

# Solid Waste Long-Term Disposal Method Report

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December 2021



**King County**

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## II. Executive Summary

The adopted [2019 Comprehensive Solid Waste Management Plan](#) (Comp Plan), which sets strategies for managing solid waste and recyclables in King County over a six-to-20-year time horizon, included direction to maximize the life of Cedar Hills Regional Landfill (Cedar Hills or landfill) but did not address how to dispose of waste after Cedar Hills closes. This document provides the outline of a long-term disposal method for waste after Cedar Hills is closed.

This plan was created by Department of Natural Resources and Parks' (DNRP) Solid Waste Division (SWD), with input from the [Metropolitan Solid Waste Management Advisory Committee](#) (MSWMAC) and [Solid Waste Advisory Committee](#) (SWAC)<sup>1</sup>.

DNRP, in collaboration with the Office of Performance, Strategy and Budget (PSB), co-authored the plan outlined in this report with regional partners through MSWMAC and SWAC. This plan was discussed five times with each committee in monthly advisory committee meetings between June and October 2021. Chairs for both committees recommended sending this progress report, while noting concerns about the timing of the long-term disposal decision, and that changes may occur in the future.

Per Revised Code of Washington (RCW) and interlocal agreements (ILA) between the County and cities in the solid waste system, the decision of the next long-term disposal method should be included in an update to the Comp Plan. As a result of this, the progress report was based on a few assumptions that were vetted by the advisory committees. Assumptions include:

- A conservative estimate that Cedar Hills will close in 2037,
- A 10-year lead time is needed to site and build any new long-term disposal methods,
- The long-term disposal decision must be made as part of the Comp Plan update and occur before this 10-year lead time, and
- The milestones for updating and adopting the Comp Plan by 2026 are based on the experience gained during the 2019 Comp Plan update process and required review per RCW and ILAs.

The progress report details actions needed to make the long-term disposal recommendation as well as major steps in the Comp Plan update process, including:

- Completing the Re+ Plan<sup>2</sup> that lays out strategies to divert up to 70 percent of materials that currently get landfilled. The Re+ Plan will provide a planning basis to project future waste tonnage based on newly diverted resources, which could impact which long-term disposal method to recommend.
- Hiring a consultant to analyze long-term disposal options based on the Re+ Plan projected impacts to waste tonnage and characterization. This analysis will aid in discussions between King County and stakeholders, such as advisory committees and communities, on which long-term disposal option to recommend.
- The many steps in the review process for adopting the updated Comp Plan are also scheduled out:
  - Public and Washington State Department of Ecology (Ecology) review of the draft Comp Plan
  - Transmittal of the Executive Proposed Comp Plan

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<sup>1</sup> See Appendix A for list of members in the advisory committees.

<sup>2</sup> Re+ is the brand name of the program to achieve zero waste of resources.

- Adoption by King County Council of the Comp Plan
- City adoption of the Comp Plan
- Ecology final review and adoption of the Comp Plan

### III. Background

**Department Overview:** The King County Department of Natural Resources and Parks (DNRP) works in support of sustainable and livable communities and a clean and healthy natural environment. Its mission is to foster environmental stewardship and strengthen communities by providing regional parks; protecting the region’s water, air, land, and natural habitats; and reducing, safely disposing of, and creating resources from wastewater and solid waste.

The DNRP is guided by King County’s goal to achieve zero waste of resources<sup>3</sup> by 2030 through maximum feasible and cost-effective prevention, reuse, and reduction of solid wastes going into its landfills and other processing facilities, and to enhance the environment through collaboration and innovation.<sup>4</sup> The department operates eight transfer stations, two rural drop boxes, and the only operational landfill in the county, Cedar Hills Regional Landfill. DNRP stakeholders include residents and business owners in unincorporated King County and 37 cities throughout the county, except the cities of Seattle and Milton, which are not part of King County’s solid waste system. The department’s solid waste mission is to deliver value to its customers and stakeholders, and to continuously improve waste prevention, resource recovery, and waste disposal.

**Key Historical Context:** The King County Comprehensive Solid Waste Management Plan, required by RCW [70A.205.045](#), sets strategies for managing solid waste and recyclables in King County over a six-to-20-year time horizon. The Comp Plan guides solid waste management actions by King County, serving all cities in King County except Seattle and Milton, and private companies that provide curbside collection and process solid waste and recyclable materials. The Comp Plan update process includes review and approval of the updated plan by many stakeholders, including the public, Ecology, the King County Council, and cities in the King County solid waste system.

King County has interlocal agreements with 37 cities for the cooperative management of solid waste within the county. These ILAs have terms through 2040 and detail obligations, responsibilities, and liabilities for each party, as well as the city approval process for adopting the Comp Plan.

**Key Current Context:** The adopted [2019 Comp Plan](#) included direction that called for maximizing the life of Cedar Hills, but did not address how to dispose of waste after Cedar Hills closes. The adopted Comp Plan states:

King County's Office of Performance, Strategy and Budget will engage with the Solid Waste Division and the regional partners to develop a plan for long-term disposal, to be recommended to the King County Executive, who will transmit legislation to the King County Council implementing the next long-term disposal method. The Executive will transmit a progress report that outlines how this plan will be developed, including

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<sup>3</sup> DNRP has rebranded these zero waste of resources efforts as Re+

<sup>4</sup> [King County Code Title 10, Section 10.14.020 County goals](#)

timing for development and transmittal of this plan, to the Council by December 31, 2021.<sup>5</sup>

Chapter 6 of the Comp Plan includes a discussion about selecting the next long-term disposal method, including what alternate means of disposal and evaluation criteria to consider.<sup>6</sup> Several potential technologies for disposing of waste are discussed, including existing options, such as waste export<sup>7</sup> and waste-to-energy (WTE)<sup>8</sup>, as well as emerging options, such as gasification<sup>9</sup> and pyrolysis<sup>10</sup>. Thirty-eight criteria to consider for evaluating these options were broken down into six criteria categories – environmental, economic, operating history, availability, social, and contract and operational requirements.

The long-term disposal determination is one that will be included in the next Comp Plan update. Per RCW [70A.205.045](#), the Comp Plan should include “the estimated long-range needs for solid waste handling facilities projected twenty years into the future” which includes how waste will be disposed of. Current interlocal agreements with King County’s 37 partner cities also point to the Comp Plan as the place where this decision should be made:

The Parties expect that the Cedar Hills Landfill will be at capacity and closed at some date during the term of this Agreement, after which time all Solid Waste under this Agreement will need to be disposed of through alternative means, as determined by the Cities and the County, through amendments to the Comprehensive Solid Waste Management Plan.<sup>11</sup>

DNRP is close to completing the Re+ Plan, which will outline the primary actions the County should take to achieve the zero waste of resources goal. Effects from diverting useful materials in the waste stream to better uses, such as composting food, recycling paper and plastics, and reducing consumption, will have an impact on which long-term disposal method is chosen. Successful diversion will lower the tonnages and types of waste to process, which allows for more methods for disposal beyond traditional methods, such as waste export and WTE.

**Report Methodology:** DNRP staff drafted this document. DNRP and PSB discussed the contents of this report with regional partners through the MSWMAC and SWAC. This plan was discussed with each committee five times during monthly advisory committee meetings between June and October 2021.

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<sup>5</sup> See Attachment A Page 164 in the [2019 Comprehensive Solid Waste Management Plan](#)

<sup>6</sup> See Attachment A Page 164 in the [2019 Comprehensive Solid Waste Management Plan](#)

<sup>7</sup> Waste export: transporting municipal solid waste on a train, truck, or barge to a regional landfill for burial and landfill gas collection.

<sup>8</sup> Waste-to-energy: incinerating municipal solid waste to create energy, recover additional recyclables, and reduce volume.

<sup>9</sup> Gasification: transforming municipal solid waste, using high heat, high pressure, and limited oxygen, into usable products – typically synthetic gas that can be used as a fuel, industrial chemicals such as ammonia and methanol, fertilizer, and potentially a fill material for construction, roadbeds, etc.

<sup>10</sup> Pyrolysis: transforming municipal solid waste, using high heat, high pressure, and no oxygen, into usable products – typically oils, solid carbon or char (used as a solid fuel, soil amendment, and for industrial processes), syngas, and other chemicals.

<sup>11</sup> [Example of the Bellevue ILA, see section H of the Preamble \(page 2\)](#)

## IV. Report Requirements

As required by the adopted Comprehensive Solid Waste Management Plan, the sections below provide progress on developing a plan that will identify the next long-term solid waste disposal method.

### A. Assumptions

The RCW and ILAs between the County and cities direct that the decision for the next long-term disposal method should be included in an update to the Comp Plan. Because of this, this progress report is based on assumptions vetted by the advisory committees, including:

- The preferred alternative (as part of the Environmental Impact Statement or EIS) for Area 9, which is a new area at the landfill that maximizes the life of Cedar Hills, must be made to estimate when Cedar Hills may close and when the next disposal option should begin. There are currently [three alternatives](#) under consideration that are projected to extend the life of the landfill from 2028 to 2037, 2038, or 2046. Public comments on the draft EIS were received in late 2020. A final EIS was issued in the summer of 2021. The Solid Waste Division of DNRP, as lead agency for this process, will select one of the three options to move forward with by March 2022. This progress report assumes the shortest projected extension of landfill life, which means the next disposal method must be in place by 2037.
- The [2019 Arcadis Waste-To-Energy and Waste Export by Rail Transportation Study](#)<sup>12</sup> projected that two to six years would be required to build out waste export, while WTE would need eight to ten years. Although there are more disposal methods to consider (e.g., gasification, pyrolysis, etc.), no studies have been conducted to estimate the development time of these options. Therefore, this schedule assumes a decision should be made ten years before closure of the landfill to keep all options available, which would be 2027.
- As discussed earlier, ILAs between the cities and King County make it clear that the disposal decision is determined through the Comp Plan update process. Therefore, the Comp Plan must be updated by 2026 to move forward on the long-term disposal method in a timely manner.
- The milestones for updating and adopting the Comp Plan by 2026 are based on the experience gained during the 2019 Comp Plan update process and required review per RCW and ILAs.

### B. Progress report outlining the plan to decide the next long-term disposal method

This section identifies the major activities that need to occur each year leading up to the decision point, which will be included in the 2026 Solid Waste Comp Plan update.

**Table 1: Overview of Plan Activities**

Activity	Context	Timeframe*
Complete the EIS and select the Area 9 preferred alternative.	The preferred alternative estimates the remaining life of the landfill which is when the next long-term disposal method should be begin.	2022 – Q1
Finalize the Re+ Plan and seek advocacy from cities on specific resource diversion actions.	The Re+ Plan will provide a planning basis to project future waste tonnage based on newly diverted resources, which could	2022 – Q2

<sup>12</sup> [Waste-to-Energy & Waste Export by Rail Transportation Study - King County Solid Waste Division](#)

Activity	Context	Timeframe*
	impact which long-term disposal method to recommend. City advocacy of the Re+ Plan will provide more certainty about how successful these diversion actions will be because cities have control over policy that impacts recycling.	
Hire a consultant to analyze long-term disposal options based on the Re+ Plan projected impacts to waste tonnage and characterization.	This analysis will aid in discussions between King County and stakeholders, such as advisory committees and communities, on which long-term disposal option to recommend.	2022 – Q2
Identify and finalize the long-term disposal method recommendation in partnership with MSWMAC, SWAC and community members.	Input and recommendations from advisory committees and the community are an important consideration for County decision-makers.	2023 – Q2
Complete the planning-level EIS for the Comp Plan, if an EIS is required. This EIS analyzes impacts to the environment from actions in the Comp Plan.	This analysis provides more information about possible impacts from the recommended long-term disposal option.	2024 – Q2
Begin drafting Comp Plan update.	Drafts are developed and shared with advisory committees to create buy-in into the Comp Plan.	2024 – Q2
Complete the draft Comp Plan.	This is the first version that is shared more broadly with the public and Ecology.	2025 – Q1
Hold concurrent 60-day public comment period and 120-day review by Ecology of the draft Comp Plan.	Comments from the public and Ecology are considered and may lead to revisions to the draft Comp Plan.	2025 – Q1
Update the Comp Plan, based on public and Ecology feedback, and update for review by the King County Executive.	This is a near final version of the Comp Plan for the Executive to review.	2025 – Q3
The Executive will review, approve, and transmit the final proposed Comp Plan to the King County Council.	This is the version of the Comp Plan that the King County Council will review.	2025 – Q4
Review and potential amendment by the County Council.	This is the version of the Comp Plan cities will review.	2026 – Q2
Cities will have 120 days to review and approve of the amended Comp Plan. <sup>13</sup> Per ILAs, three-quarters of city populations within participating ILA jurisdictions <sup>14</sup> must agree on the Comp Plan for it to be approved.	This approval process determines whether the Comp Plan update is approved per ILA requirements.	2026 – Q2

<sup>13</sup> [Example of the Bellevue ILA, see section H of the Preamble \(page 24\)](#)

<sup>14</sup> Participating ILA jurisdictions are those jurisdictions that take a formal action to approve or disapprove of the Comp Plan.

Activity	Context	Timeframe*
If the Comp Plan is approved by the cities, Ecology will have 45 days to review and approve the Comp Plan.	Ecology is the final approver in this update process.	2026 – Q4
Comp Plan is updated and approved.		2026 – Q4

\*Note that timelines and activities may change

### C. Feedback from Advisory Committees

This section describes feedback received from MSWMAC and SWAC about the plan for deciding the next long-term disposal method. Discussions on this report occurred with each advisory committee monthly between June 2021 and October 2021.

Both committees recognized that the approach outlined above is acceptable. Each Committee Chair recommended sending it to King County Council, while noting the concerns outlined below. Each advisory committee expressed the desire to continue to be involved in the work and wish to have flexibility about changing the plan and implementation timing in the future, should conditions warrant such action.

Each committee offered similar feedback. The high-level themes are:

- Concern that it may be too early to decide on the next long-term disposal method because impacts from Re+ will not be fully known. Many actions in Re+ will require regional action and, in many cases, legislation to be successful. It may take several years before legislation is passed. Forming a decision without being confident about how much waste will be in the system in the future is concerning.
- Recommendation that the region should press forward with a long-term disposal action based on the projected impacts of Re+ actions that are endorsed by the cities. Such an approach would help to maintain a sense of urgency and more clearly connect the two decisions: which actions the region is committed to taking to increase resource diversion, and which long-term disposal option to recommend based on how much and what type of waste is still left to be disposed.
- Recognition of general challenges and resource constraints associated with COVID and the planning of other solid waste initiatives such as a potential 2023 rate increase.

## V. Next Steps

The determination of the next long-term disposal method will be reflected in the Comp Plan update, planned for 2026. The identified disposal method will be informed by input and engagement from the County’s regional solid waste system partners. The next steps are slated to begin in early 2022.

## VI. Appendices

Appendix A: Advisory Committee Members

## Appendix A: Advisory Committee Members

Metropolitan Solid Waste Management Advisory Committee (MSWMAC)	
Name	City/Organization
Aaron Moldver	Redmond
Jenna McInnis	Kirkland
John MacGillivray	Kirkland
Linda Knight	Renton
Rob Van Orsow	Federal Way
Penny Sweet	Kirkland
Toby Nixon	Kirkland
Tony Donati	Kent
Cameron Reed	Shoreline
Mason Giem	SeaTac
Joan Nelson	Auburn
Jon Gire	Bellevue
Emily Warnock	Bothell
Robin Tischmak	Burien
Steve Friedman	Clyde Hill
Chris Searcy	Enumclaw
Micah Bonkowski	Redmond
Amy Shaw	Maple Valley
Jeff Brauns	Newcastle
Cameron Reed	Shoreline
Diana Hart	Woodinville
Jason Rogers	Snoqualmie
Audrie Starsy	Sammamish
Phillippa Kassoover	Lake Forest Park
Earnest Thompson	Normandy Park
Jason Kitner	Mercer Island
David Baker	Kenmore
Julie Wartes	Issaquah
Laura Techico	Des Moines
Don Vondran	Covington
David Hill	Algona
Seth Boettcher	Black Diamond

Solid Waste Advisory Committee (SWAC)	
Name	City/Organization
April Atwood	Seattle University
Karen Dawson	Cedar Grove
Heather Trim	Zero Waste Washington
Kenneth Marshall	Teamsters 174
Penny Sweet	City of Kirkland
Phillippa Kassoover	City of Lake Forest Park
Gib Dammann	Zero Waste Vashon
Taylor Atkinson	Interested Resident
Leah Tischler	SBM Management Services
James Borsum	Teamsters 117
William Louie	Interested Resident
Robin Freedman	Waste Management
Wendy Weiker	Republic Services
Lee Momon	Interested Resident