SQUAMISH

Waste Diversion Guide

for Construction and Renovation

Included in This Guide

The District of Squamish has created a range of guides & toolkits to support Squamish businesses and residents in their effort to reduce, divert and recycle waste. This guide is for construction sector businesses.

Following an introductory section detailing Squamish's waste goals and bylaw requirements, you will find key steps to take to reduce and divert waste in your business. Section headings and steps are:

- Construction Sector Waste in Squamish
- Step 1: Identify Ways to Reduce Waste from Your Project
- Step 2: Set Up Waste Management and Diversion Systems
- Step 3: Engage Your Team to Drive Success
- Step 4: Monitor and Improve Consistently
- Bylaw Checklist and Tools Overview

A variety of guides, toolkits, and resources to support your waste reduction journey, are available at: **squamish.ca/construction-waste**

Check back frequently for updates to requirements, responsibilities and to access new resources.

Remember, the best way to deal with waste is to not produce it in the first place.

Construction Sector Waste in Squamish

Everyone who lives, works, and plays in Squamish shares responsibility to keep organic and recyclable materials out of the landfill (residual) waste stream. Diverting waste from landfill is an everyday action we can each take to save costs, reduce greenhouse gas emissions, and protect the environment.

This guide is for any business or organization that produces construction or materials waste. This includes construction sites, material supply companies, home improvement stores, demolition companies, etc.

> *Audits at the Squamish Landfill have repeatedly shown: Over half of landfilled construction sector waste could have been diverted.*

Squamish's Solid Waste Utility Bylaw

Squamish's Zero Waste Strategy sets a target to divert 80% of waste from landfill (against 2018 baseline) and reduce waste generation to 300kg per person. To support these waste reduction goals, Squamish has a periodically updated, *Solid Waste Utility Bylaw*.

Under the *Solid Waste Utility Bylaw*, Industrial, Commercial, Institutional (ICI) properties and operations are required to separate garbage, organics and recyclables into appropriate collection containers, without contamination, prior to disposal.

The bylaw requires that:

1. Waste must be separated into multiple streams: recyclable material, organic material and residual waste (garbage).
2. Garbage must be placed in clear bags*.
3. Mixed waste must be limited to no more than 5% of total waste.
4. Site managers are required to provide educational material to residents, tenants, employees and contractors.

** Clear bags help improve recycling and protect waste workers by making it easier to spot items that don't belong. Black bags can hide hazardous or recyclable materials. For most construction material bags can be avoided.*

Photo: RDC Fine Homes

Business Benefits of Being Waste Wise

As the costs associated with the collection, transportation and processing of raw materials and waste disposal continue to rise, the benefits of reducing waste and keeping it out of the landfill become more apparent.

Operations that actively focus on waste reduction and increase focus on circularity can reduce waste-associated costs, now and in the future. In Squamish:

- Tipping fees for recyclables and wood have been set lower than the fee for general Demolition and Construction Waste.
- The Mixed Waste fee is set at a much higher rate than most other streams to incentivize diversion and penalize those who are not managing waste contamination appropriately.
- If your landfill load is discovered to contain more than 5% organic or recyclable material, you will be charged the Mixed Waste fee.

You are responsible for ensuring your waste hauler knows the contents of your bins so they can take them to the right facility and so you can avoid the Mixed Waste fee. Failure to separate waste may also be subject to a $500 fine under the District of Squamish *Solid Waste Utility Bylaw*.

Check out **squamish.ca/construction-waste**

For a range of resources and toolkits relating to Construction Waste to help you on your waste reduction journey.

Our Zero Waste Future

Material costs are rising. Dependence on virgin resources increases costs and exposes companies to supply chain risks if supply lines are disrupted.

Squamish has a goal of being a zero waste community by 2040.

> *"Zero waste is about building a vibrant circular economy, where unwanted materials are not disposed in a landfill or incinerator, but instead become the raw materials for something new.*
>
> *A strong circular economy keeps valuable resources circulating in the local economy, supporting good green jobs, benefiting the community and reducing harmful environmental impacts."*
>
> *— City of Toronto*

This four-step approach provides practical guidance to effectively reduce waste!

STEP ONE

Identify Ways to Reduce Waste from Your Project

The best way to manage waste is to design it out, but many materials can be reused, repurposed or recycled.

The Waste Hierarchy

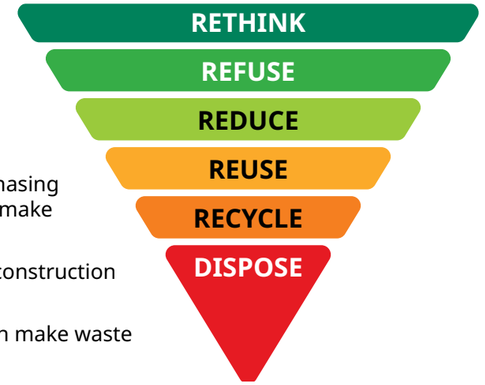
As you manage projects, you can use the waste hierarchy (right) to identify ways to rethink waste.

As much as possible, implement the green "R"s (Rethink, Refuse, Reduce) before moving down the hierarchy.

Continually review your waste and actively seek supply chain, purchasing and protocol changes that can entirely eliminate waste streams or make separation easier and more successful.

Set waste diversion targets with contractors, building owners and construction professionals at the design and planning stages.

Implement building standards, such as LEED and Built Green, which make waste management a priority.



Rethink, Refuse & Reduce

The list of construction materials subject to increased tipping fees and banned from landfill continues to grow. Identifying opportunities for waste reduction now will help you in the future.

Adopt streamlined designs that create less waste.

Use standard sizes and quantities of materials, and plan to reduce cut-offs.

Avoid over-ordering, unless unused items can be returned.

Ensure storage areas are safe, secure and weatherproof.

Connect people overseeing purchasing and waste so they can consecutively eliminate surplus.

Sea-to-Sky architects and construction companies are adopting waste wise practices using lean construction practices, designing projects that integrate existing structures, incorporating panelization and modular building, and setting up on-site systems that make re-use, sorting and donation easy.

One company's Director of Operations highlighted:

> *'There is a small cost to setting up site systems, but these are easily offset by savings in tipping fees'.*

Photo: RDC Fine Homes

Maximize Reuse

Reuse of materials on and off site will reduce waste, lower tipping fee and operational costs, while keeping materials and resources in use longer. Consider ways to:

Purchase with reuse in mind

- Purpose-made reusable products for temporary applications (e.g. street mesh fence panels) may have a higher initial cost but are cost-effective in the long term and reduce waste.
- When creating contracts, require contractors to divert extra material for reuse. Ask suppliers if they will take back and re-use packaging, and work with those who do.

Maximize salvage

- Dismantle buildings carefully to increase the number of undamaged materials that can be salvaged.
- Return, sell or donate unused or salvaged materials.

Prioritize reuse on-site wherever possible

- Use collected off cuts before new materials and try to collect and reuse shores.
- Fix temporary materials (e.g. forming bracing) so they can be dismantled and reused many times.

Check Out the Construction Waste Toolkit on Recycling & Diversion Facilities for details on opportunities for reuse, recycling, and materials that local facilities can help divert from landfill.

Demolition & Deconstruction toolkits also list service providers available for deconstruction and salvage. Available at **squamish.ca/construction-waste**

Recycle What Can't Be Reused

Maximize recycling to comply with the *Solid Waste Utility Bylaw* and to avoid surcharges on materials banned from the Squamish Landfill.

- Set up a designated recycling area, with clear signage and bins for each waste stream.
- Focus recycling efforts on the main waste streams you produce (such as wood, metal, cardboard and plastics) to create the biggest impact.
- Keep materials for recycling clean and dry.

Consider Donating Materials Locally

The Squamish Rebuild is a not-for-profit social enterprise that was created to help divert reusable construction 'waste' from the landfill and provide community members with good quality, affordable building supplies.

During deconstruction and demolition donated materials count for double credits towards return of your demolition diversion deposit. Be sure to store materials for donation/reuse in weather protected locations.

For details on accepted items and donating head to: **squamishrebuild.ca**.

SQUAMISH REBUILD

Focus on Keeping Wood Out of the Landfill

Wood is an economical and aesthetically pleasing building material that, in B.C., is also sustainable and renewable. At end of life, it can be composted because it breaks down naturally into organic material.

Diverting organics from the landfill helps to:

- Reduce methane emissions, a greenhouse gas up to 72 times more potent than CO^2.
- Extend the lifespan of the squamish landfill (saving all taxpayers money).
- Provide an all-natural soil amendment to support farmers producing food in our region.
- Show a clear commitment to a greener future, in line with shared community values.

Let's Keep Wood Out of the Landfill

The images below show wood in the Squamish landfill from construction and building material businesses. The majority of this lumber could have been diverted for reuse or recycling.

Keeping wood out of the landfill is one of the most effective ways to reduce greenhouse gas emissions and extend the life of the Squamish Landfill.

The use of adhesives, membranes, and spray foam insulation in building design and construction creates big challenges for deconstruction.

Local Champion!

A local builder collects and piles their wood waste and then crushes it before hauling. This fills the bins more efficiently, resulting in fuel and haulage savings. Pallets are stored separately and reused as long as possible, saving both money and recycling resources.

Embrace Deconstruction & Salvage

Squamish Landfill audits have consistently found **more than half of landfilled construction/demolition waste could have been diverted**. The District of Squamish's *Demolition Waste Diversion Bylaw* aims to maximize demolition project waste diversion by encouraging deconstruction and salvage.

Traditionally, demolition practices left little room for waste diversion – in most cases, waste ended up in a single bin destined for landfill. Deconstruction is the practice of "un-building" where materials are strategically removed and separated, maximizing opportunities to divert valuable building materials for reuse and recycling. When deconstructed, older buildings may contain high-quality, unique materials like old growth lumber that would be hard and costly to source today. Newer buildings can offer dimensional lumber, appliances, plumbing fixtures, and more.

Check out the Construction Waste Toolkit on Demolition & Deconstruction for details on bylaw compliance, demolition deposits, diversion planning, reporting and ensuring deposit refunds. Available at **squamish.ca/construction-waste**

Reasons to Choose Deconstruction

For Your Company

Valuable Material Recovery: Salvage valuable components like lumber, windows, doors, flooring, baseboard trim, framing materials, cabinetry, plumbing fixtures, and appliances and reuse them on or off-site.

Economically Comparable: Deconstruction can be cost comparable to demolition. Federal and provincial tax credits exist for appraised and donated materials to a charitable organization. Diverting landfill waste is often cheaper and deconstruction can benefit your brand by making building materials available to small builders, community groups and residents.

For Your Company & Your Community

Waste Diversion: Deconstruction can divert 95% of materials by volume from landfills. Typically, 70% of materials are recycled, and 25% are reused.

Job Creation: Deconstruction generates local employment, creating six jobs for every one job in traditional demolition.

Environmental Impact: Deconstruction helps reduce the 4 million tons of construction, renovation, and demolition waste generated annually in Canada, of which 37% is old-growth lumber.

A deconstruction contractor can help you determine if full or partial deconstruction is a good fit for your project. Here are some of the ways you can incorporate deconstruction into your project:

- Consider selling or donating the entire structure for reuse at another location.
- Review the site and make a list of salvageable items and material.
- Remove items carefully with the right tools to keep them intact.
- Bundle multiples of a particular material.
- Donate or resell items to be reused or recycled.
- Remove recyclable material and deliver to the appropriate facility.

Check out **squamish.ca/construction-waste**

For Construction Waste Toolkits detailing Recycling & Diversion Facilities, What Goes Where and Deconstruction & Salvage Service Providers.

STEP TWO

Set Up Waste Management and Diversion Systems

Developing a **waste management plan** is the first step in creating a comprehensive strategy for reducing and diverting waste. Your plan should detail:

- Waste materials you will produce on site
- Materials you will separate for recycling/reuse
- Where materials will be collected & stored
- How materials will be removed from site

Talk to your team, site supervisors, and waste haulers to identify improvements to existing waste management practices and identify ways to reduce waste or manage it better. Ask for waste reports from your waste hauler (e.g., waste weights) to get a sense of your waste generation.

Simple and frequent visual checks will also allow you to better understand what makes up your waste and to identify common contaminants. For in-depth insights into the waste you are producing consider conducting a waste audit or hiring an external company to do one for you.

Top Tip! When reviewing your waste streams, don't forget about waste produced by site staff.

Regulations relating to waste stream collection also apply to seemingly minor items like coffee cups, lunch food scraps, and potential wildlife attractants.

Set Up Your Site Bin Systems

When setting up collection bins on-site ensure that:

- Waste sorting bins are conveniently located – near where waste is generated or where your team can frequently and easily access.
- Provide bins for all waste streams to encourage sorting.
- Keep waste sorting areas clean, safe and simple to use – certain materials must stay dry for recycling or donation.

Consider how material sorting needs might change over the course of your project. During deconstruction you may need significant space for wood, whereas at the end of a project you may need lots of space for flattened cardboard as appliances and fixtures are installed.

Waste signs and colour schemes are being standardized throughout the Sea to Sky corridor and Vancouver to help people successfully sort waste wherever they are. When choosing which sign to use, consider bin shape and size as well as what information needs to be conveyed.

Local Champion!

"One of our smarter marketing moves"

In one Squamish office, a staff champion decided to invest in some small bins and used the regional signage tools to install clear signage for each waste stream. By simply re-organizing drastically reduced contamination, but also found an unexpected marketing opportunity. Impressed office visitors often gather around the waste area, admiring the bins and even taking photos. "I used to look at it as nothing but a cost but now I look at it as of marketing value"

Photo: Timberframe Squamish

Set Up Bins with Standardized Signage

Whether your bin stations will stay the same throughout a project or transition with project needs, ensure your team remains clear on expectations for what goes where and any changes to systems.

Clear signage is a key factor in setting up successful bin system. In Squamish, and throughout the SLRD, are tools for downloadable ready-made signage or to create your own custom signage using regional standardized colour and icons.

Check out **squamish.ca/construction-waste**

For signage templates and customization tools.

Focus on Curbing Contamination Rates

Waste stream contamination occurs when people put waste into the wrong bin. Contamination of waste streams makes it difficult, and in some cases impossible, for recycling and composting facilities to process waste, resulting in it going to landfill. For this reason, properties that do not manage contamination rates can be subject to fines under the District's *Solid Waste Utility Bylaw*.

To reduce the likelihood of waste stream contamination:

- Ensure users understand that contamination negatively impacts recycling.
- Reduce contamination by providing clearly labelled bins for all waste streams produced.
- Avoid overflow of bins to ensure an alternate stream isn't selected if the required bin is full.
- Maintain a focus on continual education to keep contamination rates low.
- Ask for feedback from your staff about what is unclear or not working.

Photo: Sea to Sky Removals

Tip!

Where waste is not going into oversized collection bins or is destined for the landfill use clear bags. This will ensure site teams can visually confirm organic and recyclable materials have not mistakenly ended up in the landfill stream.

Actively Engage with your Waste Hauler(s)

As you plan for on-site waste systems, it can be useful to stay connected with you waste hauler as they will have insights that may be useful in planning or updating on-site waste systems.

The person currently managing your waste contract(s) will have knowledge of current waste agreements and practices. It is best practice to ask haulers if they have 'any recommendations for improvements?'.

Tip!

When dealing with a hauler, be ready to answer the following questions to obtain a more accurate quote:

- The size of existing bins and frequency of collection
- The waste streams currently collected and any additional waste streams needed
- Changes in waste streams expected your project processes (E.g. from deconstruction to construction)

Local Champion!

A local Squamish construction company has a designated team who is responsible for waste auditing duties on site. Staff regularly check bins for contamination and communicate any issues to workers. Integrating waste audits into their everyday processes allows problems to be identified and addressed quickly.

Photo: Axiom Builders

Additional Waste Considerations

Squamish is a certified Bear Smart Community. Reducing the potential for human-wildlife conflicts through proper solid waste management and storage is required under the *Wildlife Attractant Bylaw*.

Report wildlife conflicts to:

1-877-952-7277 (RAPP)

Reduce potential for wildlife conflicts, by ensuring:

- Site waste collection bins provided by your hauler are strong and can be secured (locked) to prevent access by bears, wildlife or unauthorized personnel.
- Bins should be secured (i.e. lockable and/or inaccessible site) at all times.
- Dispose of food waste separately from construction waste in approved bear-resistant containers. Place "NO FOOD WASTE" signage on construction materials bins.
- Provide bear safety and conflict reduction training for employees.
- Train staff on managing bear-proof containers. Ensure they remain latched and inaccessible when not in use.
- For more information on the Wildlife Attractant Bylaw and to view the Solid Waste Wildlife Proof Enclosure Design Guidelines, visit **squamish.ca/wildlife**

Photo: Mike Van Capelle

Local Champion!

A Squamish builder takes waste diversion on site seriously. The company owner has built his own bear-proof bins to help staff separate and store different waste streams. This makes collection and disposal clean and convenient for everyone.

STEP THREE

Engage Your Team to Drive Success

Ensuring your team understands the ‘why’ and ‘how’ for construction waste recycling will require education, especially if you are implementing new waste systems, and updates on an on-going basis.

Always provide information to new staff, contractors, etc. when they come for site orientations and plan for ongoing education initiatives, as required by the Solid Waste Utility Bylaw.

Plan for how you will share education messages about waste:

- During briefings and site orientations;
- Include waste diversion tips into meetings with site supervisors;
- Post to bulletin boards or providing regular updates via email; and
- Invite ideas for waste reduction initiatives.
- Make sure your employees understand, that just like wearing appropriate safety wear, sorting waste is part of their job requirements. Look for champions in the workplace who can help advance the team towards your waste diversion goals.

Check out **squamish.ca/construction-waste**

For Construction Waste Toolkits including signage templates, information on What Goes Where and waste education resources.

Local Champion!

“This is just what we do here”

A Squamish builder makes waste management and diversion a key part of workplace culture. For example, all the steel that is collected is sold for recycling and the proceeds are used for site-wide barbecues or lunches. This way, onsite staff reap the benefits of diverting waste and take ownership of waste management practices.

Bylaw Compliance Checklist

Use this checklist to ensure you are following the Solid Waste Utility Bylaw.

Print this page out and keep it handy as you work through your waste management systems.

Bylaw Compliance

To comply with the Squamish Solid Waste Utility and Wildlife Attractant Bylaws you must:

- ☐ Provide separate bins to collect organics, recyclables, and garbage and contract a hauler to service and dispose of this material.
- ☐ Store wildlife attractants indoors or, if outdoors, locked in wildlife proof containers.
- ☐ Provide educational information to all new staff about how to separate organics, recyclables, and garbage and how to reduce wildlife conflicts.
- ☐ Post signage in waste areas to help staff separate organics, recyclables, and garbage.
- ☐ Post Bear Smart Construction Site signage to remind staff that Squamish is Bear Country.

Best Practices

- ☐ Follow these best practice tips to improve your waste management:
- ☐ Conduct a waste audit to better understand areas for improvement and develop business wide waste reduction goals.
- ☐ Review site and materials management to identify more opportunities for waste reduction.
- ☐ Discuss updated waste management plans and site systems with all staff. Supervisors should be regularly alerting contractors, site teams and waste haulers to changes.
- ☐ Require staff to pack out lunch waste and if coffee is provided on site provide reusable mugs or require team members to bring their own.
- ☐ Find a waste management champion to monitor and continually improve processes.
- ☐ Review purchasing policies in order to identify opportunities for waste reduction.
- ☐ Incorporate sustainable materials and/or items salvaged from deconstruction into your project.
- ☐ Implement a human-bear conflict reduction plan through education, signage, and providing wildlife resistant refuse containers.

STEP FOUR

Monitor and Improve Consistently

If you don't measure it, you can't manage it.

Use visual checks and ongoing communication with your hauler, team, contractors, etc. to:

- Continually monitor for contaminants in your waste streams.
- Review opportunities to reduce waste.
- Improve waste collection systems.
- Keep team waste diversion practices on track.

Ongoing monitoring and continued communications if your team will be the key to success in continually reducing waste. Seek out opportunities to share feedback and be creative.

As you plan for and/or update your waste systems, practices, and education and engagement efforts, remember you are not alone. A number of training and certification programs have been created to help provide structure and support for the constructions sector and are available at: **squamish.ca/construction-waste**

A zero waste path for squamish will protect the environment, benefit the community, support green jobs and help build a strong local economy.

Love this place, reduce your waste.

SQUAMISH