

# Materials & Resources

---

## MR Prerequisite 1: Storage & Collection of Recyclables Required

### Intent

Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills.

### Requirements

Provide an easily accessible area that serves the entire building and is dedicated to the collection and storage of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics and metals.

### Potential Technologies & Strategies

Coordinate the size and functionality of the recycling areas with the anticipated collection services for glass, plastic, office paper, newspaper, cardboard and organic wastes to maximize the effectiveness of the dedicated areas. Consider employing cardboard balers, aluminum can crushers, recycling chutes and collection bins at individual workstations to further enhance the recycling program.

---

## **MR Credit 1.1: Building Reuse: Maintain 75% of Existing Walls, Floors & Roof**

### **1 Point**

#### **Intent**

Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

#### **Requirements**

Maintain at least 75% (based on surface area) of existing building structure (including structural floor and roof decking) and envelope (exterior skin and framing, excluding window assemblies and non-structural roofing material). Hazardous materials that are remediated as a part of the project scope shall be excluded from the calculation of the percentage maintained. If the project includes an addition to an existing building, this credit is not applicable if the square footage of the addition is more than 2 times the square footage of the existing building.

#### **Potential Technologies & Strategies**

Consider reuse of existing, previously occupied buildings, including structure, envelope and elements. Remove elements that pose contamination risk to building occupants and upgrade components that would improve energy and water efficiency such as windows, mechanical systems and plumbing fixtures.

---

## **MR Credit 1.2: Building Reuse: Maintain 95% of Existing Walls, Floors & Roof**

### **1 Point in addition to MR Credit 1.1**

#### **Intent**

Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

#### **Requirements**

Maintain an additional 20% (95% total, based on surface area) of existing building structure (including structural floor and roof decking) and envelope (exterior skin and framing, excluding window assemblies and non-structural roofing material). Hazardous materials that are re-mediated as a part of the project scope shall be excluded from the calculation of the percentage maintained. If the project includes an addition to an existing building, this credit is not applicable if the square footage of the addition is more than 2 times the square footage of the existing building.

#### **Potential Technologies & Strategies**

Consider reuse of existing buildings, including structure, envelope and elements. Remove elements that pose contamination risk to building occupants and upgrade components that would improve energy and water efficiency such as windows, mechanical systems and plumbing fixtures.

---

## **MR Credit 1.3: Building Reuse: Maintain 50% of Interior Non-Structural Elements**

### **1 Point**

#### **Intent**

Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

#### **Requirements**

Use existing interior non-structural elements (interior walls, doors, floor coverings and ceiling systems) in at least 50% (by area) of the completed building (including additions). If the project includes an addition to an existing building, this credit is not applicable if the square footage of the addition is more than 2 times the square footage of the existing building.

#### **Potential Technologies & Strategies**

Consider reuse of existing buildings, including structure, envelope and interior non-structural elements. Remove elements that pose contamination risk to building occupants and upgrade components that would improve energy and water efficiency, such as mechanical systems and plumbing fixtures. Quantify the extent of building reuse.

---

## **MR Credit 2.1: Construction Waste Management: Divert 50% From Disposal**

### **1 Point**

#### **Intent**

Divert construction, demolition and land-clearing debris from disposal in landfills and incinerators. Redirect recyclable recovered resources back to the manufacturing process. Redirect reusable materials to appropriate sites.

#### **Requirements**

Recycle and/or salvage at least 50% of non-hazardous construction and demolition debris. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or co-mingled. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout.

#### **Potential Technologies & Strategies**

Establish goals for diversion from disposal in landfills and incinerators and adopt a construction waste management plan to achieve these goals. Consider recycling cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation. Designate a specific area(s) on the construction site for segregated or comingled collection of recyclable materials, and track recycling efforts throughout the construction process. Identify construction haulers and recyclers to handle the designated materials. Note that diversion may include donation of materials to charitable organizations and salvage of materials on-site.

---

## **MR Credit 2.2: Construction Waste Management: Divert 75% From Disposal**

### **1 Point in addition to MR Credit 2.1**

#### **Intent**

Divert construction and demolition debris from disposal in landfills and incinerators. Redirect recyclable recovered resources back to the manufacturing process. Redirect reusable materials to appropriate sites.

#### **Requirements**

Recycle and/or salvage an additional 25% beyond MR Credit 2.1 (75% total) of non-hazardous construction and demolition debris. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout.

#### **Potential Technologies & Strategies**

Establish goals for diversion from disposal in landfills and incinerators and adopt a construction waste management plan to achieve these goals. Consider recycling cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation. Designate a specific area(s) on the construction site for segregated or commingled collection of recyclable materials, and track recycling efforts throughout the construction process. Identify construction haulers and recyclers to handle the designated materials. Note that diversion may include donation of materials to charitable organizations and salvage of materials on-site.

---

## **MR Credit 3.1: Materials Reuse: 5%**

### **1 Point**

#### **Intent**

Reuse building materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

#### **Requirements**

Use salvaged, refurbished or reused materials such that the sum of these materials constitutes at least 5%, based on cost, of the total value of materials on the project.

Mechanical, electrical and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7.

#### **Potential Technologies & Strategies**

Identify opportunities to incorporate salvaged materials into building design and research potential material suppliers. Consider salvaged materials such as beams and posts, flooring, paneling, doors and frames, cabinetry and furniture, brick and decorative items.

---

## **MR Credit 3.2: Materials Reuse: 10%**

### **1 Point in addition to MR Credit 3.1**

#### **Intent**

Reuse building materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

#### **Requirements**

Use salvaged, refurbished or reused materials for an additional 5% beyond MR Credit 3.1 (10% total, based on cost).

Mechanical, electrical and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7.

#### **Potential Technologies & Strategies**

Identify opportunities to incorporate salvaged materials into building design and research potential material suppliers. Consider salvaged materials such as beams and posts, flooring, paneling, doors and frames, cabinetry and furniture, brick and decorative items.

---

## MR Credit 4.1: Recycled Content: 10% (post-consumer + 1/2 pre-consumer)

### 1 Point

#### Intent

Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.

#### Requirements

Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project.

The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

Mechanical, electrical and plumbing components and specialty items such as elevators shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7.

Recycled content shall be defined in accordance with the International Organization of Standards document, *ISO 14021—Environmental labels and declarations—Self-declared environmental claims (Type II environmental labeling)*.

**Post-consumer material** is defined as waste material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose.

**Pre-consumer material** is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

#### Potential Technologies & Strategies

Establish a project goal for recycled content materials and identify material suppliers that can achieve this goal. During construction, ensure that the specified recycled content materials are installed. Consider a range of environmental, economic and performance attributes when selecting products and materials.

---

## MR Credit 4.2: Recycled Content: 20% (post-consumer + 1/2 pre-consumer)

### 1 Point in addition to MR Credit 4.1

#### Intent

Increase demand for building products that incorporate recycled content materials, thereby reducing the impacts resulting from extraction and processing of virgin materials.

#### Requirements

Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes an additional 10% beyond MR Credit 4.1 (total of 20%, based on cost) of the total value of the materials in the project.

The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

Mechanical, electrical and plumbing components and specialty items such as elevators shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7.

Recycled content shall be defined in accordance with the International Organization of Standards document, *ISO 14021—Environmental labels and declarations—Self-declared environmental claims (Type II environmental labeling)*.

**Post-consumer material** is defined as waste material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose.

**Pre-consumer material** is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

#### Potential Technologies & Strategies

Establish a project goal for recycled content materials and identify material suppliers that can achieve this goal. During construction, ensure that the specified recycled content materials are installed. Consider a range of environmental, economic and performance attributes when selecting products and materials.

---

## **MR Credit 5.1: Regional Materials: 10% Extracted, Processed & Manufactured Regionally**

### **1 Point**

#### **Intent**

Increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

#### **Requirements**

Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% (based on cost) of the total materials value. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

Mechanical, electrical and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7.

#### **Potential Technologies & Strategies**

Establish a project goal for locally sourced materials, and identify materials and material suppliers that can achieve this goal. During construction, ensure that the specified local materials are installed and quantify the total percentage of local materials installed. Consider a range of environmental, economic and performance attributes when selecting products and materials.

---

## **MR Credit 5.2: Regional Materials: 20% Extracted, Processed & Manufactured Regionally**

### **1 Point in addition to MR Credit 5.1**

#### **Intent**

Increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

#### **Requirements**

Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for an additional 10% beyond MR Credit 5.1 (total of 20%, based on cost) of the total materials value. If only a fraction of the material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

#### **Potential Technologies & Strategies**

Establish a project goal for locally sourced materials and identify materials and material suppliers that can achieve this goal. During construction, ensure that the specified local materials are installed. Consider a range of environmental, economic and performance attributes when selecting products and materials.

---

## MR Credit 6: Rapidly Renewable Materials

### 1 Point

#### Intent

Reduce the use and depletion of finite raw materials and long-cycle renewable materials by replacing them with rapidly renewable materials.

#### Requirements

Use rapidly renewable building materials and products (made from plants that are typically harvested within a ten-year cycle or shorter) for 2.5% of the total value of all building materials and products used in the project, based on cost.

#### Potential Technologies & Strategies

Establish a project goal for rapidly renewable materials and identify products and suppliers that can support achievement of this goal. Consider materials such as bamboo, wool, cotton insulation, agrifiber, linoleum, wheat-board, strawboard and cork. During construction, ensure that the specified renewable materials are installed.

---

## MR Credit 7: Certified Wood

### 1 Point

#### Intent

Encourage environmentally responsible forest management.

#### Requirements

Use a minimum of 50% of wood-based materials and products, which are certified in accordance with the Forest Stewardship Council's (FSC) Principles and Criteria, for wood building components. These components include, but are not limited to, structural framing and general dimensional framing, flooring, sub-flooring, wood doors and finishes.

Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7.

#### Potential Technologies & Strategies

Establish a project goal for FSC-certified wood products and identify suppliers that can achieve this goal. During construction, ensure that the FSC-certified wood products are installed and quantify the total percentage of FSC-certified wood products installed.