Construction & Demolition Landfills: Regulations and Best Practices

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Introduction

This guide is intended to help Tribal Governments and others involved in the decision to site or continue the operation of a construction and demolition (C&D) landfill in Indian country answer the following questions:

1. Are we making this decision based on our responsibility as stewards of the land, human health, wildlife, and natural resources?
2. Are we making this decision based on current and verified information about current and future waste generation and waste management options with a focus on waste prevention and reduction?
3. Based on this information, should we build a C&D landfill, continue to operate our existing landfill, or use landfills outside the reservation?

How this guide is organized

This guide is organized around common questions that the U.S. Environmental Protection Agency (EPA) hears from Tribal Governments. Its goal is to offer a comprehensive resource for siting, operating, and closing a tribal C&D landfill.

- **Section 1** answers questions that can help Tribal Governments decide whether to open, continue operating, or close a C&D landfill.
- **Section 2** describes the federal requirements for C&D landfills on tribal lands and offers best practice approaches to complying with them. **Appendix C** gives further guidance and resources related to these federal requirements.
- **Section 3** has information to help Tribal Governments regulate and oversee C&D landfills within their jurisdictions during siting, operations, and closure.
- **Appendix A** collects definitions of key terms in the regulations.
- **Appendix B** is a list of further resources, organized by topic.
- **Appendix D** is derived from an earlier EPA Region 5 study on best practices for closure and post-closure of tribal C&D landfills.

The EPA Non-Hazardous Materials and Waste Management Hierarchy prioritizes waste reduction, reuse, recycling, and composting over energy recovery and landfill disposal.

Source: U.S. EPA, *https://www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy#*

EPA developed this guide in consultation with the following tribes:

Blackfeet Nation

Grand Portage Band of Lake Superior Chippewa

Keweenaw Bay Indian Community

Lac du Flambeau Band of Lake Superior Chippewa

Prairie Band Potawatomi Nation

White Earth Band of Chippewa

1 C&D Landfill Decision and Operations Overview

1.1 Do We Need a C&D Landfill?

The decision to site or continue the operation of a construction and demolition (C&D) landfill in Indian country[1] needs input from many parties, including the Tribal Government, the natural resources/environmental department, building or facilities department, and entities that will generate C&D debris on the reservation.

How do we begin considering this question?

Start the decision process by gathering basic background information such as:

- ✓ Does the tribe have a solid waste management plan?
  - If yes, is managing C&D debris included in the plan? If no, a solid waste management plan should be developed.
- ✓ What are the three biggest problems the tribe faces for C&D debris management?
- ✓ What are three C&D debris goals for the tribe?
- ✓ Does the tribe have green building policies to reduce C&D debris?
- ✓ How much C&D debris does the tribe generate or receive from outside the facility?
  - How much of this material can be safely reclaimed (deconstructed, salvaged, and reused), recycled, or composted?
  - Do markets for salvaged C&D materials and/or C&D recycling centers already exist on tribal lands or within a feasible shipping distance?
  - If not, is creating these operations (such as a C&D recycling center) a reasonable alternative to building a C&D landfill?
- ✓ Who currently bears the costs of ensuring proper disposal of C&D debris?
- ✓ Does burning or illegal dumping of C&D debris occur?
  - If yes, what are the barriers to proper disposal? Lack of education on proper waste handling? Is proper disposal too expensive or too complicated?

(this checklist continues on the next page)

[1] For purposes of this guide, "Indian country" is defined consistent with 18 U.S.C. 1151 and includes all lands within the exterior boundaries of federally recognized Indian reservations and tribally held trust lands, whether located inside or outside reservation boundaries. Appendix A for definitions of terms.

- ✓ Does the tribe have an existing operational C&D landfill?
  - If yes, has the facility been constructed, operated, and maintained in a manner consistent with the tribe's values for environmental stewardship and protecting human health?
  - If no, what are the current disposal options for C&D debris and what are the costs and difficulties (such as distance, paperwork, fees) associated with those locations?
- ✓ What are the costs associated with development, construction, operation, and closure of a C&D landfill within the tribal lands? How much of this cost is or can be offset by user fees?
- ✓ Can a suitable site be identified within tribal lands *(refer to Section 1.3)* with institutional controls to prevent illegal or unwanted activities with such a landfill?
- ✓ Is a wastewater treatment facility located close enough to the proposed landfill site to make it cost effective to operate?
- ✓ Does the tribe have funding sources to support long-term landfill closure, monitoring, and management costs?

Each tribe will have a different set of answers to these questions and a different set of C&D debris management goals. While cost comparisons are often the most obvious consideration when making this type of decision, tribes should also consider human behavior and the C&D debris generators' capacity for change. For example, if generators perceive the barriers to proper disposal (such as cost, difficulty) to be too high, they may resort to waste burning or illegal dumping.

⇒ *Decisionmaking tip:* Before estimating the types and quantities of C&D materials likely to need a landfill (whether onsite of offsite), Tribal Governments may want to consider how much the tribe can reduce, reuse, recycle, or compost C&D materials instead of putting them in a landfill *(refer to Section 1.2 and U.S. Environmental Protection Agency [EPA] guidance: https://www.epa.gov/smm/sustainable-management-construction-and-demolition-materials)*.

⇒ *Decisionmaking tip:* The decision to construct, close, or continue the operation of a C&D landfill needs to reflect the balance with the land, water, air, and living beings inside and outside the landfill. This balance is necessary to adequately protect human health and the environment.

⇒ *Decisionmaking tip:* Tribal decisionmakers should consider the likelihood of unintended consequences such as an increase in waste burning or illegal dumping when weighing the decision to construct, close, or continue the operation of a C&D landfill.

1.2 Reducing Impacts through C&D Debris Reduction, Reuse, Recycling, and Composting

C&D debris can be reduced through green building practices such as designing buildings that can be easily adapted and repaired and using materials that are durable and easy to reuse, recycle, and compost. Tribes worked with EPA to develop the *Tribal Green Building Toolkit (https://www.epa.gov/green-building-tools-tribes/tribal-green-building-toolkit)* with information on building materials and resource conservation.

Some C&D materials can be directly reused (salvaged), recycled, or composted into secondary and reclaimed materials:

Asphalt, concrete, rubble
- Commonly recycled into aggregate or concrete and asphalt products

Scrap wood
- Reused, composted, or recycled into mulch, furniture, chipboard, fuel, etc.

Scrap metal
- Recycled into manufacturing of new appliances, furniture, building materials

Copper wiring, aluminum gutters, wooden beams, windows, doors, etc.
- Salvaged for reuse on another project

Management Options for Common Building Materials

Safe Reuse	Recycling	Disposal	Hazardous Materials
• Clean wood • Wood flooring • Doors & windows • Cabinets • Furniture • Bricks & pavers • Appliances • Fixtures • Metals • Tile	• Scrap metal • Wiring • Concrete (ground) • Appliances (not to code) • Ceiling tiles	• Insulation • Wallboard	• Asbestos (remove before demolition or deconstruction) • Treated wood • Lead-based painted materials

Purchase this course to see the remainder of the technical materials.