Metro's Recycling Chute & Collection System

Recycling Chute Planning

The Metro Regional Center recycling program has one of the most innovative recycling collection system in the metro area. A recycling chute was incorporated into the design of the new metro facility. The chute will not only offer an efficient collection system for recyclables but it will also exceed the City of Portland Fire Bureau's safety standards for the collection and storage of recycled paper.

Both the Portland Fire Bureau and Metro's recycling vendor were included on design planning to ensure that the chute incorporated safety standards as well as efficient collection practices.

Recycling Chute Construction

The recycling system consists of 3 (24" diameter) aluminized steel chutes that have been installed in shafts next to the elevator system. The chutes run from the third to the first floor and will be accessible for recycling on the second and third floors through approved access doors. The chute exits on the first floor near the loading dock into an area designated for recycling. Recyclable material exits the three chutes into a specially designed roller container with a large reusable fabric bag insert that will be picked up by the recycling vendor and reused by Metro at a subsequent time.

Recycling Chute Collection System & Program

The 3 chutes allow Metro to source separate white, colored, and computer paper for the recycling vendor. Each employee work station is equipped with recycling bins for desk side collection & storage of paper. Employees are responsible for emptying their recycling bins into the chute access on their floor. Fire policy dictates that boxes must not overflow. Employees must empty recycling bins, as needed, to comply with fire policy. Recycled paper is stored in the first floor recycling room until vendor collection.

New employees are to contact Metro Recycling Information (ext 210) for their recycling orientation kit. The kit consists of recycling bins, self stick labels and recycling instructions (how, when & where).

Recycling questions can be directed to the waste reduction committee members:

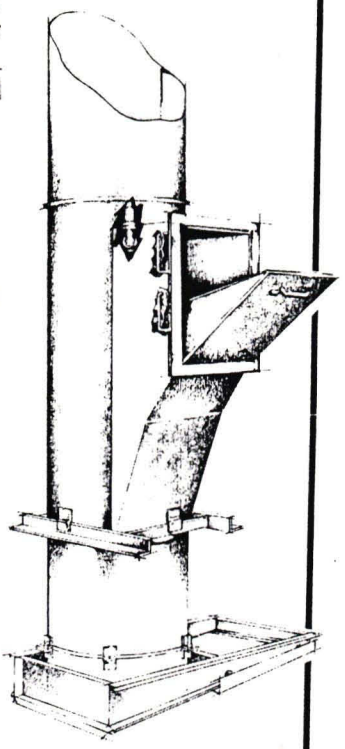
Council: Marilyn Geary-Symons
Executive Management/General Counsel: Lisa St. Helens

STANDARD CHUTE AND DOOR SIZES

Chute Diameter	Side Side Hinged Doors	Bottom Hopper Doors
24	21 x 21	15 x 18
28	24 x 24	18 x 18
30	24 x 24	21 x 18
36	24 x 24	24 x 24

(smaller sizes are available)

- The most commonly used sizes are highlighted.
- 24" diameter is the minimum rubbish chute or linen chute size recommended by the NFPA (National Fire Protection Association).
- Side Hinged Doors are generally used for linen chutes, and bottom hinged for rubbish chutes.
- 24" diameter is the minimum linen chute size recommended by NFPA.



INTAKE DOOR SIZE AND TYPE

The largest bag or piece to be fed into the chute will determine the door size required.

The bottom hinged hopper type intake is most commonly used for rubbish or loose linen whereas the side hinged type intake is usually used for bagged linen or larger bags of rubbish. The U.L. "B" Label is recommended on all doors.

Be sure to specify masonry or drywall installation.

CHUTE DIAMETER

The chute diameter should be larger than the intake door size to prevent clogging. The chart above gives the maximum size doors recommended for various sizes of chutes. Where oversize items may be forced through the intake, or a chute offset is requird, the chute diameter should be made a size or two larger.

DISCHARGE TYPE

A direct open end discharge with a normally open Type "A" door is used on most chutes. In some applicaitons where the discharge exits through a wall or onto a conveyor, the Type "H" hopper discharge is used.

VENT SIZE AND TYPE

A full diameter vent is recommended by the N.F.P.A. for rubbish chutes. The U.S. Dept. of Health, Education and Welfare recommends that linen chutes be vented in the same manner. Where the full diameter vent is not practical or desirable, a 3" diameter vent provides minimal venting. Any size vent in between is also available.

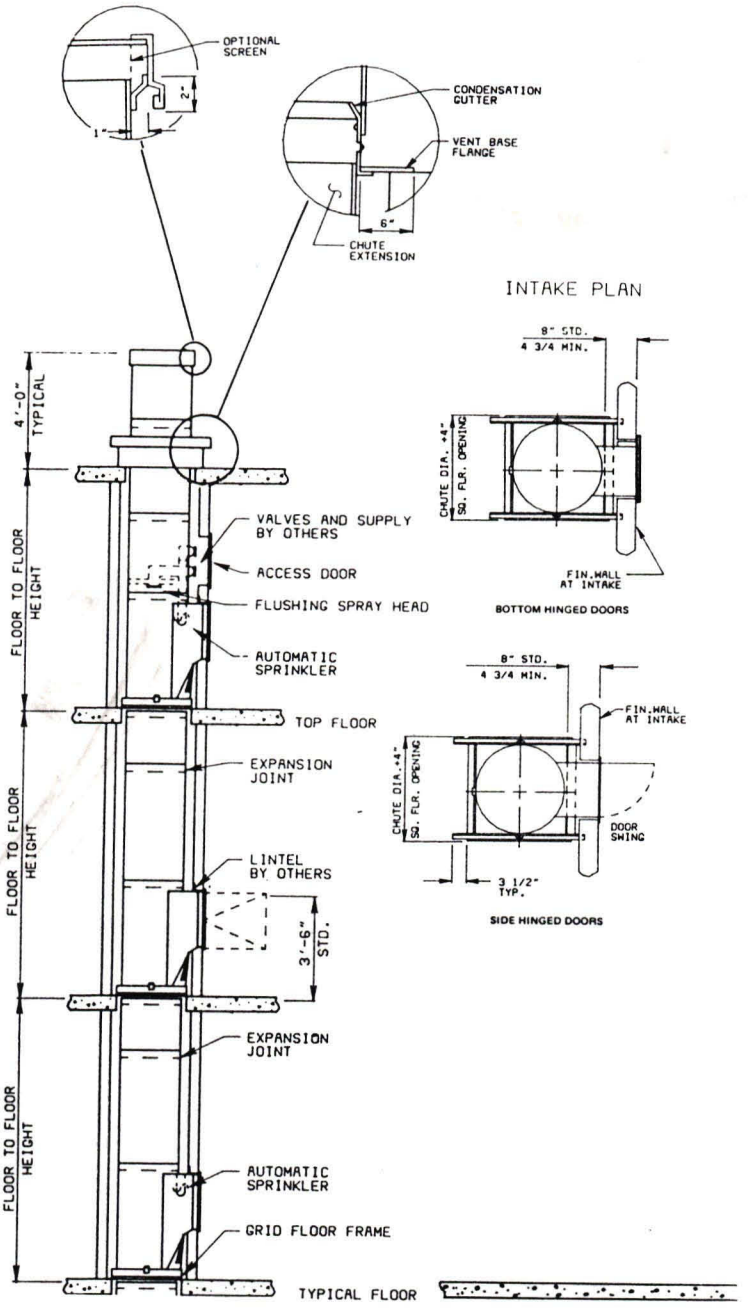
MATERIAL SIZE AND TYPE

Commonly used chute materials range from #16 U.S. Ga. Aluminized Steel to #16 U.S. Ga. type 430 Stainless Steel.

ACCESSORY EQUIPMENT

Equipment such as extra sprinkler heads at every floor level, a disinfecting and sanitizing unit, or cylinder locks on the intake doors may be required by local codes or chute usage. See page 7 for a complete list of accessories.

TYPICAL DESIGN



REFER TO APPROPRIATE DISCHARGE PLAN AS ILLUSTRATED ON PAGE 3

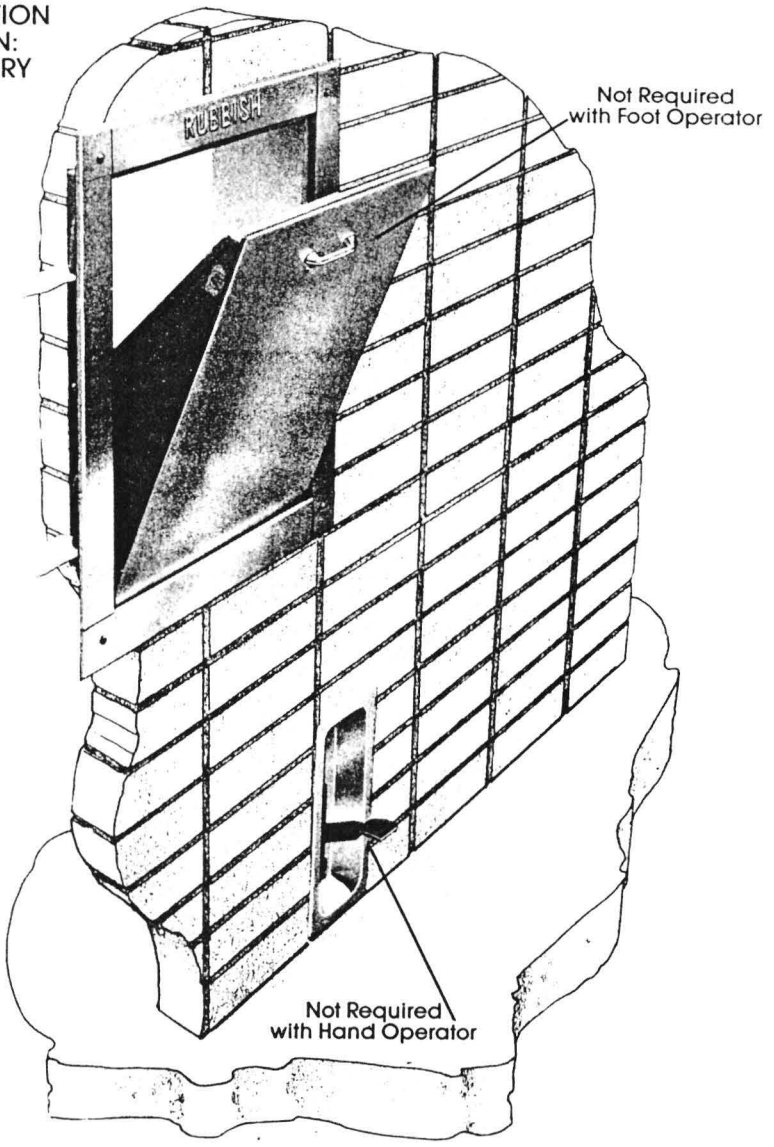
BOTTOM HINGED HOPPER

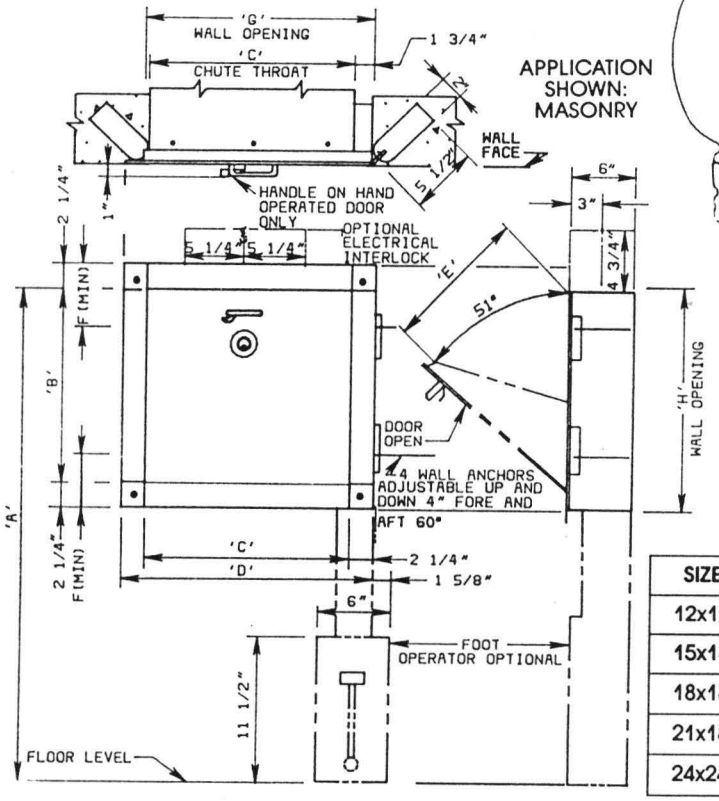
The bottom hinged hopper intake door is recommended for all rubbish chutes And is sometimes used for loose linen chutes. Our standard bottom hinged hopper door unit is fabricated of AISI type 302/304 stainless steel with a standard finish or no. 3 directional polish. Our stainless steel trim is installed around the framed opening of the wall for each intake door. The trim piece running across the top of the intake door is embossed with a name specifying the usage of the chute. (For optional name plates, see optional door equipment page 7). V type hopper intakes can be furnished to restrict the size of material loaded into the chute. Long or oversize objects may clog offsets or jam the takeaway system at the base of the chute. An extension out from the bottom of the door parallel to the chute throat forms a V with the door back. This extension rotates up to block the throat as the door is opened and limits charged material to the mount that the V will hold.

For the convenience of our customer, Wilkinson offers an optional foot operated hopper type intake door. With foot operation, depressing the pedal unlatches and then opens the door leaving both hands free for loading.

Our door bears 1-1/2 H.R. 650°F. U.L. "B" label. It is available in sizes from 12"x15" up to 24"x24" for masonry or drywall applications. (For optional door equipment see page 7).

APPLICATION SHOWN: MASONRY





APPLICATION SHOWN: MASONRY

Wilkinson Chutes®
STOW, OHIO 44224
UNDERWRITERS LABORATORIES INC.®
CLASSIFIED
CHUTE FRAME AND FIRE DOOR ASSEM.
FIRE RATING 1½ HR. B. NO. 135552
TEMP. RISE 30 MIN. 650°F. MAX.
SEE UL BUILDING MATERIALS DIRECTORY

SIZE	A	B	C	D	E	F	G	H
12x15	39	15½	12½	17	10⅝	2¼	16½	18¼
15x18	42	18½	15½	20	13	3½	19½	21¼
18x18	42	18½	18½	23	13	3½	22½	21¼
21x18	42	18½	21½	26	13	3½	25½	21¼
24x24	48	24½	24½	29	17¾	3¾	29	28

LINEN CHUTES

Soiled linen is usually bagged or bundled before it is loaded into the chute. The side hinged doors with large clear opening are therefore used most often on linen chutes. Hospitals generate about 15 pounds of soiled linen per bed per day. Hotels and motels a little less. Increasing use of disposables may reduce these figures.

TYPICAL SPECIFICATIONS

Furnish where shown on plans a 24" diam. Linen Chute as manufactured by Wilkinson Chutes and specified below:

CHUTE MATERIAL:
The Chute shall be fabricated of #16 U.S. Ga. Aluminized Steel.

INTAKES:
21" wide x 21" high, stainless steel, self-closing, positive latching, side hinged, hand operated doors bearing 1-1/2 Hr. 650°F. U.L. "B" label (Specify masonry or drywall installation.) Provide stainless steel door trim with embossed letters (SOILED LINEN).

DISCHARGE:
Type "H" hopper with 24" wide x 30" high, top hinged, counterbalanced stainless steel door bearing 1-1/2 Hr. 650°F. U.L. "B" label, held open with 165° fusible link. Reinforce bottom with #13 guage impact plate. Hopper complete with 2" IPS drain flange for connection by plumber. Support hopper with 2" pipe pedestal.

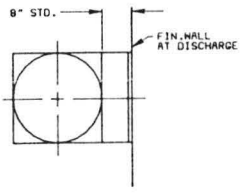
FLOOR FRAMES:
Fabricate floor frames of 1-1/2 x 1-1/2 x 3/16 angles and 1-1/2 x 3/16 bar stock welded assembly.

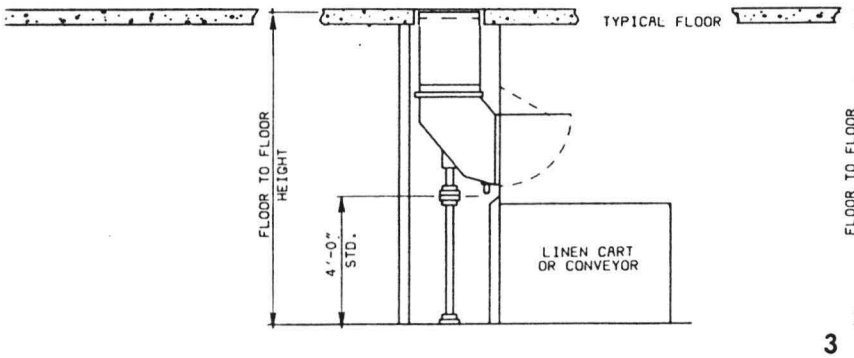
SPRINKLERS:
1/2" IPS 165° sprinkler head above top intake. Additional 1/2" sprinklers at every second intake (or as required by Code).

3/4" IPS flushing spray head located in channel above top intake ready for connection by plumber.

VENT:
Provide full diameter vent through roof 4'-0" above roof with metal explosion cap.

TYPE H DISCHARGE PLAN





RUBBISH CHUTES

The rubbish handled by chutes may vary from loose paper at 5 pounds per cubic foot to 70% moisture garbage at 45 pounds per cubic foot. The "average rubbish" weighs about 10 pounds per cubic foot.

Compactors as manufactured by various companies may be installed at the base of the chute to reduce the bulk of the rubbish to about one fourth what it would be naturally. The reduction in size or number of collection containers and rubbish pickups required often justifies the cost of the compactor.

Average amounts of rubbish generated in various types of building are listed below. In some cases the whole quantity may come down in one or two peak periods.

Building	Pounds of Rubbish
Apartment	5#/apartment + 1#/bedroom
Dormitory	3#/person
Hospital	8#/bed
Home for Aged	6#/person
Hotel or Motel	3#/room
Office Building	1#/100 square feet
School	10#/room + 1/4#/pupil

TYPICAL SPECIFICATIONS

Furnish where shown on plans a 24" diam. Rubbish Chute as manufactured by Wilkinson Chutes and specified below:

CHUTE MATERIAL:
The Chute shall be fabricated of #16 U.S. Ga. Aluminized Steel.

INTAKES:
15" wide x 18" high, stainless steel, self-closing, positive latching, bottom hinged, hand operated doors bearing 1-1/2 Hr. 650°F. U.L. "B" label (Specify masonry or drywall installation.) Provide stainless steel door trim with embossed letters (RUBBISH).

DISCHARGE:
Type "A" open end inclined rolling door with fusible link hold-open. Fabricated "B" label construction even though U.L. Label is not required.

FLOOR FRAMES:
Fabricate floor frames of 1-1/2 x 1-1/2 x 3/16 angles and 1-1/2 x 3/16 bar stock welded assembly.

SPRINKLERS:
1/2" IPS 165° sprinkler head above top intake. Additional 1/2" sprinklers at every second intake (or as required by Code).

3/4" IPS flushing spray head located in channel above top intake ready for connection by plumber.

VENT:
Provide full diameter vent through roof 4'-0" above roof with metal explosion cap.

TYPE A DISCHARGE PLAN