



Construction and Demolition Diversion Market Analysis

July 2025



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Construction and Demolition Diversion Market Analysis

Executive Summary

The City of Steamboat Springs has a current material diversion rate of 16%. Of that, around 30% of the locally disposed materials is Construction & Demolition (C&D) debris.¹ To better understand the local challenges and opportunities of this material stream, the City contracted VERT Sites to conduct a local C&D Diversion Market Analysis (Analysis).

The main objectives were to identify the top 3-5 C&D materials generated based on city permitting data from January 2023 to May 2025, in combination with building sector material industry insights and two case studies at local construction sites. The analysis also conducted a 200-mile and 100-mile radius search to identify potential disposal sites for additional C&D materials generated within the city. However, it was determined that only the 100-mile radius search would be expanded upon to include quantities and types of facilities within the 100-mile buffer range. The analysis began in January 2025 and ended in May 2025.

Analysis Timeline

January: Study kick off, General Contractor Open House

February: case studies, site visits

March: case studies, site visits, permit review, market research radius analysis

April: C&D industry research, local material generation research

May: data review reporting

January 2025: Study results to be shared in 2025 Open House

Key Analysis Tasks

Local Building Permits: Identify key materials based on local building sectors

Case Studies: Site visits, operation and disposal observations, visual disposal data

Material Disposal: C&D industry research, local material generation research

Transportation and Disposal: Conduct a 200- and 100-mile buffer zone search of disposal

Two 5-week case studies were conducted at two active construction sites. One site was a new single-family dwelling, and the other was new multi-unit residential construction. Both sites were past participants in the City's 2024-2025 C&D Feasibility study.²

The local building permit assessment includes 8 of 22 permit categories. All categories and data were provided by the Routt County Building Department. Of the analyzed categories, the past 2.5-year data analysis revealed 3-4 major categories for permits between January 2023 and May 2025: additions, alterations, and new single-family dwelling. Additional permit categories that were assessed included

¹ 2024 and 2025 discussions with the City of Steamboat Springs Community Recycling Coordinator.

² [VERT Sites, LLC. Steamboat Springs C&D Diversion Feasibility Study. 2024.](#)

accessory building, demolition, new commercial building, new multi-unit residential, and secondary dwelling unit. Definitions and an overview of categories can be found on page 22.

Material identification and research from construction and demolition sectors were taken into consideration along with case study materials. The overall research and observations revealed various kinds of packaging diversion opportunities based on industry findings as well as where both case study sites currently were in their construction process and phase(s).

There is one privately-owned and operated facility for all material streams generated within the city. The facility accepts landfill, recyclable and compostable materials, and most local haulers utilize this facility for certain material streams. Facilities in neighboring counties such as Eagle are sometimes utilized as well. Haulers who take materials to Eagle County can take a mixture of landfill and recyclable items. While known that some materials leave the city and county, most materials end up at the private local landfill and material resource facility (MRF). Most of the current C&D debris entering the landfill is mixed loads of construction, recycle, and landfill materials.³

Lastly, assessing local disposal and transportation opportunities via a 200 and 100-mile buffer zone search revealed 75 counties are within 200-miles across 4 states and 27 counties are within a 100-mile radius across two states. While it makes little economic and environmental sense to haul certain materials long distances, the search revealed how challenging disposal, and diversion can be with the buffer zone considerations coupled with hauling, transportation distance, and travel time to out-of-area disposal sites.

While the City faces local disposal challenges based on its current access for disposal and diversion, the analyses and research revealed opportunities for materials management planning, local disposal resource collaborations, and recovery of certain materials and items.

³ Chats with City of Steamboat Springs Community Recycling Coordinator. 2024.
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Case Studies

The Analysis observed two active local construction sites; one was a single-family home, and the other was a multi-story hotel.

Each project site had four observational site visits that took place over a 5-week span during February and March. The purpose of observational site visits was to experience active local sites from a general contractor perspective. Site operations and logistics were taken into consideration as well as dumpster viewings and disposal and diversion estimates. Weekly conversations with the site's Superintendent or Project Manager also took place.

The Holiday Inn Express was a 65,527 square foot, 4-story building. Construction began in April 2024 with anticipatory completion in the summer of 2025. Most of the hotel's generated landfill materials were drywall, or gypsum board during site visits. Gypsum is typically a clean material that is generated during new construction projects, however, there is not a local nor state disposal site that currently accepts this material for landfill diversion.⁴

30 Park Avenue is single-family home that initially began with demolition of the previous structure on site followed by new home construction that began in May 2024. Most of the home's materials were various lumber cut-offs and packaging material during site visit observations.

Holiday Inn Express

The hotel had 60-80 site workers on site at any given time. The size of the project and the project being conducted in multiple phases, e.g., drywall, insulation, electric, etc., were contributing factors to how many people were on-site each day. Examples of the different build-out or construction phases can be found in the following Images 1, 2, and 3.

Image 1: Floor Framing, February 2025



⁴ [VERT Sites, LLC. Steamboat Springs C&D Diversion Feasibility Study. Page 10. 2024.](#)
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Image 2: Floor 3 Insulation, February 2025



Image 3: Floor 4 Drywall, March 2025



Key Observation: Each floor was often in a different construction phase than the one below or above it. This meant a minimum of 8-10 trade partners were on site with anywhere from 60-80 people on site.

The general contracting team built from top-down. This meant building development initiated from the top floor then moved down to the first. This logistical approach is the reason the site often experienced the same kinds of materials for disposal throughout construction.

With the site averaging nine different trade partners on site, e.g., painters, drywallers, electricians, framers, etc.,⁵ the amount and kinds of trade partners on site contributed to how many vehicles were on site, the materials on site, material deliveries, material disposal, and disposal quantities. The amount of people and cars often presented parking and material and equipment storage challenges, as seen in Image 4.

⁵ Site visit conversations with the project's Superintendent. February - March 2025.
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Image 4: Site entrance and parking, March 2025



Generated Materials

The top observed materials generated were gypsum, drywall, dimensional lumber, plastic wrap, plastic container packaging, e.g., buckets, and cardboard packaging. The Superintendent shared, “Most of the materials or items in the dumpster was consistently drywall,” with a 60-70% disposal percentage or volume in a 30-yard dumpster estimate.⁶ Since early January, the site experienced gypsum generation. Again, the consistency of generation was due to the structure’s different and active construction phases on each floor. Gypsum cutoffs and boards are shown in Image 5.

Image 5: Gypsum cutoffs and boards



Key Observation: Most observed generated and disposed materials:

- Gypsum/Drywall
- Packaging: Cardboard
- Dimensional Lumber
- Packaging: Plastic Wrap
- Packaging: Plastic Containers

Gypsum was consistently delivered 2-3 times a week by a local building company from Eagle, Colorado. The material was unpackaged and on pallets. The truck would stay on site as site workers

⁶ Site visit conversations with the project’s Superintendent. February - March 2025.
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would unload and transport the material to various locations throughout the project. Image 6 shows how the material was staged on the truck and transported inside.

Image 6 shows gypsum delivery, staging, and transfer. Clean gypsum board staged on the delivery truck (March 2025). Clean gypsum board on a hotel floor waiting for cut and use (February 2025).



Clean gypsum board would arrive 2-3 times a week from a company in Eagle County, Colorado. The truck would be staged on the north side of the building. A crane was used to transport sheets of gypsum from the back of the truck to inside the structure. Throughout site visits, this is the location the gypsum truck would be staged and deliver materials.

Gypsum is heavy in large quantities, and one way the site team transported large pieces to the site dumpster was via crafted “trash boxes.” Trash boxes are temporary configured boxes that construction and demolition sites often create in order to dispose of materials using equipment with forklift capabilities. Image 7 shows gypsum trash disposal via trash boxes as well as how the material was disposed at the site. All landfilled gypsum were clean cut-offs. Though the material was or can be free of contaminants, gypsum unfortunately is a non-divertible, non-recoverable material locally, regionally, and state-wide⁷.

Image 7: Gypsum Material and Disposal (February 2025)



⁷ [VERT Sites, LLC. Steamboat Springs C&D Diversion Feasibility Study. Page 10. 2024.](#)
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Key Observation: The Superintendent estimated that 60-70% of landfilled materials was clean gypsum cutoffs from January and on-going until project drywall completion.

Cardboard was another observed generated material as shown in Image 8. Volume comparisons to gypsum and other materials were significantly less impactful; however, cardboard is one of the easiest and most readily divertible materials the site produced given current access to disposal and diversion within city limits.

Image 8: Cardboard Packaging (February & March 2025)



Cardboard generation fluctuated between parts, for example piping, and new items for installment, such as toilets. It was noted that some packaged items and materials were being stored until needed. This meant some of the same packaged boxes were observed during site visits even though weeks passed between seeing cardboard packages.

The amount of cardboard generated, and its generation fluctuations, were anywhere from 4-8 yards a month.⁸ If site space allowed, material generation was enough for consideration of a cardboard-only or single-stream recycle dumpster for separate material collection. It is possible the site would have seen additional fees such as another initial dumpster delivery fee and recycle disposal fees. However, by removing a material that often takes up more volume space than weight in a dumpster, disposal and a shift of materials landfilled can either equal the cost or even lower disposal cost of materials.

Key Observation: Cardboard generation typically came from the installment of new parts and items. Anywhere from 4-8 yards of the material was generated once a month.

An obvious challenge that would have come about would have been dumpster equipment placement without removing parking or getting in the way of material and equipment storage and the trash dumpster. Large construction sites, like the Holiday Inn Express, can often experience complex challenges with space and storage. Typically, the larger the site, the more equipment, the more

⁹ Conversations with Site Superintendent. February and March 2025.
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trades, the more people, the more cars are on site and the more space is needed to accommodate these variables.

Lastly, the site saw a consistent generation of soft and hard plastic packaging. Plastic wrap and film were the most observed soft plastics while buckets were the most observed hard plastics as seen in Image 9 and Image 10.

Image 9: Various Packaged Materials and Items in Soft Plastics



Image 10: Hard plastics (February & March 2025)



Key Observation: Soft and hard plastic packaging was generated daily from buckets and material or items wrapped.

Soft plastic generation was observed at all site visits as well as its mentioning in site meetings with the Superintendent. The project was encased in plastic wrap at one point as illustrated in Image 11.

Image 11: Encased Structure in Plastic Wrap (February 2025)



Soft plastics are not currently collected and diverted within the city, and though soft plastics do not weight a lot, material volume diversion can save dumpster space. The site saw a minimum of 15 yards of soft plastic generated and upwards of 40 yards during project months outside the case study.⁹ It is unknown the amount of plastic wrap that was used to cover and insulate the building.

Hard plastics like plastic buckets and pails were the most observed hard plastic materials generated. Anything from paint to caulk to nails were in these buckets. Buckets were typically 5-gallons and were either repurposed for various tasks or thrown away.

Disposal Operation

The site utilized a 30-yard roll-off container for all materials and “Landfill” material stream was the only material stream the site budgeted and considered at the time of its proposal.¹⁰

Key Observation: The site utilized a 30-yard container (shown in Image 12) for disposal of all materials and material streams. “Landfill” was the only material stream budgeted and considered.

Image 12: Site Trash Dumpster with cardboard, soft plastics, and cutoffs of drywall. (March 2025)



The dumpster remained in the same location throughout all site visits, and the Superintendent shared it was serviced 1-2 times a week. Again, most of the landfilled material was gypsum.

⁹ Conversations with Site Superintendent. February and March 2025.

¹⁰ Conversations with Site Superintendent. February 2025.

Unfortunately weights were not provided by the hauler nor the general contracting team, but based on visual assessments and conversations with the Superintendent, it was estimated that each dumpster service was anywhere from 4.5 to 8 tons or 9,000 – 16,000 pounds of materials.¹¹ These are only estimates and each service the site had can be a different weight than the service(s) prior, e.g., just because one service might have been 5.5 tons does not mean the next or all services had the same landfilled weight. Table 1 is meant to provide a general idea of landfilled scenarios without receiving site specific data.

Table 1: Holiday Inn Express General Disposal Tonnage Scenarios
 Estimates are based off 1-2 services per week and through the months of February and March 2025

1 Ton = 2,000 lbs	4.5 Tons	5 Tons	5.5 Tons	6 Tons	6.5 Tons	7 Tons	7.5 Tons	8 Tons
5 services	45,000	50,000	55,000	60,000	65,000	70,000	75,000	80,000
6 services	54,000	60,000	66,000	72,000	78,000	84,000	90,000	96,000
7 services	63,000	70,000	77,000	84,000	91,000	98,000	105,000	105,000
8 services	72,000	80,000	88,000	96,000	104,000	112,000	120,000	128,000

Trash boxes were used most times to get materials from the ground or from inside the building to the dumpster as seen in Image 13.

Image 13: Site Trash Dumpster and Trash Box (March 2025)



¹¹[Volume-to-Weight Conversion Factors US EPA Office of Resource Conservation and Recovery Construction and Demolition Diversion Market Analysis](#)

Disposal Logistics

The site created two trash boxes (as seen in Image 14) out of dimensional lumber and plywood. Trash boxes were created to allow equipment with forks to move them, making it the easiest and most effective configuration for larger disposal needs and requirements.

Image 14: Site Trash Boxes (Feb 2025)



The site also utilized various containers for material collections from inside and around the structure perimeter. Each floor had at least one cart on wheels and a 55-gallon container for trash collections as illustrated in Images 15 and 16.

Image 15: Various Material Collection Carts



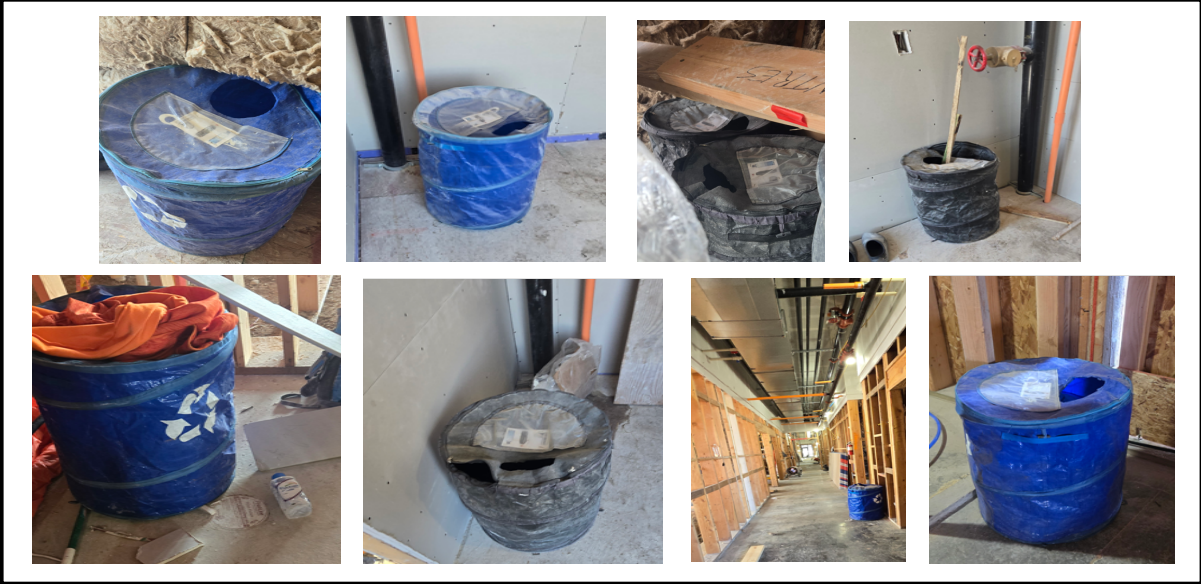
Image 16: 55-Gallon Material Collection Containers



Key Observation: Each floor had various collection containers including wheeled carts. Typically, items or materials would be thrown in a wheel cart and once full, then taken outside to a trash box for final disposal.

The site also agreed to test four 30-gallon collapsible and temporary containers. The goal was to encourage container usage regardless of material or item diversion. Though the containers were labeled for recycling, the overall goal for use was to encourage site workers to use containers they have not been accustomed to. All collection containers had a mixture of recycling and trash items, and all materials were landfilled regardless of their recyclability. This is illustrated in Image 17.

Image 17: 30-Gallon Material Collection Containers (February & March 2025)



All containers utilized the same recycle label which had images of permissible items: aluminum cans, plastic bottles, and plastic cups, as seen in Figure 1.

Figure 1: 30-Gallon Collection Container Labels



The collection labeling took into consideration the most generated items construction and demolition workers might generate. Based on site observations from the 2024 Study and past similar projects, many disposable items and materials site workers generate are empty beverage containers, e.g., aluminum and plastic beverage containers, and empty food wrappers, as seen in Image 18.

Image 18: 30-Gallon Contents



30 Park Avenue

Thirty Park Avenue was a permitted residential demolition followed by new structure construction. The new structure will be a 3-story 3,500 square-foot home with the home's main access on the second floor. The property will also have a garage accessory dwelling unit (ADU). Project demolition began in spring of 2024 and construction kicked off in June of 2024. The project has hopes of completion by the end of Summer 2025.

It was observed that the project's dumpster accumulated three main materials for disposal during site visits and project phases: plastic wrap, plastic containers, and cardboard. plywood, pallets, and composite decking were also observed but in less quantities. While the site only had a trash dumpster on site for services, the site actively participated in recycling cardboard and complied with collecting certain Ordinance 2899 materials.¹² Cardboard was taken off site and rather than having the site adopt Ordinance 2899, the site focused on key materials it generated: empty beverage containers - predominately plastic bottles and aluminum cans and cardboard.

The project had an average of five trades on site and anywhere from 6-12 site workers ranging from the general contracting team and trade partners. The site footprint and location presented weather, parking, material and equipment storage challenges during all visits. Images 19, 20, and 21 (next page) show the weather and changes.

The site also had to ensure snow was removed in front of the dumpster for disposal access as well as managing parking in front of the dumpster for operational and service access. Though the site participated in recycling materials offsite, had they not, there would be additional challenges on where to place recycle collection equipment with parking, equipment, material, and weather challenges already prevalent.

Early March still had winter weather but by mid-March the snow was beginning to melt. Even with the weather changes the site still had challenges with accommodating cars, equipment, and materials. With snowmelt, it is possible a 96-gallon tote or two could have been added for cardboard and beverage container recycling.

¹²[Ordinance 2899: Amending-Solid-Waste-Recycling-Wildlife-Containers](#)
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Image 19: 30 Park Site Footprint: Late February 2025



Image 20: 30 Park Site Footprint: Mid-March 2025



Image 21: Project Site and Footprint: Late March 2025



Generated Materials

The top three observed materials generated were cardboard, soft plastic packaging, and hard plastic packaging. Other observed materials were composite decking and plywood. A little over half the materials observed in dumpster viewings was plastic wrap followed by hard plastics and contaminated cardboard, i.e., paint or other materials on it, and treated and untreated lumber cut-

offs. Plastic wrap occupied two to four yards of dumpster space. Like Holiday Inn Express, 30 Park Avenue generated soft plastic wrap in various ways from wrapping the project, to material deliveries, and protecting equipment or the space. See Image 22 for examples of the soft plastics.

Image 22: Plastic Packaging: Soft Plastics



Also like the case study hotel, the site generated hard plastic packaging mostly in the form of 5-gallon buckets, as seen in Image 23.

Image 23: Plastic Packaging: Hard Plastics



Key Observation: The site generated various kinds hard and soft plastics mostly in the forms of plastic wrap and buckets.

Cardboard packaging was also generated. The general contracting team took all clean cardboard offsite for recycling. The Site Superintendent also collected the clean material and then take off site for final disposal. It was estimated that 4-8 yards of cardboard was generated a month and the site expected to see more with project finishings.¹³ Image 24 (following) shows various site materials and items packaged in cardboard.

¹³ Conversations with Site Superintendent. February and March 2025.
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Image 24: Various Cardboard Packaging



Lastly, treated and untreated lumber and composite decking was generated. These materials were minimal compared to packaging materials like cardboard and plastics. It is estimated that five yards or less of these materials were landfilled during winter and spring operations. Images 25 and 26 show the treated lumber, composite decking, pallets and plywood.

Image 25: Treated Lumber



Image 26: Composite Decking, Treated lumber: pallets and plywood



Disposal Logistics

The site utilized a 6-yard dumpster for trash, and it was serviced every 3 weeks starting early January.¹⁴ While trash services happened offsite for the Holiday Inn Express, all trash services for 30 Park Avenue took place at the site. Unlike dumpsters that require roll-off trucks for service, front-load dumpsters, as seen in Images 27 and 28, require servicing on site, before hauling to a disposal facility. Front-load trucks are configured with mechanical arms that slide in dumpster side pockets on each side; the arms then proceed to lift the dumpster and empty its contents into the truck compactor. A roll-off truck, i.e., what the Holiday Inn Express uses, goes to the project site and removes the dumpster for final disposal and service at a landfill or recycling facility.

Disposal content weight can typically be provided for roll-off dumpsters whereas weights for front-load dumpsters, i.e., 2-8 –yard dumpsters, cannot be tracked unless a service truck is configured with a scale. Table 2 (next page) provides disposal estimates based off data provided by the site’s general contractor and by utilizing industry material disposal data. The trash was categorized as “loose, uncompacted” and “Co-Mingle” consisted of plastic bottles and aluminum cans, uncompacted.

Image 27: Site Trash Dumpster (March 2025)



¹⁴ Site Superintendent shared that the dumpster was serviced about every 3-4 weeks since January 2025.

Image 28: Dumpster Materials, February and March 2025



Table 2: 30 Park General Disposal & Diversion Estimates

February & March	Yards	Weight	Average Volume
Trash ¹⁵	18	1,710	95 lb./cubic yard
Cardboard ¹⁶	8-16	800-1,600	100 lb./cubic yard
Co-mingle ¹⁷	1-2	32-64	32 lb./cubic yard

Key Observation: Packaging was the most generated material viewed during site visits. This included cardboard and soft and hard packaging. The site recycled all materials it collected off-site. This includes plastic bottles, aluminum cans, and cardboard.

Disposal Operations

Cardboard generated from deliveries and materials were set aside in different staging areas that suited site workers each week. The site superintendent would load cardboard in a personal vehicle and take it to the organization’s office and then place in the single-stream dumpster the office utilized.

For the other collected recyclables, i.e., aluminum cans and plastic bottles, the Superintendent would allow the collection container to fill, as seen in Image 29 (next page), then take to their office and place materials in the single-stream dumpster along with the site’s cardboard. Recycle guidelines were created in order to capture clean materials as well as to test how well labeling for certain materials would work. Overall, co-mingle collection containers had little to minimal contamination.

¹⁵ The Site Superintendent shared that the dumpster was serviced about every 3-4.

¹⁶[Volume-to-Weight Conversion Factors](#)

¹⁷[Volume-to-Weight Conversion Factors](#)

Image: 29: 30 Park Recycle Guidelines and Collection Container



Most trash collection containers were 55-gallon totes and cardboard boxes as seen in Image 30. Materials were then taken to the dumpster for final disposal.

Image 30: Various Disposal Containers: 30 pack



Local Permit Findings

Permit data from January 2023 – May 2025 was assessed to get a general understanding of what has been built, demolished, or added and removed to structures throughout the city the past couple years. All information was provided by the Routt County Building Department.

The Building Department has a total of 22 permit categories for application but only 8 were considered for the analysis. Categories such as 'Mechanical,' 'Change of Occupancy,' 'Electrical' and other non-material generating building permit categories were omitted. Table 3 on the next page displays the assessed permit categories.

Table 3: Permit Assessment Categories

Permit Type	Permit Definition
Accessory Building	A structure that is accessory to and incidental to that of the dwelling(s) and that is located on the same lot
Addition	An extension or increase in floor area, number of stories or height of a building or structure
Alteration	Any construction, retrofit or renovation to an existing structure other than repair or addition that requires a permit. Also, a change in a building, electrical, gas, mechanical or plumbing system that involves an extension, addition or change to the arrangement, type or purpose of the original installation that requires a permit
Demolition, Deconstruction	There is no definition on this in the Code Books but this is the partial or total removal of a structure
New Commercial Building	Any new structure that is built under the IBC and not the IRC, so essentially anything that is not a Dwelling and Dwellings that are more than 3 stories in height
New Multi-Unit Residential	This will be considered Group R-2 in the IBC- Residential Group R-2 occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature. For example Apartments, Condos and live/work units
New Single Family Dwelling	Defined as Dwelling in IRC- [RB]DWELLING. Any building that contains one or two dwelling units used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that are occupied for living purposes
Secondary Dwelling Unit	A single secondary unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation

Permit data was further analyzed by categorizing projects either as minimal, medium, or heavy based off material generation impact, i.e., new commercial building, new single-family dwelling, demolition

or deconstruction, etc. and the project scope or permit description. Table 4 provides category definitions and examples of impact categories.

Table 4: City Permit Material Generation Impact Categories

Impact Category	Definition	Characteristics	Project Examples
Minimal	Waste generated is negligible or very limited in scope; little or minor project waste generated during alterations	<ul style="list-style-type: none"> • Small-scale projects (e.g., painting, light repairs) • Little to no demolition involved • Waste is primarily packaging, minor offcuts, or reusable materials. • Waste can be easily sorted, recycled, or reused on-site. 	<ul style="list-style-type: none"> • Small-scale alterations, e.g., light repairs, minor installation, i.e., replacing fixtures • Touch-up work • Minor cosmetic upgrades
Medium	Moderate amount of waste is produced requiring basic waste management planning. Generates moderate materials during alterations.	<ul style="list-style-type: none"> • Mid-sized renovations (e.g., kitchen/bath remodels, partial wall removal) • Involves removal of materials like drywall, flooring, cabinetry • Greater mix of recyclable and non-recyclable materials 	<ul style="list-style-type: none"> • Interior reconfigurations • Partial building upgrades
Heavy	Projects with significant quantities of waste generation Typically, from large or complex alterations, home layout changes, or demolition	<ul style="list-style-type: none"> • Large-scale structural changes or complete gut renovations • High volumes of mixed construction and demolition (C&D) debris • Includes concrete, wood, metal, insulation, hazardous materials • Requires detailed waste diversion planning and regulatory compliance 	<ul style="list-style-type: none"> • Full floor demolition • Full structure demolition • Major structural alterations or commercial fit-outs • Full home renovation, renovation +

Impact Category	Definition	Characteristics	Project Examples
			addition <ul style="list-style-type: none"> New family, multi-family dwellings

One hundred and eighteen weekly reports were analyzed. Categorizing waste generation impact was a starting point to learn which projects and permits might be generating more materials than others. The goal for analyzing city permit data was to develop a baseline of what permitted projects might be generating based on permit type and project scope. Professional and industry expertise were utilized to classify and estimate each permitted project, however, city, permit, or building departments might adopt same, similar, or different classification methods.¹⁸

The following is a breakdown of the 2023 to 2025 (January – May) permit categories and the number of minimal, medium, and heavy projects that took place. It’s important to mention that cost of projects did not necessarily impact material generation. For example, a project that received a permit for new piping or a piping retrofit could have cost \$50,000 or more but the changing of pipes will not necessarily generate a lot of waste. A project like that would be categorized as minimal.

In 2023, there were a total of 269 permits. Material generation impacts of those projects are rated as follows: 153 minimal, 48 medium, and 68 heavy.

- 63 Accessory Buildings
- 35 Additions
- 66 Alterations
- 10 Demolitions, Deconstructions
- 8 New Commercial Buildings
- 71 New Single-Family Dwellings
- 13 New Multi-Family Residentials
- 3 Secondary Dwelling Units

In 2024, there were a total of 301 permits. Material generation impacts of those projects are rated as follows: 142 minimal, 83 medium, and 76 heavy.

- 12 Accessory Buildings

¹⁸ Material generation numbers are estimates only.

- 41 Additions
- 161 Alterations
- 23 Demolitions, Deconstructions
- 14 New Commercial Buildings
- 34 New Single-Family Dwellings
- 9 New Multi-Family Residentials
- 7 Secondary Dwelling Units

From January to May of 2025, there were a total of 89 permits. Material generation impacts of those projects are rated as follows: 39 minimal, 31 medium, and 19 heavy.

- 4 Accessory Buildings
- 6 Additions
- 54 Alterations
- 9 Demolitions, Deconstructions
- 0 New Commercial Buildings
- 11 New Single-Family Dwellings
- 2 New Multi-Family Residentials
- 3 Secondary Dwelling Units

Alterations and Additions were the leading permits in both 2023 and 2024 and are currently leading for 2025. The year 2023 had a combination of 101 Alterations and Additions and 2024 saw 202.

Alteration permits can range from changing out piping to altering an entire structure, and scope of project cost does not necessarily correlate to a lot or a little material generation. The Building Department defines Alterations as “any construction, retrofit or renovation to an existing structure other than repair or addition that requires a permit. Also, a change in a building, electrical, gas, mechanical or plumbing system that involves an extension, addition or change to the arrangement, type or purpose of the original installation that requires a permit.”¹⁹

New construction projects such as single-family dwelling, multi-residential, secondary dwelling, and commercial followed alterations and additions. Demolition/deconstruction projects saw less permits in all three years, however, the impact demolition has on waste generation typically far exceeds new construction and renovation projects.

¹⁹ Conversations with Routt County Building Department. April – June 2025.
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Material Disposal and Diversion

There are two primary haulers within the City of Steamboat Springs that haul C&D debris. Both haulers are equipped with dumpsters and collection containers, and both can provide trash and recycle services when requested. Both haul various C&D materials, e.g., concrete, aggregates, cardboard, municipal solid waste trash or recycling. In addition to the commercial haulers in the area, it's important to mention that the area also has general contractors who self-haul landfill and recyclable items to disposal sites.²⁰

Along with the local privately-owned and operated landfill, MRF, and compost facilities, there is a primary reuse center that is open six months out of the year, with limited operating hours, and a few additional facilities that only accept scrap metal and aggregate products.²¹

Materials and Sectors

There are three main building-related activities: construction, demolition, and renovation. These activities then fall under residential or non-residential.²² Both construction and demolition activities generate significant amounts of waste, different kinds of waste, and, in some instances, similar kinds of waste but differences in volume and generation.

Initial construction requires the most materials to be purchased but produces the smallest amount of waste. Per building, a demolition will generate the largest amount of waste as all materials are typically removed and enter the waste stream. Demolition and deconstruction activities contribute the bulk of overall C&D debris. Lastly, renovations (including remodeling, replacements, and additions) are a combination of both construction and demolition. It is the removal of old materials and adding new materials.²³

The Status of Solid Waste Management Program reported that asphalt, concrete, and aggregates made up 43 percent and general C&D debris made up 5% of the industrial waste diverted from Colorado landfills in 2023.²⁴

²⁰ [VERT Sites, LLC. Steamboat Springs C&D Diversion Feasibility Study. Page 5 2024.](#)

²¹ [Conversations with City of Steamboat Springs Community Recycling Coordinator 2024.](#)

²² [United States Environmental Protection Agency. Estimating 2003 Building-Related Construction and Demolition Materials Amounts. Page 8. 2003.](#)

²³ [United States Environmental Protection Agency. Estimating 2003 Building-Related Construction and Demolition Materials Amounts. Page 10. 2003.](#)

²⁴ [Status of the Solid Waste Management Program in Colorado. 2024 Annual Report to the Colorado General Assembly. Hazardous Materials & Waste Management Diversion. Colorado Department of Public Health & Environment. Page 17. 2025.](#)

Construction

While typically less than demolition and renovations, new construction still produces a considerable amount of waste. The most common materials discarded during new construction include: cardboard (mostly in the form of packaging materials including appliances), concrete (often due to overorder or overpour, and equipment issues) metals, wood (clean, dimensional lumber scraps and cut-offs, manufactured lumber cutoffs and scraps), drywall (mostly cut-offs, damaged boards, or overorder), and plastics (mostly in the form of wrapping, containers, and insulation).²⁵

Cardboard

Between the Front Range and Greater Colorado regions, Cardboard made up 29 percent of the 2024 municipal solid waste diverted from landfills and is the largest source of recyclable material diverted by weight in the state.²⁶

Concrete

Concrete is one of the most common materials used in construction, but higher disposal and diversion of the material is often seen more with demolition and renovation activities.²⁷

Scrap metal

Scrap metal is a material that has various outlets in Steamboat and other mountain areas. It typically is in the form of HVAC equipment or material cut-offs from new construction sites. Copper and steel typically are extracted from demolition sites. It is easier to divert when compared to other C&D materials.

Wood

Manufactured and non-treated dimensional lumber is typically generated as cut-offs during new construction projects and mostly during a structure's framing phase(s). When produced during demolition, it is often the structure's frame.

The local recycle facility currently accepts non-treated dimensional lumber and grinds and uses it as internal road base for its operations.²⁸

²⁵ [Environmental Protection Agency. Construction & Demolition Facts and Figures. 2018.](#)

²⁶ [2024 Annual Report. Hazardous Materials & Waste Management Diversion. Colorado Department of Public Health & Environment. Page 18. 2025.](#)

²⁷ [Environmental Protection Agency. Construction and Demolition Debris Generation in the United States. Office of Resource Conservation and Recovery. Page 17. 2018.](#)

²⁸ Conversations with the private facility. 2024 and 2025.

Gypsum or Drywall

While gypsum drywall is recyclable, there are currently no state end-markets for recycling or diversion. Gypsum typically is clean cut-offs from new construction sites and is generally covered with paint or other contaminants when it comes from demolition/deconstruction or renovation.

Plastics

Plastics have been one of the fastest growing components of municipal solid waste (MSW) in recent years and are found in three major MSW categories: durables, nondurables, and containers and packaging.²⁹ Durable plastics have a lifespan of 3 years or more and non-durables have a lifespan of 3 years or less.³⁰

There is some end-market access with scrap metal, cardboard, and aggregate generation within the city but drywall and plastics from C&D project sites will still have diversion end-market challenges. In fact, the 2019 Recycle Colorado Construction and Demolition End-Market Report suggests five materials for developing end markets in Colorado: gypsum wallboard, treated wood, asphalt shingles, plastics, and carpet tile.³¹

Demolition

Demolition materials are produced when older buildings are demolished to make way for the new developments.³²

When buildings are demolished, large quantities of materials are generated. The entire weight of a building, including the concrete foundations, driveways, patios, etc., may be disposed as C&D materials when a building is demolished. On a per building basis, demolition waste quantities are often 20 to 30 times as much as C&D materials generated during construction.³³

Renovations

Renovation includes improvements and repairs to existing buildings and driveways, and additions and alterations often fall under the renovation category. Renovation materials consist of both construction and demolition materials as old materials are removed and new materials are added.

²⁹ [United States Environmental Protection Agency. Municipal Solid Waste in the United States Facts and Figures a Methodology Document. Office of Resource Conservation and Recovery. Page 33. 2014.](#)

³⁰ [About Plastic Products and Plastic Pollution. United States Environmental Protection Agency. 2024. Accessed June 2025.](#)

³¹ Construction and Demolition End Market Development Report. Recycle Colorado. Colorado Department of Health and Environment. Page vi. 2019.

³² [United States Environmental Protection Agency. Estimating 2003 Building-Related Construction and Demolition Materials Amounts. Page 18. 2003.](#)

³³ [United States Environmental Protection Agency. Estimating 2003 Building-Related Construction and Demolition Materials Amounts. Page 10. 2003.](#)

The renovation waste stream can be homogenous, such as when driveways or asphalt roofs are replaced, or heterogeneous, such as when buildings are modified or enlarged.³⁴

Market and Transportation

Many buildings and building materials are not designed to be reused or recycled, and, in some areas, MRF's do not exist for recoverable materials. Even where facilities do exist, markets might not have been found for some materials for a variety of reasons, e.g., Gypsum in the state of Colorado.³⁵ Beyond market and material demand issues, lies transportation and material hauling concerns.

In the Status of the Solid Waste Management Program in Colorado (2024), the Colorado Department of Public Health and Environment separates the state into two regions: the Front Range and Greater Colorado. The goals for these regions consider the economic and logistical challenges of recycling in areas of low population density, existing access to waste diversion infrastructure along the state's urban corridor, as well as the number of residents. The Front Range, for example, accounts for over 70 percent of the state's population and approximately 80% of the waste generated in the state.³⁶ It should come to little surprise, then, that with the density of population and waste generation the Front Range carries and produces, that many recovery facilities are also located along and in the Front Range areas.

Outside the local private facilities, the next nearest disposal and diversion sites are in Eagle County, over 65 miles away and Summit County, over 90 miles away. A 200-mile radius Buffer Zone search placed materials in Colorado, Nebraska, Utah, and Wyoming. The radius buffer zones are not typical for what Front Range communities might experience. Given Steamboat's mountainous terrain, rural location, weather, and elevation, a 100-mile one-way trip can take upward to two hours.

The 100-mile buffer zone search revealed a total of 26 counties: 22 are in Colorado and 4 are in Wyoming. Table 8 on the next page breaks down the Colorado counties into the four regions followed by counties and provides the four Wyoming counties below it.

³⁴ [United States Environmental Protection Agency. Estimating 2003 Building-Related Construction and Demolition Materials Amounts. Page 15. 2003.](#)

³⁴ [United States Environmental Protection Agency. Construction and Demolition Debris Generation in the United States. Office of Resource Conservation and Recovery. Page 21. 2018.](#)

³⁵ [Status of the Solid Waste Management Program in Colorado. 2024 Annual Report to the Colorado General Assembly. Hazardous Materials & Waste Management Diversion. Colorado Department of Public Health & Environment. Page 18. 2025.](#)

Table 8: 100-Mile Buffer Zone Counties

Colorado (4 regions, 22 counties)
Mountain: Chaffee, Clear Creek, Garfield, Gilpin, Grand, Lake, Park, Pitkin, Routt, Summit
Front Range: Broomfield, Boulder, Larimer, Jefferson, Weld
Western: Delta, Gunnison, Mesa, Moffat, Rio Blanco
Northern: Jackson
Wyoming (4 counties)
Albany County
Carbon County
Laramie County
Sweetwater County

Tables 9-13 (on the following pages) break down the regions by county, facilities, transportation distance, C&D materials accepted, and hauling time. All data used to locate recycling facilities within a 100-mile radius of Steamboat Springs was accessed via the Colorado Department of Public Health and Environment’s List of Registered Recyclers and further research was pursued when necessary.³⁷

The Mountain Region does not have any classified C&D Facilities though there are counties that accept C&D debris for landfill and MRF operations including the one located in Steamboat Springs. As mentioned, Summit and Eagle Counties are the next nearest counties for landfill and waste diversion efforts located in the Mountain region. Both counties have MRFs, landfills, and composting operations. The materials both operations accept are not very different than what the operation in Steamboat currently accepts. Pitkin County, though not classified as a C&D facility, accepts 10 different kinds of construction and demolition materials and many of the same types of streams as Summit, Eagle, and Steamboat.

Front Range communities have more recovery facilities than the mountain region but only two Industrial C&D facilities are located there. The rest are MRF operations. The Western Region and the counties in Wyoming do not have any listed C&D recovery facilities. The search revealed a few

³⁷ [Registered Recyclers, CDPHE](#)

recycling in near Cheyenne, Wyoming, and scrap metal and aggregate recovery operations in Laramie County as well.

The following trucking distance and trucking time data provided by MSW Consultants: 2025

Table 9: Mountain Regions

County	Operations	C&D Materials	Buffer Distance (miles)	Trucking Distance	Trucking Time (minutes, one-way) From Steamboat
Chaffee ³⁸	Landfill offers a recycling program and is working to build and operate a new transfer station and MRF	Accepts C&D debris as waste	100	166	192
Clear Creek	No facility listed the county		100	131	148
Garfield ³⁹	No facility listed in the county. There is a landfill that accepts MSW recyclables.		100	138	185
Gilpin	No facility listed in the county		100	141	167
Grand	No facility listed in the county		100	73	99
Lake ⁴⁰	Lake County Landfill & Recycling Center		100	128	144
Park	No facility listed in the county		100	155	190
Pitkin ⁴¹	Pitkin Solid Waste	Not a registered	100	152	178

³⁸ [Chaffee County Landfill Salida](#)

³⁹ [Garfield County Recycling Center](#)

⁴⁰ [Lake County Recycling-Center](#)

⁴¹ [Pitkin County](#)

County	Operations	C&D Materials	Buffer Distance (miles)	Trucking Distance	Trucking Time (minutes, one-way) From Steamboat
	Center; Recycling, Composting	C&D recovery facility, accepts C&D material streams			
*Routt (Steamboat Springs)	Apex Waste Solutions	Not a registered C&D recovery facility, accepts C&D material streams. There are additional aggregate and scrap metal private facilities.	100	9	13
Summit ⁴²	Summit County Resource Allocation Park	Not a registered C&D recovery facility, accepts C&D material streams	100	192	107

Table 10: Front Range Region

County	Operations	Accepts C&D Materials	Buffer Distance (miles)	Trucking Distance	Trucking Time (minutes, one-way) From Steamboat
Boulder	Boulder County has 4 registered Material	Accepts C&D debris for	100	171	210

⁴²[Summit County Landfill](#)

	Resource Facilities and 1 Industrial facility that accepts C&D debris for recycling	recycling at the industrial facility. The MRFs accept MSW recyclables			
Broomfield ⁴³	Landfill	Accepts C&D debris as waste	100	168	192
Larimer	There are 4 MRFs and 1 Industrial Facility		100	144	222
Jefferson	No facility listed in the county		100	158	176
Weld	No facility listed in the county		100	236	236

Table 11: Western Region

County	Operations	Accepts C&D Materials	Buffer Distance (miles)	Trucking Distance	Trucking Time (minutes, one-way) From Steamboat	
Delta	The landfill offers a recycling program and is working to build and operate a new transfer station and MRF.	Accepts C&D debris as waste	100	241	248	
Gunnison	No facility listed the county		100	253	293	
Mesa	Landfill		100	195	198	
Moffat	No facility listed in the		100	86	113	

⁴³ [Front Range Landfill](#)

	county					
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Table 12: Northern Region

County	Operations	Accepts C&D Materials	Buffer Distance (miles)	Trucking Distance	Trucking Time (minutes, one-way) From Steamboat
Jackson	No facility listed in the county		100	54	65

Table 13: Wyoming Counties

County	Operations	Accepts C&D Materials	Buffer Distance (miles)	Trucking Distance	Trucking Time (minutes, one-way) From Steamboat
Albany	No facility listed the county		100	156	196
Carbon	No facility listed in the county		100	158	171
Laramie	No facility listed in the county. An internet search revealed no C&D operations but there are a couple scrap metal operations in the area		100	187	187
Sweetwater	No C&D facility listed in the county		100	184	239



Conclusion

The rural and mountainous location of Steamboat Springs and lack of immediate access to recovery facilities (besides the privately-owned one located in the city) does present more pressing difficulties for recovering C&D debris materials. However, there are reasonable measures the city can consider for implementing best practices in recovering readily divertible C&D materials as well as consider material impact generation based on permits issued.

The case studies were promising with the implementation of collection operations throughout the project sites. While the Holiday Inn Express captured both recyclables and landfill items together, the success lies in the fact the containers were utilized which was the initial goal for having them on site. Given this success, it could be feasible with site collection guidelines and labeling (e.g., what was created for 30 Park Avenue), for larger C&D project sites to consider recovering beverage containers at their jobsites, i.e., plastic bottles, aluminum cans, and even glass containers. These three items tend to be generated mostly from staff and trades. While not large in volume compared to C&D debris, these materials do have ready local disposal and diversion access and are accepted in the MSW recycle stream. Cardboard was another promising material from the case study sites. While the hotel did not recycle the material, the generation of it was enough to consider separate collections.

The 30 Park Avenue site had success in using the 30-gallon collection containers for collecting aluminum cans and plastic bottles as well as implementing the materials management recycle guidelines. It is important to note that the project had off-site access to their own organization's recycle dumpster at their office. Had the site not had disposal access already in place, recycling the collected materials might not have taken place though collections of it would have. An additional disposal container (e.g., 96-gallon tote or 2-yard dumpster) would have been needed and at the site, which already was experiencing space constraints due to weather, road access, equipment, staff and trades vehicles, and material storage. Additional costs such as disposal equipment, delivery fees, and disposal fees would have incurred, too.

Depending on land availability or lack of it, the city might start seeing more and more additions, alterations, and demolitions. Based on the permits issued from January 2023 – 2025, it is likely that an upward trend of these permits might happen over the coming years.

To have any sort of successful demolition recovery program, e.g., deconstruction (the process of dismantling a structure and recovering as much materials as possible before landfilling), facilities and market demand for the material must be present and locally accessible. While there is a local private facility that materials and items can go to, it has limiting operating hours and seasons.

It was learned that access to local and regional disposal sites, e.g., MRF and C&D Facilities are sparse. Summit, Eagle, and in some instances Pitkin counties might make sense for C&D debris diversion, however, trucking and transportation time ought to be considered if materials and haulers were to go outside the city.