



DPS-STDRD-0002

Development Reviews: Design Standards for the Storage and Collection of Waste

Introduction

Development Reviews: Design Standards for the Storage and Collection of Waste provides minimum design standards that are required for development reviews related to the storage and collection of waste within the municipality of Calgary.

Note: This document is not intended to provide solutions for specific design problems.

Applicability

This Standards document applies to all planning applications, including, but not limited to Development Permits, Subdivisions, Land Use Outline Plans and Road Closures, Development Liaisons, Airport Developments, and Tenancy Changes.

Planning applications may propose:

- New storage and collection facilities.
- Changes to existing storage and collection facilities.
- Changes to the use of a building which would result in changes to the existing storage and collection areas.

Related Documentation

- Municipal Government Act, Subdivision and Development Regulation
- *Waste Bylaw 4M2020*
- Complete Application Requirement List
- The City of Calgary Land Use Bylaw 1P2007 (herein referred to as the *Land Use Bylaw*)
- *Design Guidelines for Subdivision Servicing*

Note: Where reference is made to The City of Calgary bylaws, policies, guidelines, and standards, the current version of these documents during the development process is to be used.

Background

Under the approval process, planning applications are reviewed by a Waste & Recycling Services (WRS) DART specialist to confirm that minimum design standards are met. WRS does not approve planning applications for City service, but rather provides written comments on whether the minimum design requirements are included or could be met.

Note: The City's Development Authority approves applications and issues the planning application permit. Planning approval does not automatically qualify a site to have waste collection service provided by The City of Calgary. A separate process is required to apply for City service.

The WRS specialist reviews the application to ensure that:

- The application complies with the *Waste Bylaw*.
- Any proposed development has clearly defined waste facilities.
- Any waste servicing methods are defined and appropriately planned.
- Any proposed storage and collection areas meet the minimum design criteria to allow servicing for the owner or client, and by the service provider.

Applications for the following types of developments are reviewed:

- Apartment buildings, condominiums, multi-residential complexes, and residential developments.
- Industrial, Commercial, and Institutional developments (ICI).
- Mixed use developments, including buildings with combined residential and commercial uses.
- City of Calgary owned facilities.
- Any proposed development located within an MGA SDR landfill setback from a City of Calgary active or closed (i.e., in post-closure care) landfill or waste management facility, as defined in the MGA SDR, when the development contains a restricted use.

Please refer to the following definitions from the *Waste Bylaw*:

'waste' means anything that can be set out for collection and includes garbage, recyclable material and food and yard waste material.

'garbage' means material set out for collection but does not include recyclable material and food and yard waste material.

'recyclable material' means residential recyclable material and non-residential recyclable material.

'food and yard waste material' means the materials designated in Schedule E of the *Waste Bylaw*.

Section 1: Minimum Design Standards

Minimum design standards must be met by any application.

Plan requirements are outlined in the following sections:

- [General Plan Requirement](#)
- [Multi-family Developments](#)
- [Industrial, Commercial, and Institutional](#)
- [Automated Collection Containers](#)
- [Alternative Collection Methods](#)

1.1 General Plan Requirements

The following requirements apply to all development types.

1. When a change to the development or enclosure / storage area are proposed, any existing waste storage, staging, and collection areas must be brought into compliance with current standards, guidelines, and bylaws.
2. The location of any proposed waste storage, staging, and collection areas must be indicated, and include metric dimensions and scale and grades, on the application plans, as required by the *Development Permit Complete Application Requirement List (CARL)*.
3. Plans must provide a site drawing that includes the turning movement template to prove that collection vehicles can adequately access the site and service the proposed containers.

1.2 Multi-family Developments

The following requirements apply to apartment buildings, condominiums, and multi-family developments, and are organized by general, centralized commercial container, and collection vehicle requirements.

1.2.1 General Requirements

1. Storage containers, or space for containers, must be provided to accommodate the total volume of waste produced by the total number of dwelling units identified on the application.
2. Storage for waste materials must be provided, as per the *Land Use Bylaw*.
3. Waste storage, staging, and collection areas must be safe and serviceable for the owner, residents, users, and the collection service providers.
4. The anticipated total volume of waste produced per week is calculated using 0.24 m^3 (0.3 yd^3) multiplied by the total number of dwelling units.
5. The maximum grade where containers are stored, manoeuvred, or collected is 2 per cent in all directions.
6. All concrete collection and staging areas must be flush with the adjacent alley, parking lot, or roadway.
7. Where a development is phased, each phase must identify the waste storage and collection areas.

8. Waste storage and staging areas must be designed to prevent accumulation of debris, water, or any other hazards.

1.2.2 Centralized Container Requirements

1.2.2.1 Storage

1. All storage areas must be fully encompassed on private property, and are not permitted within:
 - adjacent City property
 - utility rights-of-way
 - laneways
 - alleyways
 - parks
 - boulevards
 - adjacent properties
 - (over) underground services
2. All staging areas must be fully encompassed on private property, and are not permitted within:
 - adjacent City property
 - laneways
 - alleyways
 - parks
 - boulevards
 - adjacent properties
3. Sufficient space must be provided for a minimum of one collection container for garbage, one collection container for recyclable materials, and one collection container for food and yard waste materials to accommodate the total waste volume.
4. The area for each container must have:
 - space to accommodate the container.
 - space to provide accessibility around the container. (0.5 m in all directions)
 - space to manoeuvre the container to/from the storage area to the staging and collection areas. (0.5 m in all directions)
5. The location and dimensions of the staging area must be indicated on the plans.
6. Space used to store waste for residential uses cannot be used to store other materials (e.g., maintenance supplies, equipment, water sprinkler control system, utility metering, et cetera).
7. Collection areas must be able to support a minimum weight of 25,000kg.

1.2.2.2 Enclosures

1. Overhead doors, gates, and openings must be unobstructed and large enough to manoeuvre collection containers freely in and out of the facility, without causing damage to any adjacent infrastructure (e.g., walls, door frames, overhead door tracks, et cetera.).

2. Facilities with gates must:
 - Ensure the gate out-swing does not encroach any City right(s)-of-way (alley or boulevard).
 - Avoid conflicts with vehicle or pedestrian traffic.
 - Have door swing areas that are unobstructed and not used for storage.
 - Be able to be locked in both an open and closed position.
 - Open wide enough to allow unimpeded access to containers.
3. Provide protection for overhead door frames, door tracks and all interior walls from contact with containers.

1.2.3 Collection Vehicles

1. A collection vehicle's travel path must be clear of any obstructions, including, but not limited to:
 - parking stalls
 - materials storage
 - hydrants
 - retaining walls
 - power poles and guy wires
 - curbs
 - fences
2. The location where designated containers are collected must be clear of any obstructions that may impede any movement or swing zones of the truck, including, but not limited to:
 - overhead lines
 - building overhangs
 - balconies
3. A collection vehicle's route must have a minimum drivable width of 5.0 m and a height clearance above the driving surface of 5.0 m.
4. All concrete and asphaltic pavement (pads, aprons, approach area, and parking structures) within the collection route, collection area and staging area, must support a minimum weight of 25,000 kg (equivalent to a loaded collection vehicle).
5. Collection areas must provide the following minimum clearances for collection vehicles to service containers:
 - 6.8 m overhead
 - 1.0 m on either side of the vehicle
 - Gates shall open wide enough to allow unimpeded access to containers.
6. Backing onto a public thoroughfare or excessive manoeuvring of a collection vehicle is not permitted; a turnaround area or a looped access route is required to allow a collection vehicle to enter and exit the site by driving forward.
7. To be able to roll waste containers into the adjacent alley for collection, the full width of the adjacent alley must be paved.

1.3 Industrial, Commercial, and Institutional

The following requirements apply to Industrial, Commercial, and Institutional (ICI) developments, and are organized by general, centralized container, and collection vehicle requirements.

1.3.1 General Requirements

1. One container must be provided for each different material type collected (e.g., garbage, recyclable materials, grease, and food and yard waste materials).
2. Storage for waste must be provided, as per the *Land Use Bylaw*.
3. Waste storage, staging, and collection areas must be safe and serviceable for the owner, users, and the collection service providers.
4. Containers, or space for containers, must be provided to accommodate the total volume of waste produced.
5. Waste storage area requirements are calculated based on the greater of:
 - Each bay in a commercial strip mall producing a minimum of 1 m³ of combined waste in an average week.

or

 - Every 1000 m² of the development producing a minimum of 3 m³ of combined waste in an average week.
6. Waste storage areas must:
 - Have an adequate number of containers to accommodate the use and the frequency of collections.
 - Have a minimum of one collection container for garbage, one collection container for recyclable material and one collection container for food and yard waste material, as per the *Waste Bylaw*.
7. A storage area that is a minimum of 1.5 m by 2.0 m is required for restaurant grease waste disposal, which must be included in addition to the waste volume calculation.
8. Separate handling, storage, and disposal methods may be required (as per the *Waste Bylaw*) for:
 - hazardous waste
 - biomedical waste
 - medical waste
9. All concrete collection and staging areas must be flush with the adjacent alley, parking lot, or roadway.
10. When a development is phased, each phase must identify the waste storage and collection areas.
11. Waste storage and staging areas must be designed to prevent accumulation of debris, water, or any other hazards.

1.3.2 Centralized Commercial Container Requirements

1.3.2.1 Storage

1. All storage areas must be fully encompassed on private property, and are not permitted within:
 - adjacent City property
 - utility rights-of-way
 - laneways
 - alleyways
 - parks
 - boulevards
 - adjacent properties
 - (over) underground services
2. All staging areas must be fully encompassed on private property, and are not permitted within:
 - adjacent City property
 - laneways
 - alleyways
 - parks
 - boulevards
 - adjacent properties
3. Sufficient space must be provided for a minimum of one collection container for garbage, one collection container for recyclable material, and one collection container for food and yard waste material to accommodate the total collection volume.
4. The area for each container must have:
 - space to accommodate the container.
 - space to provide accessibility around the container. (0.5 m in all directions)
 - space to manoeuvre the container to/from the storage area to the staging and collection areas. (0.5 m in all directions)
5. The location and dimensions of the staging area must be indicated on the plans.
6. Space used to store waste for commercial uses cannot be used to store other materials (e.g., maintenance supplies, equipment, water sprinkler control system, utility metering, et cetera).
7. Collection areas must be able to support a minimum weight of 25,000 kg.

1.3.2.2 Enclosures

1. Overhead doors, gates, and openings must be unobstructed and large enough to manoeuvre collection containers freely in and out of the facility, without causing damage to any adjacent infrastructure (e.g., walls, door frames, overhead door tracks, et cetera).
2. Facilities with gates must:
 - Ensure the gate out-swing does not encroach any City right(s)-of-way (alley or boulevard).
 - Avoid conflicts with vehicle or pedestrian traffic.
 - Have door swing areas that are unobstructed and not used for storage.
 - Be able to be locked in both an open and closed position.
 - Open wide enough to allow unimpeded access to containers.
3. Provide protection for overhead door frames, door tracks and all interior walls from contact with containers.

1.3.3 Collection Vehicles

1. A collection vehicle's travel path must be clear of any obstructions, including, but not limited to:
 - parking stalls
 - materials storage
 - hydrants
 - retaining walls
 - power poles and guy wires
 - curbs
 - fences
2. The location where designated containers are collected must be clear of any obstructions that may impede any movement or swing zones of the truck, including, but not limited to:
 - overhead lines
 - building overhangs
 - balconies
3. Collection vehicle's route must have a minimum drivable width of 5.0 m and a height clearance above the driving surface of 5.0 m.
4. All concrete and asphaltic pavement (pads, aprons, approach area, and parking structures) within the collection route, collection area, and staging area, must support a minimum weight of 25,000 kg (equivalent to a loaded collection vehicle).
5. Collection areas must provide the following minimum clearances for collection vehicles to service containers:
 - 6.8 m overhead
 - 1.0 m on either side of the vehicle.

6. Backing onto a public thoroughfare or excessive manoeuvring of a collection vehicle is not permitted; a turnaround area or a looped access route is required to allow a collection vehicle to enter and exit the site by driving forward.
7. To be able to roll containers into the adjacent alley for collection, the full width of the adjacent alley must be paved.

1.4 Automated Collection Containers

Residential dwellings (up to four dwelling units per parcel) that receive automated container collection for garbage, recyclable materials and food and yard waste materials.

1.4.1 General

- Collection and placement requirements, as per the current *Waste Bylaw*, must be met.

1.4.2 Storage

1. Storage space identified on the application plan must be within private property of each dwelling unit and accommodate an area of 2.1 m by 0.8 m.
2. Automated collection containers are assigned to each dwelling unit and must remain with that dwelling unit.

1.4.3 Collection Vehicle Access

1. On collection day, the travel path for any automated collection vehicle must be clear of any obstructions that would inhibit the ability to access the site or to empty any containers.
2. There must be a minimum of 7.0 m from a dead end road to the collection point of the last automated collection container to ensure that the collection vehicle can access the collection container.
3. Applications must accommodate the vehicle sweep of a City of Calgary automated collection container vehicle.
4. Reverse movements are restricted to two truck lengths. When this cannot be accommodated, a City standard turnaround area, as per the *Design Guidelines for Subdivision Servicing*, must be provided for the collection vehicle to both enter and exit by driving forward.
5. All asphaltic pavements, concrete pads, approach, and staging areas which will be receiving City collection must support a minimum weight of 25,000 kg (equivalent to a loaded collection vehicle).

1.5 Alternative Collection Methods

An alternative collection method may be proposed. It must be demonstrated and identified on the plans.

1. If compactors are used, plans must include the compaction ratio, the dimensions of the compactor, and any clearance requirements or setbacks around the compactor.
2. When an alternative collection is used (e.g., a semi-underground collection system), additional information may be required, including:
 - clearance requirements for the collection vehicle.
 - clearance requirements during collection service (e.g., reach of the crane, swing of the crane, arc clearance from adjacent overhead lines).
 - additional collection requirements (e.g., outriggers).

Revision Log

Version	Date	Revision Details
1.0	June 8, 2015	First release in new format.
2.0	May 24, 2017	Changes to Standard to reflect bylaw changes.
	March 14, 2019	Reviewed - document does not need changes. Review date changed to 12-2019.
3.0	September 14, 2022	Changes to Standard to reflect process changes. Changes to document naming to reflect City re-alignment Review date changed to 12-2022