



SPACE ALLOCATION AND ENCLOSURE DESIGN GUIDELINES FOR TRASH AND RECYCLING

**For Residential and New Commercial
Construction and Remodel**



Dated July 1, 2010

If you have any questions regarding the *Design Guidelines for Trash and Recycling*,
please contact:

Cedar Kehoe
Integrated Waste Program Manager
(916) 478-3634
ckehoe@elkgrovecity.org

The purpose of the *Design Guidelines for Trash and Recycling* (DGTR) is to assist the City of Elk Grove in complying with the Integrated Waste Management Act of 1989 (AB 939) that requires all California cities and counties to reduce the volume of waste deposited in landfills by 50% by the year 2000, and to continue to remain at 50% or higher for each subsequent year. The DGTR provides recycling and waste collection requirements for all developments City-wide. Integrated collection areas with recycling components assist in the reduction of waste materials, thereby prolonging the life of landfills and promoting environmentally-sound practices.

Each applicant for a land use permit is required to develop and submit a solid waste and recycling plan as part of the permit process. The plan must demonstrate those steps the applicant will take to meet the State mandate to reduce or divert 50% of the waste generated by all residences and businesses in the City of Elk Grove.

The DGTR will provide information and resources for designing trash and recycling sites that will be used by building occupants in new developments or significant remodels. Conventional recycling and greenwaste recycling must be designed into the site along with the trash capacity. Assembly Bill 1327, *The California Solid Waste Reuse and Recycling Access Act of 1991*, requires new commercial and multi-family developments of 5 units or more, or improvements that add 30% or more to the existing floor area, to include adequate, accessible, and convenient areas for collecting and loading recyclable materials. Waste disposal and recycling must be well planned in conjunction with the City and the waste hauler.

The DGTR consists of two sections and two appendices. SECTION 1 provides waste enclosure design and placement requirements. SECTION 2 details the procedure on how to estimate waste volume and size of containers. APPENDIX A is a very detailed guide that presents design considerations, measurements, and clearances required for enclosures. APPENDIX B provides the guidelines for minimum space allocation for trash and recyclable containers.

If the policies and/or guidelines within this document are in conflict with the City of Elk Grove Zoning Code or the City of Elk Grove Design Guidelines, these guidelines shall prevail.

SECTION 1: Waste Storage, Enclosure Design, and Location

This section contains information for designing the appropriate waste system for the project. Each solid waste and recycling plan shall include an estimate of the amount of capacity required, the location and placements of the containers, and a summary of the waste management services to be provided at the location.

Trash and recycling capacity should be equal in terms of volume (exceptions can be made on a case-by-case evaluation). They must be located side-by-side in the enclosures or in the same central storage area. Changing proportions of trash and recycling in time can be

accommodated by adjusting the frequency of collection. For example, a commercial property may have an enclosure that contains two 4-yard dumpsters, one for trash and one for recycling. Initially, the trash dumpster is emptied twice per week, so that the total trash volume is 8 yards per week. The recycling dumpster is emptied once per week for a total volume of 4 yards per week. When the occupants start to recycle more and produce less trash, the manager switches the pick-up to twice per week for recycling, and once per week for trash.

For commercial, non-residential, and multi-family properties, and single-family residential properties managed by an association or other organization, greenwaste bins shall be located away from trash and recycling to prevent contamination by the occupants. Since the greenwaste bins will only be used by the landscaper, they don't have to be as convenient as trash and recycling. If possible, consider composting the greenwaste on site. As a suggestion to save space at multi-family properties or single-family residential properties managed by an association or other organization, use the Conditions, Covenants & Restrictions (CC&R) document to require the landscaper to haul greenwaste off-site to a recycling location. The use of mulching mowers is recommended for all sites with lawns. These mowers will dramatically reduce the need (and cost) for bins and greenwaste hauling by mulching and recycling grass clippings in place (grasscycling).

Indoor Collection

Collection containers for trash and recycling shall be located side-by-side. If they are separated, people tend to put all the waste in the closest container. Adequate indoor space shall be allocated for recycling such that the location is next to trash in kitchens. When chutes are used, trash and recycling chutes shall be located side-by-side.

Multiple or Single Shared Waste Enclosure Design and Locations(s)

Trash enclosures containing cans, carts, or dumpsters are appropriate for locations where the occupants will be taking their own trash and recycling to the site and placing it themselves in the shared containers. Trash and recycling containers that are stored outdoors at a commercial, non-residential, or multi-family property, or at single-family residential property managed by an association or other organization, shall be in enclosures or roll-off containers that are placed out of view of the general public. The enclosure site must be owned, leased or rented by the building occupants.

Commercial generators do not have the right to place waste in the public right of way, parking lots, or on private property. See APPENDIX A for the enclosure design guidelines (including enclosure size and layout information).

Commercial generators that will use dumpsters must design the enclosure, at a minimum, for 3-yard containers. The tenants may choose any dumpster size they need, but the enclosure must be able to accommodate different tenants with varying waste production.

In residential complexes, enclosures shall have a pedestrian gate or walk-through that does not necessitate the opening of large gates used for servicing containers, or a walk-through wide enough to accommodate ADA requirements. If a gate is used, seniors children, and people with disabilities must be able to open the gates. For senior complexes where residents take out their own trash, the maximum dumpster size shall not exceed 2 cubic yards, and must be within an enclosure. Larger dumpsters are more space-efficient, but require users to lift bags above shoulder height with one hand while lifting the lid with the other hand. This may be difficult or impossible for seniors or disabled people.

Commercial waste enclosures shall be a *maximum* distance of 250' from the nearest point of the building serviced. For senior residential complexes where occupants empty their own trash and recycling, a *maximum* distance of 150' shall be permitted. The path of travel from building to dumpster shall be free of stairs, textured surfacing, and other impediments. Although office waste is usually emptied by janitors at the end of the day, food serving establishments and others can empty trash or transport recyclable boxes 6 or more times throughout the day. Long distances may affect productivity and worker safety after dark.

SECTION 2: Determining Waste Volume and Sizing Containers

Builders shall use the *City of Elk Grove Allocation Guidelines* in APPENDIX B or consult with the City's Integrated Waste Division to determine the amount of waste capacity needed. Equal space shall be allocated for trash and recycling.

SPECIAL NOTE:

All new buildings and remodeled buildings shall adequately provide outdoor trash and recycling storage pursuant to the DGTR. Interior alteration permits that result in a change to a more intensive use shall not be approved unless adequate new outdoor trash and recycling storage is provided on site.

**APPENDIX A:
Enclosure and Facility Design Guidelines for
Recycling and Trash Removal Service**

A. Residential Locations: Trash, Recycling and Greenwaste Carts

Trash, recycling and greenwaste carts shall be consistent with the following dimensions:

SIZE	HEIGHT	WIDTH	LENGTH
32-gallon cart	38.5 inches	19.25 inches	24.25 inches
64-gallon cart	42.0 inches	24.25 inches	31.75 inches
96-gallon cart	43.25 inches	30.0 inches	35.25 inches

Residents are entitled to up to five carts (any sizes) for the typical rate. Carts shall be placed curbside on service day. Carts shall be placed in a single line with 3 feet between each cart and 3 feet from any car or stationary object, and shall not block the driveway. Trash, recycle and greenwaste carts must be hidden from public view from the sidewalk on non-service days. Trash carts are serviced weekly; recycling and greenwaste carts are serviced every other week. For a dead end street, the turning radius for the hauler's truck shall be a minimum of 45 feet, with the full arc at 90 feet.

Completed residential complexes that do not allow for adequate space to collect materials may not be offered the same service level provided to residents under the Franchise Agreement with the City's contracted hauler. For example: at a high density development, should the available spacing for cart placement be less than the required spacing listed above, residents of the complex may not be allowed a second cart for trash or recycling and will still be required to pay the normal residential service rates.

B. Commercial Locations: Front-End Loading Containers

1. Enclosures

- a. Enclosures shall be designed with at least 50% of space designated for recycling. This shall be achieved with two bins, one for recycling and one for trash.
- b. The containers must be located within an enclosed masonry area consistent with the architecture of the project with a surrounding wall at least 5 feet high and not higher than 8 feet. All enclosures shall be designed consistent with the following:
 - i. Enclosures shall be built of non-combustible materials (wood is not permitted).

- ii. Materials/finishes shall relate to and be of same quality as materials used on building.
 - iii. Landscaping and screening shall be included to help visually buffer loading area and enclosure.
 - iv. A pedestrian access, separate from the primary service access, is recommended.
- c. Enclosure shall be located 25 feet from any public street, 15 feet from the edge of pavement of a private street and, in commercial areas, 25 feet from any residential zoned property line.
- d. Dimensions will vary based on projected usage but shall be consistent with Table A and B below. If multiple containers go in one enclosure, a minimum 30" separation shall be provided between containers (see Illustrations A and B on pages 10 and 11).

ENCLOSURE DIMENSIONS

Table A

SIZE	HEIGHT	WIDTH	LENGTH
2 3-yard front-load bins	59 inches	96 inches	138 inches
2 4-yard front-load bins	67 inches	96 inches	154 inches
2 5-yard front-load bins	70 inches	96 inches	186 inches
2 6-yard front-load bins	79 inches	96 inches	186 inches

Table B

SIZE (end to end)	HEIGHT	WIDTH	LENGTH
2 3-yard front-load bins	59 inches	66 inches	198 inches
2 4-yard front-load bins	67 inches	74 inches	198 inches
2 5-yard front-load bins	70 inches	90 inches	198 inches
2 6-yard front-load bins	76 inches	90 inches	198 inches

- e. Gates should be two inches off the ground and hung on the outside so that, when open, gates are out of the bin's way. Gates shall be able to open more than 90 degrees and shall be equipped to prevent accidental swinging, which can result in injury to persons or equipment.
- f. Hardware shall be of sufficient strength to accommodate repetitive swinging, and so that individuals with gloves should be able to open them.
- g. Lid ears and bin pockets will rub enclosure walls. Bin may also roll against the back of the enclosure during service. Wood or

metal bumpers or interior curbs shall be provided to extend enclosure life. Bolts or screws shall be inset on bumpers to avoid injury to collector or user.

- h. Container shall be on a flat, level surface in the enclosure and in position for the driver to dump the container. Asphalt or dirt floor in the enclosure may not hold up under the heavy weight of a loaded bin. Concrete is required.

2. Pads and Access Areas

- a. Trash and recycling enclosures shall be sited to ensure that the maximum roll-out by collector does not exceed 25' from enclosure to truck.
- b. Roll-out area shall be level and free of dips and bumps.
- c. Front-end loading trucks may weigh up to 30 tons when loaded. All access surfaces shall be engineered accordingly to avoid future pavement damage. Concrete surfacing is required in all access and service areas.
- d. Trash and recycling enclosures shall be sited to ensure that overhead obstructions do not impede the hauler from gaining access to the site.
- e. Stormdrain grills shall not be placed in the driving path of the truck.
- f. Trash and recycling enclosures shall be sited with a turnaround or separate exit that allows the truck to move forward rather than backward.
- g. Trash and recycling enclosures shall be sited to accommodate parked cars and/or delivery trucks, and to consider similar accessibility issues.

3. Approximate Container Dimensions

- a. Trash and recycling containers shall be consistent with the following dimensions:

SIZE	HEIGHT	WIDTH	LENGTH
2-yard front-load bin	44 inches	33 inches	72 inches
3-yard front-load bin	49 inches	42 inches	72 inches
4-yard front-load bin	57 inches	50 inches	72 inches
5-yard front-load bin	60 inches	66 inches	72 inches
6-yard front-load bin	69 inches	66 inches	72 inches

Height is measured with the lid closed. Most enclosures are built only to a height of about 8 to 10 inches higher than the dumpster, since the lid must remain closed at all times except when the container is being loaded or unloaded. When lid is raised, the full height from the ground to the top of the lid may extend to 140 inches.

Twenty-five foot clearance of overhead obstruction shall be required where the vehicle will lift and empty the container. Generally, the driver will move the container out away from the enclosure about 8 feet before dumping. See Illustration C on page 12.

All projects shall provide clearance for front end loading vehicles, as defined below:

Vertical (approach and exit)	15' high
Vertical (when dumping bin)	25' high
Lateral	15' wide
Turning Radius	45' (large truck) 35' (small truck)

C. Roll-Off Containers (Debris Boxes)

1. Enclosures are not required for roll-off containers (debris boxes) so long as the containers cannot be viewed by the general public and cannot be seen from public streets.
2. This type of container is most frequently used at construction sites, but it also is designed for very high volume users. Container placement:
 - a. Roll-off containers may be placed directly behind a building where space is available at a loading dock to allow loading from above. See Illustration E on page 14.
 - b. Container should be on a level surface. If placed on an incline, roll-away protection is required. City of Elk Grove Integrated Waste staff will provide on-site inspections before the placement is final.

- c. Loading docks shall be equipped with bumper pads or 8” high curbs to avoid undue dock damage from heavy container.
- d. Roll-off containers may be placed at a residence or business by an authorized commercial hauler for a maximum of seven (7) days without a building permit. When there is a building permit, the roll-off container shall be serviced, at a minimum, every fourteen (14) days.

3. All projects shall provide clearance for roll-off containers and vehicles as follows:

Vertical (approach and exit)	14’ high
Vertical (rails raised with bin)	25’ high
Lateral	10’ wide
Service Area Length Minimum	75’ long

4. Container dimensions shall be consistent with the following:

SIZE	LENGTH	WIDTH	HEIGHT (approx.)
“ Lowboy ,” 10 to 12 cubic yard (used for concrete, dirt & other dense, heavy material)	14’	8’	4’
“ Highside ,” 25 to 30 cubic yard	18 to 22’	8’	6 to 8’
“ Highside ,” 40 cubic yard	22’	8’	8’

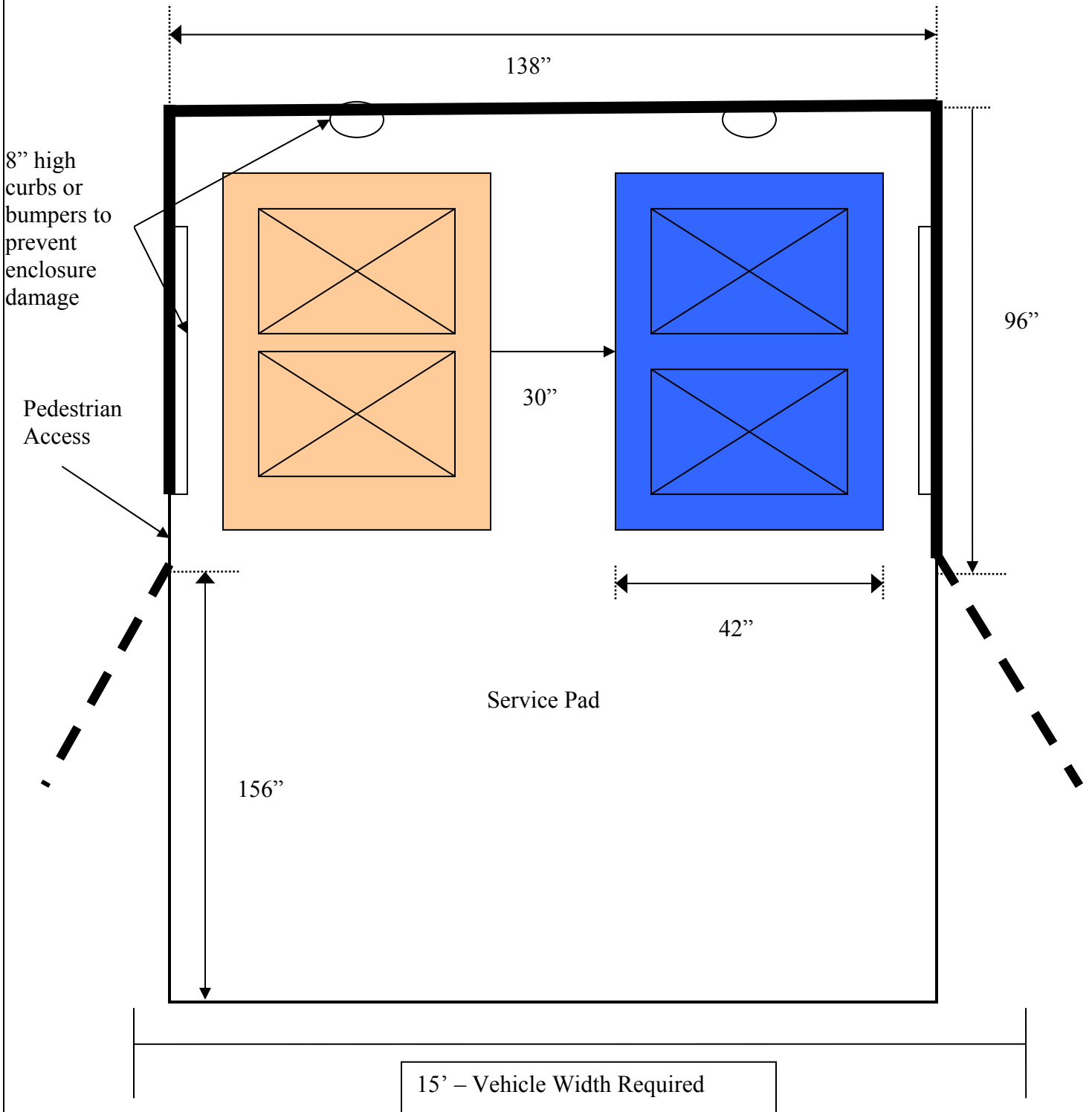
D. Compacting Units:

- 1. Enclosures are not required for compacters unless the compacters are viewed by the general public. Compactors vary in size and the manufacturer should provide capacity and the dimensions. Contact the hauler in the planning stage and before installing compacting units.

APPENDIX A: Enclosure and Facility Design Guidelines for Recycling and Trash Removal Service

Illustration A: Front-Loading Container Enclosures (not to scale)

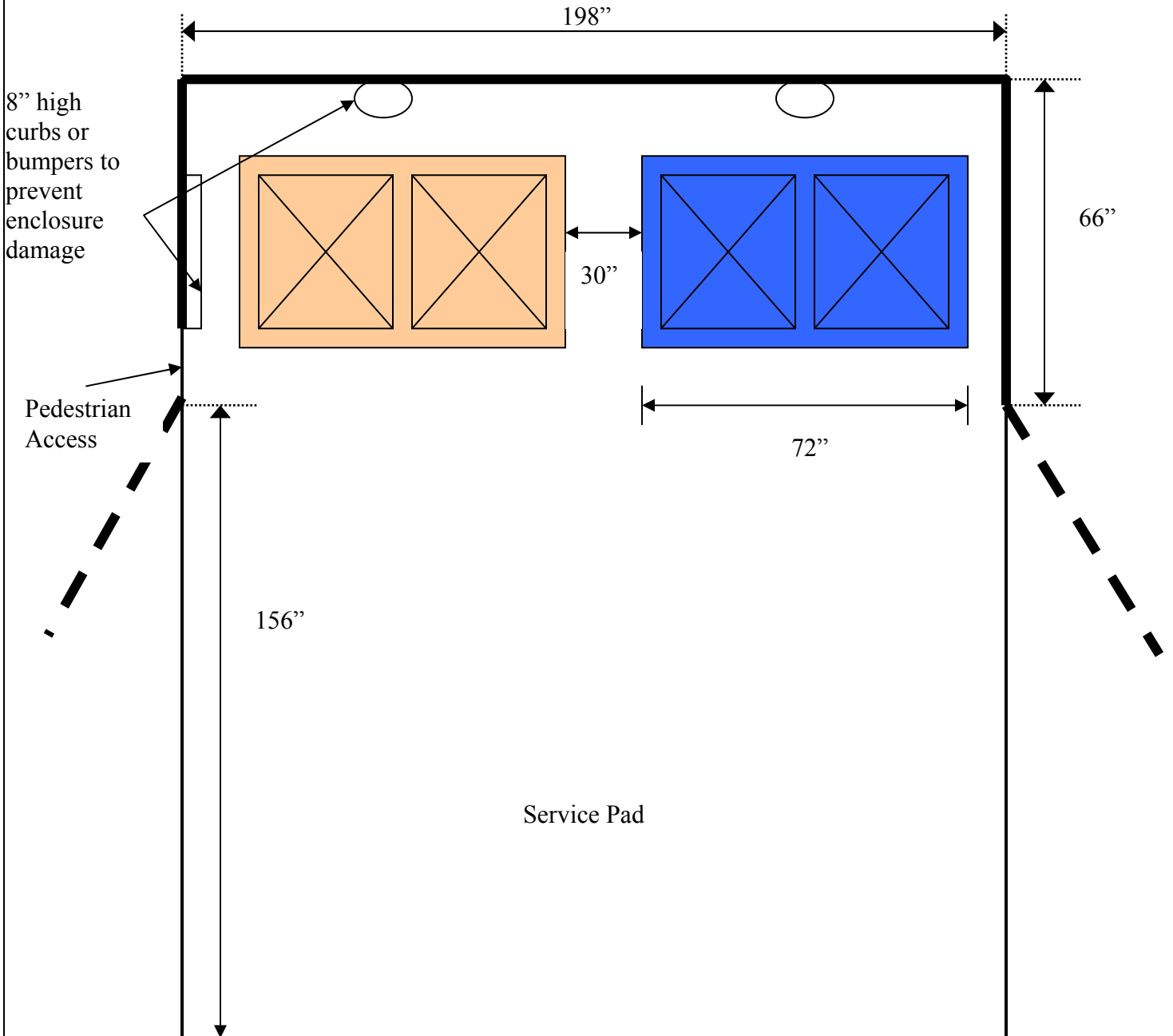
This illustration shows one 3-yard recycling bin and one 3-yard trash bin.



APPENDIX A: Enclosure and Facility Design Guidelines for Recycling and Trash Removal Service

Illustration B: Front-Loading Container Enclosures (not to scale)

This illustration shows an alternative alignment for one 3-yard recycling bin and one 3-yard trash bin.



15' – Vehicle Width Required

APPENDIX A: Enclosure and Facility Design Guidelines for Recycling and Trash Removal Service

Illustration C: Clearance

Twenty-five foot clearance of overhead obstructions is necessary where the vehicle will lift and empty the container. Generally, the driver will move the container out away from the enclosure about eight feet before dumping.

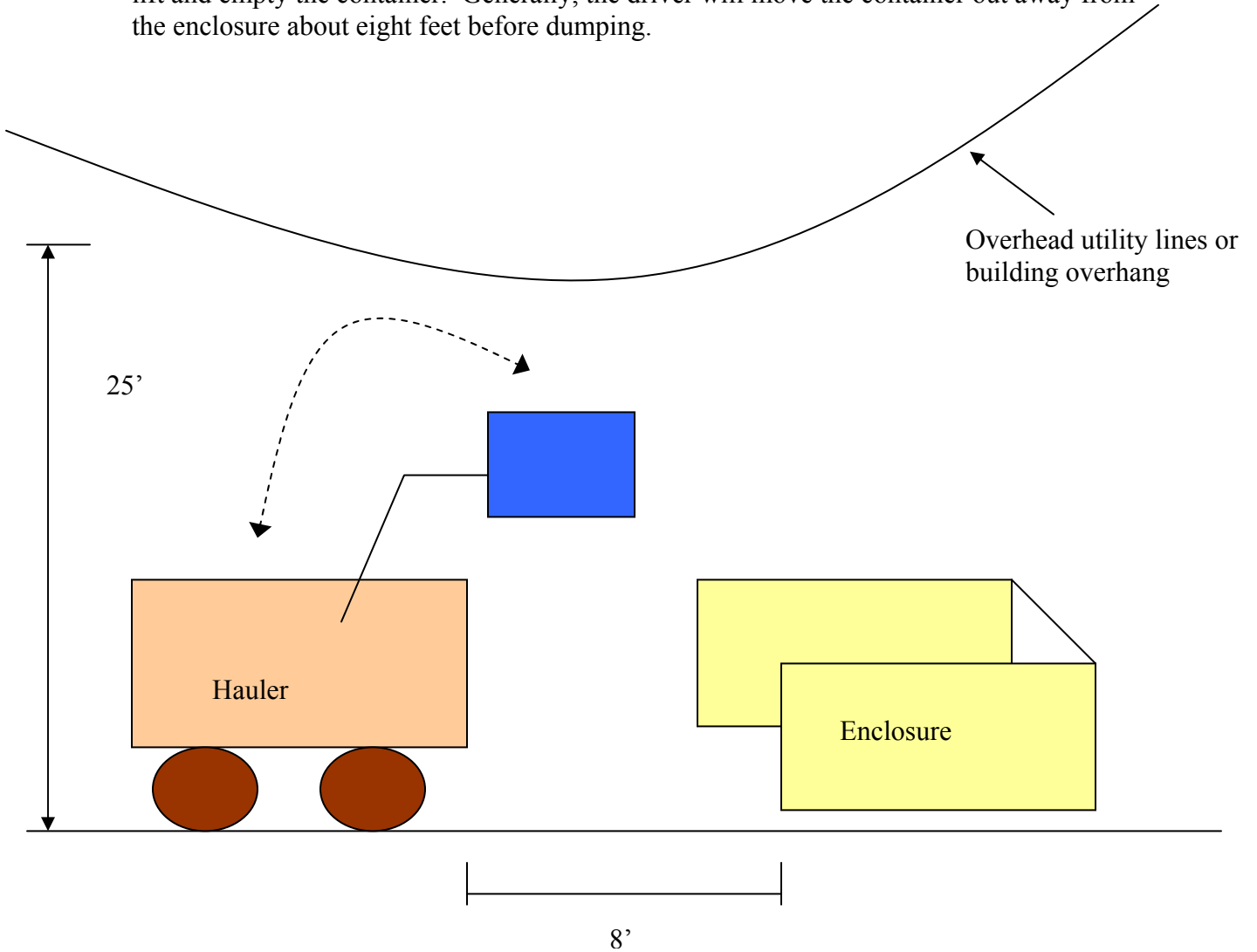
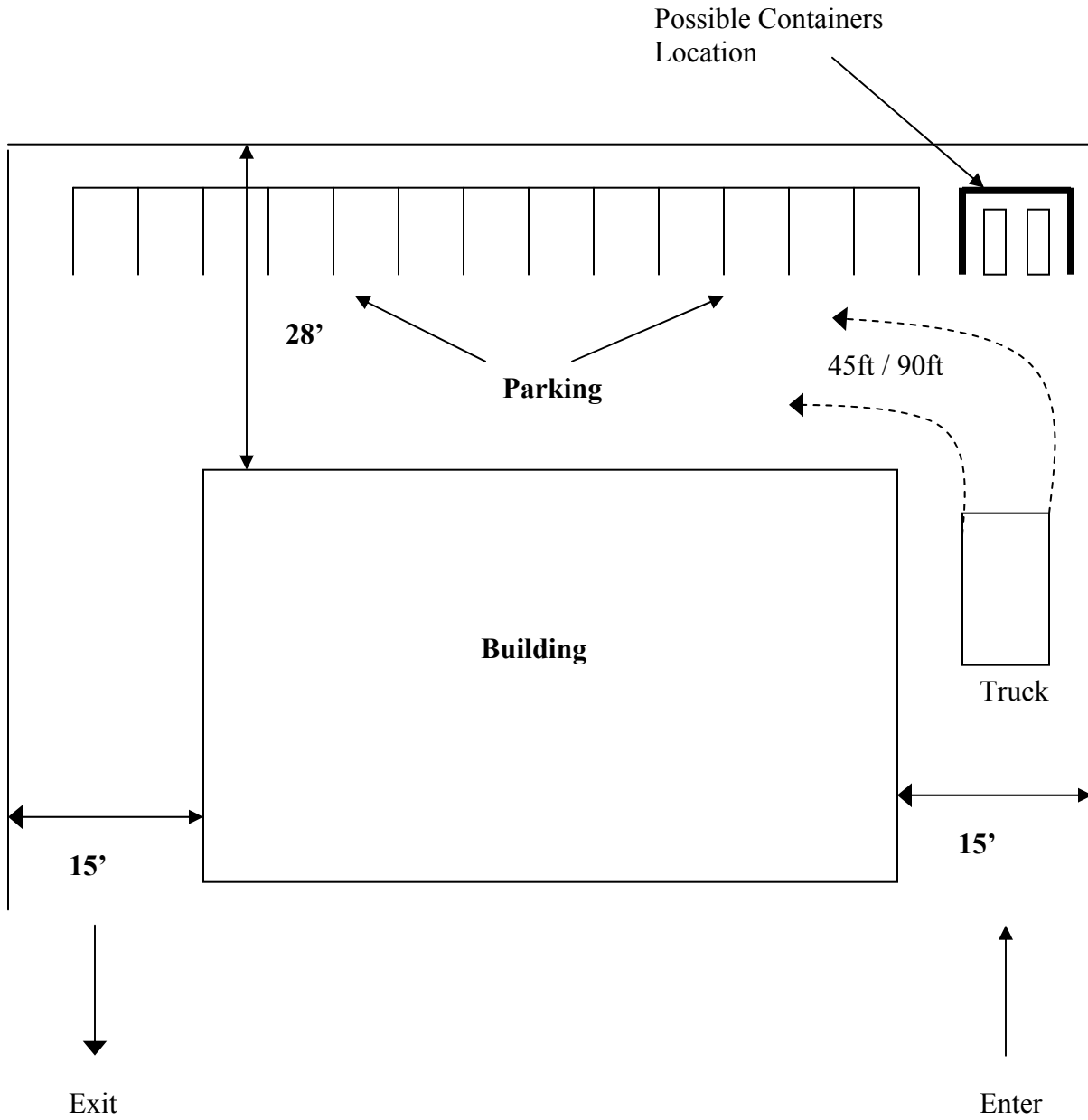


Illustration D: Facility Design

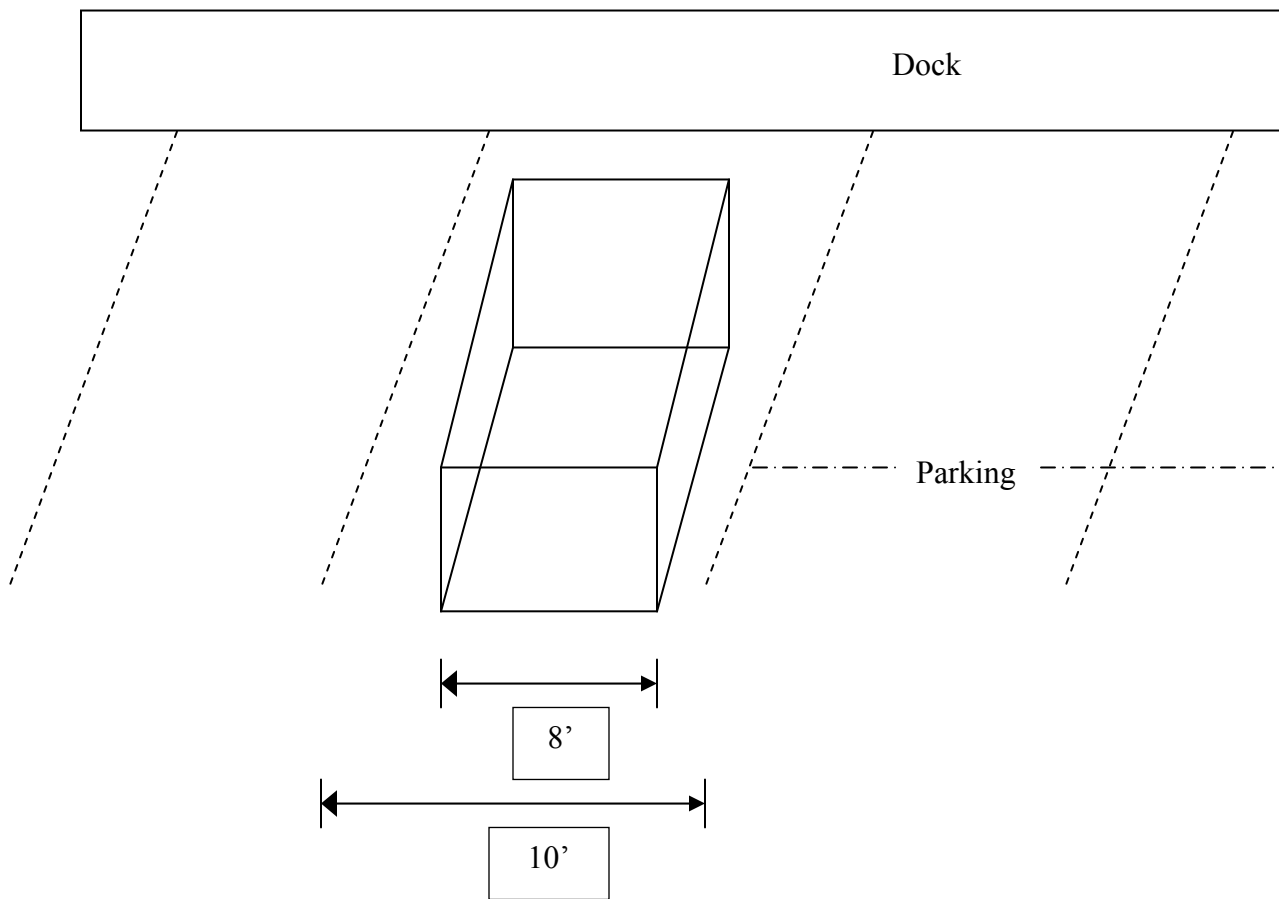


APPENDIX A: Enclosure and Facility Design Guidelines for Recycling and Trash Removal Service

Illustration E: Roll-Off Container Placement

Allow 10' wide access for driver to check the rear of the bin before loading onto vehicle.

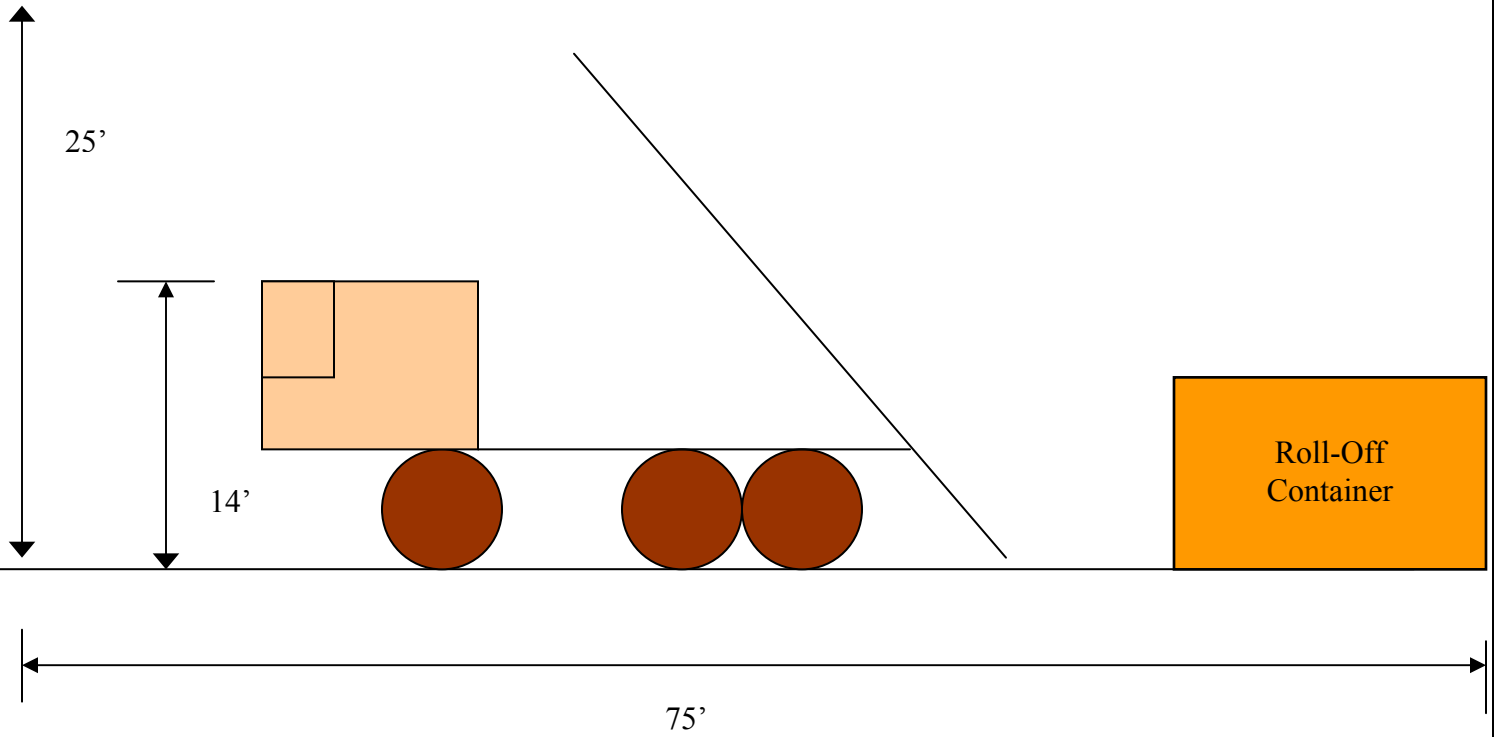
This illustration depicts top loading of container. Container gates are at rear of container (next to dock). If container is to be loaded from ground level, allow a minimum of 5' to open the gates.



APPENDIX A: Enclosure and Facility Design Guidelines for Recycling and Trash Removal Service

Illustration F: Roll-Off Container Placement

Allow minimum of 75' to load/unload container safely. Truck rails may extend to 25' high when servicing container.



APPENDIX B: Space Allocation Guidelines

The minimum space allocation requirements for recycling and trash containers shall be as follows:

LAND USE	MINIMUM SPACE REQUIRED	INTENDED USE FOR THIS SPACE
Single-Family and Multi-Family Residential	<p>Each residential unit must provide a minimum of 11' for placement of trash, greenwaste or recycling containers in front of the unit or in an easily accessible location for the material to be collected by automatic trucks. This space may not be located in the driveway or sidewalk. When carts are not placed out for collection they must be stored out of public view from the street.</p> <p>If such space is not provided, centralized bins must be used, meeting the following guidelines: 138" x 96" or 198" x 66" space for the first 20 dwelling units, additional 99" x 66" for each additional 20 dwelling units.</p> <p>Locations with limited space may not be offered the same level of solid waste service (i.e second cart) as other residents of the City that have adequate space for the same standard price paid by all residents. Such program variations must be approved and conditions established by the City of Elk Grove Integrated Waste Program Manager.</p>	Two side-by-side 3 cubic yard bins (one for trash and one for recycling) for first increment 20 units, one additional 3 cubic yard bin for trash or recycling for each additional increment
Office and General Commercial	138"x 96" or 198"x 66" space for first 20,000 gross building square feet; additional 99"x 66"space for the next 20,000 gross building square feet; or two 288" x 120" spaces	Two side-by-side 3 cubic yard bins (one for trash and one for recycling) for first increment of 20,000 gross building square footage, one additional 3 cubic yard bin for trash or recycling for each additional increment; or space for collection of trash and recyclables from two separate 40 or 20 cubic yard bins

Retail	138"x 96" or 198"x 66" space for each 8,000 gross building square feet or one space of 288" x 120" and another 99" x 66" for each 8,000 gross building square feet.	Two side-by-side 3 cubic yard bins (one for trash and one for recycling) for each increment of 8,000 gross building square feet or one 3 cubic yard bin and one 4 cubic yard bin
Industrial	138"x 96" or 198"x 66" space for first 20,000 gross building square feet and 99" x 66" for each additional 10,000 gross building square feet or one space of 288" x 120" and another 99" x 66".	Two side-by-side 3 cubic yard bins (one for trash and one for recycling) for first increment of 20,000 gross building square footage and one 3 cubic yard bin for each additional increment, or one 3 cubic yard bin and one 4 cubic yard bin (one for recycling, one for trash)
Institutional (schools, hospitals, cemeteries, military bases, religious institutions, etc.)	Varies by building use rather than land use	Sufficient space for separate collection of trash and recyclables