water heater should be set no higher than 120 degrees F to prevent scalding. Install a separate, smaller water heater for dishwashers and laundry machines that require higher water temperatures.
- Food preparation areas need to be separate from diapering and toileting areas to prevent cross-contamination. The food preparation area should have one sink for food preparation and a separate handwashing sink. The handwashing sink should have an eight-inch-high splash guard or have 18 inches of space between the handwashing sink and any open food zones (such as preparation tables and food sink) (*CFOC 4.8.0.5*).
- At least one handwashing sink should be located in each classroom and accessible without barriers such as doors. The sink should be located where an adult can visually supervise children washing their hands (*CFOC 5.4.1.10*).
- Ensure you have a sufficient number of and easy access to sinks for food preparation, cleaning, and handwashing, including sinks in diapering/toilet areas, art areas, and food preparation areas. You may also need sinks outdoors and in other rooms, such as maintenance areas, staff rooms, and the health office.
- Ensure that all bathrooms have floor drains to handle sink or toilet overflows and facilitate cleaning.
- Place water and gas shut-off valves in locations that are easy to access.
- To protect against flood damage, install backflow pumps on drains and sewer lines (Source: [Well-built: The importance of safe buildings](#)).
- Consider the best location of your cistern (if applicable) to prevent flooding or water contamination. Maintaining water quality in cisterns can be difficult, because even when these systems are constructed and used properly, they are easily contaminated by germs that can cause sickness. Consider installing a water treatment system with multi-stage filters and/or ultraviolet (UV) light that can improve the quality and safety of cistern water. Contact your local health department or a water treatment specialist for more information (Source: [Cisterns and Other Rain Catchment Systems](#)).
- Install sprinkler systems as appropriate based on applicable building and fire safety codes.

## Electricity and Back-up Power

### Important Messages

Planning for electrical needs in your facility helps minimize hazards like overuse of extension cords, unsafe placement of outlets, and poor light for monitoring children. The need for backup power, such as generators during emergencies, should also be a part of planning.

### What You and Your Team Can Do

- The walls of the electrical room should have a fire-resistance rating. The electrical room should be accessible to service people without disrupting children's activities. (Source: [Designing Early Childhood Facilities](#)).
- Determine the number and placement of outlets in all areas of the facility to maintain child safety and limit the use of extension cords.

- Review the following electrical safety considerations:
  - Outlets and switches should be out of reach of children.
  - Outlets should be tamper-resistant and all outlets near water must be Ground Fault Circuit Interrupters (GFCIs) to prevent electrical shocks.
  - Light bulbs and light tubes in child-accessible areas and food preparation areas should have shields in case of breakage.
  - Spaces around the exterior of the building should have sufficient lighting to ensure safety.
- Plan for back-up power in the event of a power outage, and consider the following:
  - Store any portable back-up generators outside, more than 20 feet from the doors and windows due to production of carbon monoxide (Source: [Carbon Monoxide - Generator Safety Fact Sheet](#)).
  - Secure all outside generators to any surface they are on to prevent them from blowing away or becoming detached during a storm. Check with your architect or structural engineer before attaching a generator to the roof of your facility to ensure the building can support the weight of the generator.
  - Ensure you have additional outlets in shelter-in-place areas for charging phones, computers, or other electrical needs.
  - Check that your safety features such as automatic doors, emergency lights, and security cameras have alternate power sources in the event of a power outage.
  - Install emergency lighting in hallways, stairwells, and every room that children use (CFOC [5.2.2.4](#)).

## Heating, Ventilation, and Air Cooling (HVAC)

### Important Messages

HVAC systems play an important role in maintaining comfortable temperatures, reducing mold growth through ventilation, and ensuring healthy indoor air quality.

### What You and Your Team Can Do

- Identify the person or people on your building team who can ensure that your HVAC systems meet applicable American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standards and are functioning properly.
- Install locks on mechanical rooms that house HVAC equipment to prevent child access but ensure these rooms do not lock from the inside. The walls should have a fire-resistance rating. All HVAC equipment should be in a place that allows for easy access when maintenance and repairs are needed.
- Install exhaust fans that vent outdoors in bathrooms, kitchens, diaper changing areas, laundry areas, and areas where cleaning supplies are stored.



- Consider the placement of HVAC vents to minimize interference with furniture placement or children’s activities, and also to ensure they are not circulating odors or stale air through the facility. Do not install air-intakes and returns in areas where there is heavy outdoor traffic or in garages, to prevent circulation of carbon monoxide.
- Determine which rooms will have individual HVAC controls to monitor heating and cooling.
- Design the HVAC system to remove mold spores from circulating air (Source: [How to Build a Mold-Resistant Home or Commercial Building](#)).
- Install and maintain a programmable dehumidifier into the HVAC to reduce indoor humidity to 30 to 40 percent to discourage mold growth. Install a humidistat-controlled exhaust fan in the attic and any crawl space area to help keep the humidity level low in those areas (Source: [How to Build a Mold-Resistant Home or Commercial Building](#) and [You Can Control Mold](#)).
- Use natural ventilations such as screened windows as much as possible.
- Do not use portable heaters, barbecues, or grills indoors. Many of these use natural gas or other fuels that can cause carbon monoxide poisoning or generate unhealthy chemicals. They can also be a fire and burn hazard.



## Emergency Alert Systems Important Messages

Up-to-date systems that detect and alert those inside the facility to the presence of smoke and carbon monoxide can save lives.

### What You and Your Team Can Do

- Install smoke and carbon monoxide detection systems (such as hard-wired detectors with a battery back-up system and control panel) or monitored wireless battery operated detectors that automatically signal an alarm through a central control panel when the battery is low or when the detector is triggered by a hazardous condition. These alert systems should be in the following locations:
  - At the landing of each stairway
  - Corridors of all floors
  - Lounges and recreation areas
  - Sleeping rooms
- Interconnect all smoke and carbon monoxide alarms throughout the building. When one sounds, they should all sound.

# Waste Management and Pest Control

## Important Messages

Proper waste management and pest control keep the environment healthy and safe. Infestations can be worse after a natural disaster. Using integrated pest management techniques that limit the use of pesticides is especially important around small children to prevent exposure to dangerous chemicals.

## What You and Your Team Can Do

- Discuss the following waste management considerations:
  - Where will the trash and recycling areas be located and how will staff get trash to this area?
  - Will the trash storage area be located away from building air circulation, air intake vents, and windows?
  - What can be done to ensure that outdoor waste containers are secured to stay in place during high winds?
  - What type of access do garbage collection vehicles need to operate safely?
- Identify which pests are present around your facility and talk with the building team or pest control experts about building features that can prevent or manage pests without the use of harmful pesticides. These include:
  - Seal cracks and crevices in walls, roof, foundation, floors, and around electrical conduits, heating ducts, and plumbing pipes where pests can enter the building.
  - Caulk cracks and crevices around cabinets, baseboards, or mirrors.
  - Screen vents or other large openings with  $\leq \frac{1}{4}$ -inch hardware cloth.
  - Use wire mesh to fill bigger holes where pipes go through a wall, the ceiling, or the floor to ensure rodents cannot re-enter the building by burrowing.

- Be sure doors, windows, and screens fit tightly and are free of holes or cracks.
- Make sure window screens and panes are free of damage.
- Put door sweeps underneath doors and wrap weather-stripping around the door's top and sides.
- Keep plants, mulch, and moisture at least 12 inches away from the building.
- Remove ivy, vines, wood, debris, garden produce, compost piles, and thick mulch around the perimeter of the building.
- Garbage receptacles and dumpsters must be at least 50 feet away from entranceways to the building and outdoor play areas. They should be on pest-proof pavement such as concrete. (Source: [Integrated Pest Management: A Curriculum For Early Care and Education Programs](#)).

## Mold Reduction

### Important Messages

Mold can cause adverse health effects. For some people, mold can cause a stuffy nose, sore throat, coughing or wheezing, burning eyes, or skin rash. People with asthma or allergies to mold may have more severe reactions. Mold can grow almost anywhere there is moisture, such as around leaks in roofs, windows, or pipes, where there has been a flood. Mold can also grow in dust, paints, wallpaper, insulation, drywall, carpet, fabric, and upholstery (Source: [Centers for Disease Control and Prevention: Mold](#)). Building teams can reduce the likelihood of exposure to mold by using mold-resistant building materials and methods, especially those that protect the building from water during floods and hurricanes.

## What You and Your Team Can Do

- Consider moisture control measures at every step of the site selection, building design, and construction phases when building a new facility or renovating an existing facility. These measures include the following strategies:
  - Consult with a certified mold inspector or remediator affiliated with or certified by the National Environmental Health Association (NEHA), the American Industrial Hygiene Association (AIHA), the Institute of Inspection, Cleaning and Restoration Certification (IICRC), or American Council for Accredited Certification (ACAC) to seek expert advice and suggestions for reducing moisture and controlling mold.
  - Incorporate methods to keep water from entering the building, such as using rain gutters and grading the lot and landscaping to divert water away from the building.
  - Install a moisture barrier beneath any concrete floor slab to stop water from wicking through the slab into flooring materials. Waterproof the concrete floors and exterior basement walls.
  - Avoid using wood as a construction material and inspect building materials for mold or high moisture content before using them for construction.
  - Install a rubber water barrier beneath roof shingles to keep rain from entering the building.
  - Add mold inhibitors to paints before painting (Source: [How to Build a Mold-Resistant Home](#) or Commercial Building and [You Can Control Mold](#)).

## Regulations and Standards

### Head Start Program Performance Standards

[1302.47](#) Safety practices

### Caring for Our Children Standards

- [4.8.0.5](#) Handwashing Sink Separate from Food Zones\* (English only)
- [5.1.1.6](#) Structurally Sound Facility
- [5.1.3.2](#) Possibility of Exit from Windows
- [5.1.3.4](#) Safety Guards for Glass Windows/Doors
- [5.2.1](#) Ventilation, Heating, Cooling, and Hot Water
- [5.2.6](#) Water Supply and Plumbing
- [5.2.7](#) Sewage and Garbage
- [5.2.8](#) Integrated Pest Management
- [5.2.9](#) Prevention and Management of Toxic Substances
- [5.3.1.4](#) Surfaces of Equipment, Furniture, Toys, and Play Materials
- [5.3.1.6](#) Floors, Walls, and Ceilings
- [5.4.1.6](#) Ratios of Toilets, Urinals, and Hand Sinks to Children
- [5.4.1.10](#) Handwashing Sinks
- [5.7.0.10](#) Cleaning of Humidifiers and Related Equipment

Chapter 5: Facilities, Supplies, Equipment, and Environmental Health ([English](#) and [Spanish](#))



## WHERE TO FIND MORE INFORMATION

English	Español
<a href="#">Built Environment</a>	<a href="#">Entornos construidos</a>
<a href="#">Carbon Monoxide Safety</a>	<a href="#">Seguridad en el uso del monóxido de carbono</a>
<a href="#">Cleaning and Disinfecting Water Cisterns After Floods and Heavy Rains</a>	<a href="#">Cómo limpiar y desinfectar las cisternas de agua después de inundaciones y lluvias fuerte</a>
<a href="#">Cleaning &amp; Preparing Personal Water Storage Containers</a>	<a href="#">Limpieza y preparación de recipientes personales para almacenar agua</a>
<a href="#">Creating &amp; Storing an Emergency Water Supply</a>	<a href="#">Cómo crear y almacenar una reserva de agua de emergencia</a>
<a href="#">Eco-Healthy Child Care Checklist</a>	<a href="#">Lista de Verificación del Cuidado Infantil Eco Saludable</a>
<a href="#">Electrical Safety</a>	<a href="#">Seguridad eléctrica</a>
<a href="#">Furniture and Carpets</a>	<a href="#">Muebles y alfombras</a>
<a href="#">Heating Safety</a>	<a href="#">Calefacción segura</a>
<a href="#">How to Build a Mold-Resistant Home or Commercial Building (English only)</a>	
<a href="#">How to Read a Pesticide Label</a>	<a href="#">Cómo leer la etiqueta de un pesticide</a>
<a href="#">Identify and Prevent Rodent Infestations</a>	<a href="#">Identifique y prevenga las infestaciones por roedores</a>
<a href="#">Indoor Air Quality and Mold Prevention of the Building Envelope (English only)</a>	
<a href="#">Integrated Pest Management Curriculum</a>	<a href="#">El currículo de manejo integrado de plagas</a>
<a href="#">Integrated Pest Management Checklist</a>	<a href="#">Manejo integrado de plagas: lista de control</a>
<a href="#">Integrated Pest Management of Mosquitoes</a>	<a href="#">Control de plagas integrado de mosquitos</a>
<a href="#">Integrated Pest Management of Rats and Mice</a>	<a href="#">Desratización integrada en los establecimientos de cuidado de niños</a>
<a href="#">Managing Mice and Rats in and around Child Care (English only)</a>	
<a href="#">Pesticides</a>	<a href="#">Pesticidas</a>
<a href="#">Protect Yourself from Mosquito-borne Diseases</a>	<a href="#">Protéjase contra las enfermedades transmitidas por los mosquitos</a>
<a href="#">Recycling &amp; Garbage Storage</a>	<a href="#">Reciclaje y el Almacenamiento de la Basura</a>
<a href="#">Safely Use Rodent Bait Products</a>	<a href="#">Utilice en forma segura los productos con cebo para roedores</a>
<a href="#">Security Bars</a>	<a href="#">Regas de seguridad</a>
<a href="#">Smoke Alarms</a>	<a href="#">Alarmas de humo</a>
<a href="#">Steps to a Pest Free Indoor Environment</a>	<a href="#">Pasos para tener un ambiente interior sin plagas</a>
<a href="#">Steps to a Pest Free Outdoor Environment</a>	<a href="#">Pasos para tener un ambiente al aire libre sin plagas</a>
<a href="#">Well-built: The Importance of Safe Buildings</a>	<a href="#">Una buena construcción: la importancia de los edificios seguros durante un desastre</a>
<a href="#">When The Power Goes Out, Keep Your Generator Outside</a>	<a href="#">Cuando se corte la energía, el generador debe estar fuera de su casa</a>
<a href="#">You Can Control Mold</a>	<a href="#">Usted puede controlar el moho (hongos)</a>

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## SECTION 5. INDOOR SPACES

The indoor design of the center should accommodate the needs of children, families, and staff in a safe and nurturing environment. Help your building team understand the daily routines of children, families, and staff to ensure that the facility design is responsive to their needs. Spaces primarily used by children must be designed with child-specific health and safety considerations in mind. Certain other spaces within the center, such as the administrative offices, kitchen, staff room, and areas dedicated to storage or maintenance tasks, must support the needs of the adults who use them. This section includes health and safety considerations related to indoor spaces, including the design of classrooms and other indoor areas.

### Classroom Design

#### Important Messages

Studies have shown that quality designed physical environments are related to cognitive, social, and emotional development. Children thrive in an environment that has sufficient space organized to promote developmentally appropriate skills (CFOC [5.1.2.1](#)). You can help inform your building team about best practices in providing safe and healthy indoor classroom environments for the children in your program. You can also work with your building team to identify how the design of the classrooms can make it easier for adults and children to complete their daily routines in the classroom, with limited transitions and interruptions. For example, in classrooms children move from a play area to the diapering area, an eating space to a sleeping area, and a quiet area to an active area. They also transition from classrooms to the playground. You can help your building team understand these routines and transitions to help them design spaces that are safe and appropriate.

#### What You and Your Team Can Do

- Consider designing classrooms that will allow you maximum flexibility to serve infants, toddlers, and preschool children in response to changes in your enrollment.
- Consider whether to add an entry area in the classroom for families to sign their children in or out and store children's jackets, and shoes, diaper bags, or other items.

#### Design for Well-being

Achieving a healthy and safe environment includes more than taking steps to reduce illness and prevent injuries. Talk with your staff and families about what design features you can include to help them be safe and feel welcome.

#### Form Follows Function

Let the function of the room guide the design. When your building team understands daily routines, starting with morning arrivals through departures at the end of day, they can more successfully design rooms that will work for the children and staff.



- Match the room design to the ages and developmental levels of the children who will be using the room. Help your team understand the ways in which a room for infants will be different from a room for preschool-aged children.
- Consider how to design rooms that have distinct areas to separate activities for infants from areas for mobile children.
- Ensure clear sightlines for supervision to allow adults to see children at all times.
- Think about your program's daily schedules and transitions between spaces and activities as you design the layout of your classrooms.
- Consider how design elements can promote safe transitions between activities. For example:
  - Use different colors and flooring materials to separate activity areas. For example, the classroom should have a natural separation between quiet areas such as the reading nook and areas for more active play, such as dramatic play.
  - Use low shelves or half walls for separating activity spaces. This will allow adults to supervise children at all times.
- Discuss the specific health, safety, and supervision requirements that relate to safe sleeping environments (CFOC [5.4.5.1](#)) and diapering areas (CFOC [5.4.2](#)) to help your team understand how to design these environments to support best practices.
- Determine what type of classroom food preparation and eating space you will need and discuss considerations for effective clean-up, safety, and supervision.
- Identify which items need dedicated storage that is inaccessible to the children, such as medications, cleaning supplies, art materials, and staff personal items.
- Consider cleaning, disinfecting, and sanitizing needs when selecting furniture and materials (CFOC [5.3.1.4](#)).

### Share Typical Routines

Your building team will need to understand what happens in an early childhood setting. Sharing typical routines can help them come up with design ideas that support these routines. For example:

- A teacher may need to diaper a child while also supervising other children. Pick a location for the diapering area that also allows the teacher to see other children in the classroom.
- In an infant room, some babies will be napping while others are playing or eating. Design an area for cribs that is visible to staff who are feeding or playing with the other infants to support safe sleep practices.
- The children's sink will be used for handwashing throughout the day, as well as for clean up after art projects and for toothbrushing. Plan for the art area to be near the sink, and leave room to accommodate additional items such as soap dispensers, paper towels, toothbrushes, and plenty of storage for supplies.



- Design elements to allow for visibility between rooms and spaces within the rooms. For example, use a half door to a child bathroom, and add windows in interior walls and doors.

### Design for Active Supervision

Design classrooms in a way that helps staff easily supervise children. This means that staff can see and hear children at all times. The classroom must allow staff to position themselves to supervise multiple groups of children who are engaged in different activities at the same time.



## Other Indoor Spaces

### Important Messages

A number of other spaces support your overall program operations. Some of these areas should be inaccessible to children, such as the administrative offices, staff room, kitchen, adult bathrooms, and all storage and maintenance rooms. Other areas, such as the entryway, hallways, parent room, indoor gross motor or multipurpose room, breastfeeding area, and areas where children may receive speech and language or therapy services, need to be safe for adults and children. Your building team needs to understand which additional spaces you require details about who will use the space, the desired function of the space, and health and safety considerations.

### Design for Staff Wellness

Incorporate design elements to promote staff wellness, such as a quiet, relaxing space for staff to rest and recharge. This space may include an area for eating, comfortable furniture, and exercise equipment. The staff room may also support curriculum planning and professional development activities, and may include meeting spaces, computers, and office supplies to help staff plan classroom activities.



## What You and Your Team Can Do

- Discuss all the additional spaces you need in your facility and which areas should be off limits to children. Consider how your facility design can signal which spaces are for children and which are for adults only, such as clustering all administrative, storage, and maintenance spaces on a separate side of the building.
- Determine whether you will include an indoor gross motor room or multipurpose room.
- Ensure hallways and other communal spaces facilitate child supervision and are appropriate for children.
- Discuss the design of other rooms you need in your facility:
  - Will food be prepared on site or delivered? What do you need in your kitchen to accommodate safe food preparation, clean-up, and storage?
  - Where will you place family resources, such as a bulletin board or in a lending library, and where will families store items such as strollers or car seats?
  - Will your breastfeeding area include a sink and fridge?
  - Will you need a health office with cots for children to lie down? Does this space have easy access to a sink and bathroom?
  - Do you need a laundry room and storage for clean and soiled linens?
  - Have you made provisions for general storage, including secure storage for dangerous materials?
  - What type of facilities and storage do you need for your cleaning and maintenance staff?



## Regulations and Standards

### Head Start Program

#### Performance Standards

- [1302.31](#) Teaching and the learning environment
- [1302.34](#) Parent and family engagement in education and child development services
- [1302.44](#) Child Nutrition
- [1302.45](#) Child mental health and social and emotional well-being
- [1302.47](#) Safety practices
- [1302.93](#) Staff health and wellness

#### Caring for Our Children Standards

- [5.1.1.9](#) Unrelated Business in a Child Care Area
- [5.1.1.11](#) Separation of Operations from Child Care Areas
- [5.1.1.10](#) Office Space
- [5.1.1.12](#) Multiple Use of Rooms
- [5.1.2](#) Space per Child
- [5.1.4.5](#) Closet Door Latches
- [5.1.5](#) Steps and Stairs
- [5.2.4.1](#) Electrical Service
- [5.2.4.2](#) Safety Covers and Shock Protection Devices for Electrical Outlets
- [5.2.4.3](#) Ground-Fault Circuit-Interrupter for Outlets Near Water
- [5.2.6.10](#) Drinking Fountains
- [5.2.9.1](#) Use and Storage of Toxic Substances
- [5.2.9.10](#) Prohibition of Poisonous Plants
- [5.2.9.11](#) Chemicals Used to Control Odors
- [5.2.9.14](#) Shoes in Infant Play Areas
- [5.3.1.3](#) Size of Furniture
- [5.3.1.4](#) Surfaces of Equipment, Furniture, Toys, and Play Materials

- [5.3.1.5](#) Placement of Equipment and Furnishings
- [5.3.1.6](#) Floors, Walls, and Ceilings
- [5.3.1.7](#) Facility Arrangements to Minimize Back Injuries
- [5.3.1.9](#) Carriage, Stroller, Gate, Enclosure, and Play Yard Requirements
- [5.3.1.11](#) Exercise Equipment
- [5.3.2](#) Additional Equipment Requirements for Facilities Serving Children with Special Health Care Needs
- [5.4.1](#) Toilet and Handwashing Areas
- [5.4.2](#) Diaper Changing Areas
- [5.4.3](#) Bathtubs and Showers
- [5.4.4](#) Laundry Area
- [5.4.5](#) Sleep and Rest Areas (cribs, cot storage, placement, etc.)
- [5.4.6](#) Space for Children Who Are Ill, Injured, or Need Special Therapies
- [5.5](#) Storage Areas

Chapter 5: Facilities, Supplies, Equipment, and Environmental Health ([English](#) and [Spanish](#))

## WHERE TO FIND MORE INFORMATION

English	Español
<a href="#">Art Supplies</a>	<a href="#">Materiales de arte</a>
<a href="#">Creating a Breastfeeding Welcoming Program</a>	<a href="#">Cómo crear un programa en el que la lactancia materna sea bien recibida</a>
<a href="#">Designing Environments</a>	<a href="#">Diseñar los entornos</a>
<a href="#">Eco-Healthy Child Care Checklist</a>	<a href="#">Lista de Verificación del Cuidado Infantil Eco Saludable</a>
<a href="#">Electrical Safety</a>	<a href="#">Seguridad eléctrica</a>
<a href="#">Furniture and Carpets</a>	<a href="#">Muebles y alfombras</a>
<a href="#">Never Put Children’s Climbing Gyms On Hard Surfaces, Indoors or Outdoors</a> (English only)	
<a href="#">Plastics and Plastic Toys</a>	<a href="#">Plásticos y juguetes de plástico</a>
<a href="#">Zoning to Maximize Learning</a>	<a href="#">Zonificación para maximizar el aprendizaje</a>

### References

1. American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education. *CFOC Standards Online Database*. Aurora, CO; National Resource Center for Health and Safety in Child Care and Early Education; 2019. [<https://nrckids.org/CFOC>]. Accessed [February 3, 2020].



## SECTION 6. OUTDOOR SPACES

The outdoor portion of your facility will include several major areas: the outdoor play area, parking lot, driveways, and walkways. These areas have important health and safety implications. You can help your building team understand the uses and safety implications of these areas. This section includes health and safety considerations related to planning outdoor play areas and areas for driving, parking, and walking into the building.

### Outdoor Play Areas

#### Important Messages

Outdoor play areas are an extension of the learning that takes place inside classrooms. Outdoor play contributes to better health and brain development. You can work with your building team to design a playground and nature-based learning areas that maximize the benefits of outdoor play while also reducing the likelihood of injuries. The most important factors to consider when designing your playground are:

- Selecting and correctly installing safe and developmentally appropriate structures.
- Separating active play areas such as swings and slides from quieter activities such as the sandbox.
- Using appropriate impact-absorbing surfaces under and around equipment.
- Designing the playground to promote active supervision.

#### What You and Your Team Can Do

- Determine the location of your playground, taking into consideration the following factors:
  - Travel patterns to and from the playground to ensure children can enter the playground safely.
  - Sun exposure and how to create and maximize shade.
  - Slope and drainage to prevent loose-fill surfacing from washing away in rain.

Find a Certified Playground Safety Inspector (CPSI) to assess your playground for safety hazards. The National Recreation and Park Association has a [directory](#) to find a CPSI.

Identify someone in your agency interested in becoming a CPSI. The [CPSI certification program](#) provides training on playground safety issues including hazard identification, equipment specifications, surfacing requirements and risk management methods.



- Determine the layout of your playground, taking into consideration the following factors:
  - Age separation, to create distinct areas for infants, toddlers, and preschoolers.
  - Activity separation to prevent injuries caused by competing activities and children running between activities. Active, physical activities should be separate from more passive or quiet activities.
  - Sightlines or noise considerations to allow adults to appropriately supervise children by sight and sound at all times.
- Select playground equipment that meets Consumer Product Safety Commission (CPSC) recommendations and American Society for Testing and Materials (ASTM) standards for design and manufacturing to ensure the equipment is safe.
- Ensure all equipment matches the age and developmental levels of the children who will have access to it.
- Ensure that all climbing equipment, swings, slides, and other equipment elevated more than 12 inches off the ground has an impact-absorbing surface that extends for the full fall zone around the equipment. To determine the fall zone and appropriate depth of the surfacing, consult the *Public Playground Safety Handbook*, available in [English](#) and [Spanish](#).
- Select an impact-absorbing surface that meets the needs of your program and is suitable for your climate.
- Ensure adults can actively supervise children at all times by incorporating the following design elements into your playground:
  - Choose play equipment that allows for visibility and does not have tunnels or other areas where children can hide.
  - Design gates and other access points to ensure children are clearly visible at all times.
- Include ample storage for equipment that is accessible from the playground.
- Determine how adults on the playground will communicate with staff indoors if they have an emergency or need assistance.
- Determine how children and adults will access bathrooms, handwashing facilities, and drinking water from the outdoor play area.
- Plan landscaping to ensure play areas are free from poisonous plants.
- To prevent damage during high winds, storms, and hurricanes, make sure to plan storage for any piece of equipment that cannot be securely anchored.
- Enclose the outdoor play area with a fence that meets all applicable building codes and safety standards (*CFOC* [6.1.0.8](#))

### Which Surface Should You Choose?

The best impact-absorbing surface under and around equipment is one that meets the needs of your children and that you can afford and maintain. Rubber mats or pour-in-place surfaces provide great impact absorption. They are resistant to moisture and not appealing to animals. Sand can attract animals and may not absorb the impact of a fall when wet. Wood mulch holds a lot of moisture and can be a breeding area for rodents. Any loose-fill material will need regular maintenance to ensure the proper depth.



## Parking Lots, Driveways, and Walkways

### Important Messages

The driveways, parking lots, and walkways should allow children, families, and staff to safely enter and depart from your facility. Your building team will need to understand the transportation expectations for your program, such as whether you will transport children in vehicles you own or operate. Your facility must provide enough all-day parking for staff and short-term parking for families, as well as safe access for maintenance and emergency vehicles. A qualified engineer can assist your building team in the layout of your driveways and parking areas, and together you can determine what types of parking you need as well as how to ensure safe traffic patterns and walkways.

### What You and Your Team Can Do

- Determine parking needs for staff, families, and others who visit your center.
- Design drop-off and pick-up areas to allow parents to safely guide their children from their vehicles to the pedestrian side of the street and to the facility entrance without crossing any traffic.
- Discuss how to design physical barriers that separate children from traffic, parking, delivery areas, and driveways.
- Ensure walkways have non-slip surfaces and guardrails to prevent injury from falls, as well as protection from sun, wind, and rain.
- Plan landscaping to ensure plants and trees do not block safe sighting of pedestrians, cars, and other vehicles.
- Ensure the exterior entrance is easily visible to first responders.

## Regulations and Standards

### Head Start Program

#### Performance Standards

[1302.31](#) Teaching and the learning environment

[1302.47](#) Safety practices

### Caring for Our Children Standards

[5.1.6](#) Exterior Areas

[5.2.8](#) Integrated Pest Management

[5.2.9.10](#) Prohibition of Poisonous Plants

[5.7.0.1](#) Maintenance of Exterior Surfaces

[5.7.0.2](#) Removal of Hazards From Outdoor Areas

[5.7.0.3](#) Removal of Allergen Triggering Materials From Outdoor Areas

[5.7.0.4](#) Inaccessibility of Hazardous Equipment

[5.7.0.5](#) Cleaning Schedule for Exterior Areas

Chapter 5: Facilities, Supplies, Equipment, and Environmental Health ([English](#) and [Spanish](#))

Chapter 6: Play Areas/Playgrounds and Transportation ([English](#) only)



## WHERE TO FIND MORE INFORMATION

English	Español
<a href="#"><u>10 Tips to Enhance Your Outdoor Play Space</u></a>	<a href="#"><u>10 Consejos para mejorar su espacio de juego al aire libre</u></a>
<a href="#"><u>25 Easy Ideas for Nature Play for Early Childhood Centers</u></a>	<a href="#"><u>25 ideas sencillas para los centros de la primera infancia para hacer juegos en contacto con la naturaleza</u></a>
<a href="#"><u>Arsenic: Treated Wood and Water</u></a>	<a href="#"><u>Arsénico: En la Madera Tratada y el Agua</u></a>
<a href="#"><u>Considerations for Outdoor Play Spaces</u></a>	<a href="#"><u>Consideraciones para los espacios de juego al aire libre</u></a>
<a href="#"><u>Defeat the Villains of Playground Safety</u></a>	<a href="#"><u>Derrote con seguridad a los villanos de los parques</u></a>
<a href="#"><u>Even Plants Can Be Poisonous</u></a>	<a href="#"><u>Incluso las plantas pueden ser venenosas</u></a>
<a href="#"><u>Playground Safety Poster</u></a>	<a href="#"><u>Póster sobre cómo mantener a los niños seguros en el patio de juegos</u></a>
<a href="#"><u>Play Space Assessment for Preschool</u></a>	<a href="#"><u>Evaluación del espacio de juego para el preescolar</u></a>
<a href="#"><u>Public Playground Safety Handbook</u></a>	<a href="#"><u>Manual de seguridad para parques infantiles públicos</u></a>

If you have questions about any of the information in this guide or need additional resources, contact [health@ecetta.info](mailto:health@ecetta.info).

## References

1. American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education. *CFOC Standards Online Database*. Aurora, CO; National Resource Center for Health and Safety in Child Care and Early Education; 2019. [<https://nrckids.org/CFOC>]. Accessed [2/3/2020].



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