Design Narrative for Solid Waste & Recycling System Requirements

Summary

This document specifies the design requirements for solid waste and recycling systems, capacity, and equipment for facilities built for use by Alameda County, including build to suit. It includes information on the indoor space and equipment needs, the path of travel for waste and recyclables from the building to the outdoor enclosure, and design requirements for the outdoor trash enclosure.

The waste and recycling system shall be designed to support the minimum diversion of 75% of all the waste generated in the facility per Alameda County Board of Supervisors Resolution No. 2008-213, and the 1990 County Charter Amendment known as Measure D, as well as meet the requirements of the Alameda County Mandatory Recycling Ordinance (2012). These requirements do not override any applicable regulations, such as municipal code, and the Design Builder must ensure compliance with such applicable regulations.

Overview of County Waste & Recycling System

Waste and recyclables are generated by building occupants and visitors in a variety of areas including in work spaces, clinics, waiting rooms, bathrooms, break rooms and coffee stations. Janitorial staff collects this material daily and consolidates it for collection by service providers. The County typically operates a five-stream collection system for waste and recyclables including mixed office paper, cardboard, mixed containers, compost (including paper towels from restrooms) and trash. Confidential paper may also be collected. A summary of the typical services in a facility can be seen in the chart below.

<table>
<thead>
<tr>
<th>Material type</th>
<th>Janitorial Collection</th>
<th>Service Provider</th>
<th>Service Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office paper</td>
<td>Desk side and common areas</td>
<td>Property &amp; Salvage</td>
<td>Internal, consolidated into one collection area</td>
</tr>
<tr>
<td>Cardboard</td>
<td>Common areas</td>
<td>Property &amp; Salvage</td>
<td>Enclosure or internal consolidated location</td>
</tr>
<tr>
<td>Mixed containers</td>
<td>Common areas</td>
<td>Waste Hauler</td>
<td>Enclosure</td>
</tr>
<tr>
<td>Compost</td>
<td>Common areas &amp; bathrooms</td>
<td>Waste Hauler</td>
<td>Enclosure</td>
</tr>
<tr>
<td>Trash</td>
<td>Desk side and common areas</td>
<td>Waste Hauler</td>
<td>Enclosure</td>
</tr>
</tbody>
</table>

Indoor Containers and Space Requirements

General

Early in the design process, the County project manager should consult with client department, GSA-Building Maintenance and GSA-Sustainability to identify a waste management strategy for the new facility. Interior trash containers shall be provided by the client department or included as specified herein as part of the FFE. Recycling and compost containers will be provided by GSA-Sustainability.
Work Stations
Work stations throughout the building should have sufficient space for two deskside containers with a footprint of 12 inches by 9 inches and a height of 12 inches.

Common Areas
In break rooms, kitchens, and heavily trafficked public areas (e.g., public lobbies), there should be sufficient space for 4 waste containers grouped together. The typical container used at County facilities has a footprint of 22 inches by 11 inches and height of 30 inches. The container types are: trash, compost, mixed container recycling, and mixed office paper recycling. Space shall be reserved above containers to post educational material and signage that is 8 ½ x 11 inches in size.

If cabinetry is used, it must be capable of housing 4 waste containers grouped together, each with a footprint of 22 inches by 11 inches and height of 30 inches. The cabinet should have top openings for depositing materials and should be labeled consistent with the container types listed above, in the following order: Landfill, Compost, Mixed Container Recycling, and Mixed Paper Recycling. The cabinet should have front loading access for removing and servicing the internal containers. For other waste and recycling cabinetry proposed by the design team, consult the GSA Sustainability program to ensure cabinet size will accommodate waste and recycling containers.

Restrooms
Restrooms should be equipped with a minimum of one surface-mounted waste receptacle, separate from any hand dryers or towel dispensers. This waste stream will be collected for composting. All stalls in the women’s restrooms shall be equipped with sanitary receptacles (Bobrick B-270 ConturaSeries® or equivalent). See Green Cleaning narrative for more information on other bathroom fixture types.

Paper Recycling Consolidation Areas/Confidential Recycling
Sufficient space shall be provided on each floor of the building to consolidate mixed office paper into collection totes and to allow for confidential paper collection (if required by program). Each tote has a maximum footprint of 36 inches by 30 inches and height of 43 inches. Sufficient clearance should be provided above the totes to allow for opening the lid (minimum 76 inches from floor). The number of totes per floor will vary based on building size and department function. About 1 tote per 30 people is a rule of thumb, but consult GSA Sustainability to coordinate an estimate. GSA Sustainability program shall be consulted to confirm the number of totes; however for schematic design purposes, there should be a common area space designated on each floor for two totes.

At the ground floor, near the service exit, there shall be sufficient space designated for staging all the totes in the building for collection (such as an alcove). Alcoves should also be designed for tote placement in the building prior to hauler collection.

Path of Travel Requirements for Material Collection
Consideration should be given during building design to ensure that materials can be moved from the points of generation to the collection containers in a manner consistent with the building use and without undo restriction or delay to janitorial staff or service providers. For instance, multi-story facilities should consider convenient elevator access requirements of Janitors. Materials should exit the
building through appropriate service exits, such as a loading dock, and not through the front lobby, office space, or special use space (like a conference room or studio). Janitors should be able to prop the doors open to facilitate moving multiple containers at one time. All paths, internal and external, shall allow for rolling carts without step downs, lips, steep grades or other impediments to the use of rolling carts.

Outdoor Requirements: Enclosure, Vehicle Loading, Accessibility

Enclosure Siting
The enclosure should be sited within 250 feet of the building service exit that the Janitorial department will use while transporting the indoor waste to the outdoor enclosure. The path of travel from this exit door to the enclosure should be ADA accessible and include curb cuts to accommodate rolling containers.

Capacity
The enclosure shall have the capacity to house four bins, one each for: trash, recycling, compost, and cardboard. Bin sizes will vary with building size and County operation/function. GSA Sustainability program and Janitorial department shall be consulted prior to completion of the Design Drawings to confirm bin sizes and necessary enclosure space. However, for schematic design purposes, the designer may use 7 ft. by 4 ft. as a proxy bin footprint for each bin. There should be a 2 ft. space around the bins when they are positioned in the enclosure to allow for access. There shall be a physical barrier along the interior edge of the enclosure to prevent dumpsters from hitting the enclosure walls. Sliding gates are preferred to swinging gates. Gate opening should be 8 feet wide, or 1’ wider than largest bin in enclosure, to allow for easy removal and replacement of dumpster.

For facilities that require roll-off compactor bins, GSA Sustainability program and Janitorial department should be consulted early in the schematic design process to determine specific waste and recycling system design requirements to handle expected material flows. The Building Maintenance Department prefers not to install front-end load compactor bins (bins collected by front-end load route trucks which couple with a stationary compactor mechanism). Include access to electrical service.

Bin Movement and Access
In order to facilitate the movement of bins in and out of the enclosure, there should be sufficient doorway access to remove one bin without having to reposition the other bins. There should be no lips or barriers impeding movement of the bins in or out of the enclosure. The interior of the enclosure should have overhead clearance of a minimum of 10 feet to accommodate opening of the bin lids. Overhead clearance in the vehicle service area should be sufficient to allow overhead dumping of bins into collection vehicles. The roadway and enclosure pad should be designed to accommodate expected loads. Steepness of path of travel from building to enclosure shall be minimized.

Enclosure Door Operation
Cane bolts shall be installed on enclosure doors to hold the enclosure doors open when accessing the bins. Galvanized steel shall be specified for the embedded sleeve to hold bolt when doors are in open position. Bollards, or other protective measures, shall be used if the swinging path of the enclosure doors could damage a nearby structure or vehicle. Care shall be taken to ensure operation of cane bolts is not limited by bollards, or other structures, when doors are in open position. Entrances to the interior
of the enclosure shall be secured with the minimum number of locks necessary (e.g., two gates may be locked together in the middle with 1 lock).

Security and Safety
The enclosure shall be designed to prevent unauthorized entry of humans and animals. The walls and doors of the enclosure should be opaque so that the enclosure contents are not visible from the outside. The enclosure should be lockable with a standard padlock to prevent unauthorized access (padlock to be provided by waste hauler). Padlocks shall be located 2.5-4 feet above the ground. Padlocks will include rain protection of the lock above and on the lock's sides to prevent rusting. Lighting shall be provided to ensure sufficient visibility over the path of travel to the enclosure and inside the enclosure during non-daylight hours.

Sanitation
The enclosure shall have a roof to protect the waste bins from exposure to the weather. There shall be access to potable water (such as a hose bib) within 40 feet of the enclosure to allow for cleaning the enclosure area. The enclosure floor and adjacent areas shall be graded to limit drainage into and out of the enclosure. The drainage provided shall be consistent with local law and storm water permits. Consideration should be given to can washes and the necessity of a 110V lockable outlet. Plumbing or electrical fixtures located on the interior of the enclosure should be embedded into the enclosure wall when possible to minimize the potential for damage.

Service Provider Access to Enclosure
The enclosure should be accessible to collection service provider(s) at all times of the day; avoid locating the enclosure in a limited access or gated area. A continuous path of travel for service vehicles, including large garbage trucks, is preferred for entry and exit. If this is not possible, a turnaround with a radius of at least 45 feet is required, unless city code specifies less feet as a minimum. Overhead clearance in service area should be sufficient to allow overhead dumping of bins into collection vehicles. The roadway and enclosure pad should be designed to accommodate expected loads.

Service Provider Access to Building
A loading dock or sufficient loading zone space shall be provided adjacent to the service exit to accommodate convenient collection of materials staged inside the building (paper recycling and/or confidential totes).

Outdoor Receptacles Requirements
A bottles and cans recycling receptacle should be integrated with all outdoor trash receptacles. (For example, see http://www.forms-surfaces.com/urban-renaissance-receptacle.) If not integrated, there should be another receptacle for recycling positioned next to the trash receptacle. All receptacles should have a front loading access for removing internal containers. Coordinate with Art Commission for outdoor receptacle design to reduce vandalism risk.

Submittals Requirements
The Architect, and FF&E Consultant if applicable, shall submit floor plans indicating the placement and size of recycling bins and waste containers for all functional spaces, including (as applicable) offices and clinics, cafeteria, eating areas, kitchen, public areas, patient areas, supply areas, and loading docks for approval by the County. These plans shall meet the requirements outlined in this narrative and shall be consistent with requirements of LEED Materials and Resources Prerequisite 1 (2009 Version).

The Architect shall submit a written description and/or diagrams of the path of travel for waste collected through the building from the points of generation to the outdoor waste bins for approval by the County.

Definitions

“Office Paper Recycling” or “Paper Recycling” means all non-soiled office paper, including printing and writing paper, colored paper, envelopes, newspaper, and magazines.

“Mixed Container Recycling” means beverage bottles and cans, metals, plastics, and glass.

“Compost” means organic waste material that can decay into dirt to produce a soil amendment and includes food scraps, paper towels, paper napkins, paper cups, and paper plates.

“Tote” means a 4-wheel rolling cart of varying sizes, typically 64 or 96 gallons. The 96 gallon tote has a footprint of 26 inches by 34 inches and height of 42 inches.

“Trash” means waste that is not recyclable, compostable, or reusable.

“Waste” means any material that is no longer needed including recycling, compost, and trash.

“Diversion” means the redirection of material for any purpose other than disposal in a landfill or transfer facility.