

NOTIFICATION OF NEW EDITION OF CODE OF PRACTICE ON ENVIRONMENTAL HEALTH

Reference: NEA/EP/PDD/05-00075

Date: 1 June 2020

CIRCULAR TO PROFESSIONAL INSTITUTIONS

Who should know

Developers, Architects, Engineers

Dear Sir/Madam,

Notification of New Edition of Code of Practice on Environment Health (2020 Edition)

We would like to notify all Qualified Persons (QPs) that a new 2020 Edition of the Code of Practice on Environment Health (COPEH) has been released.

2. The changes are:

- amendments to Clauses 1.3 to 1.7 under Section 1 Refuse Storage and Collection System
- inclusion of a new Clause 1.7 (n) to require Pneumatic Waste Conveyance Systems to comply with the Singapore Standard SS 642: Code of Practice for Pneumatic Waste Conveyance System
- inclusion of new Clause 1.8 Mandatory Waste Reporting Scheme
- inclusion of new Clause 1.9 Location of Grease Trap
- inclusion of new Clause 1.10 On-site Food Waste Treatment System
- amendments to Clause 11.4 under Section 11 Storage and Collection System for Recyclables at Strata-Titled Properties with Residential Units

3. The above-mentioned changes will take effect on 1 June 2020 except for Clause 1.10 On-site Food Waste Treatment System which will take effect on 1 Jan 2021.

4. The new COPEH (2020 Edition) and details of the changes can be downloaded from NEA website at <https://www.nea.gov.sg/corporate-functions/resources/practices-and-guidelines/practices>.

5. Please note that it is the responsibility of the QP to ensure compliance with all related Acts, Regulations, Codes of Practice and Guidelines.

6. You may refer your enquiries to NEA Hotline at 1800-2255 632, or submit them electronically via the Online Feedback Form at <http://www.nea.gov.sg/corporate-functions/feedback> or mobile application (myENV).

Thank you.

Sincerely



Koh Chin Yong
Director
Development Control and Licensing
Department



Desmond Tan
Director
Waste & Resource Management Department

Cc: The President
Singapore Institute of Architects (SIA)

The President
Association of Consulting Engineers Singapore (ACES)

The President
The Institute of Engineers Singapore (IES)

The President
Real Estate Developers' Association of Singapore (REDAS)

FAQs for COPEH Amendments

1. Why is there a need to comply with the Singapore Standard SS 642: Code of Practice for Pneumatic Waste Conveyance System?

In recent years, there has been widespread adoption of PWCS in Singapore . It has brought about several benefits, such as reduced manual handling of waste, improved hygiene and well-being of workers, increase in value-added jobs and reduction of pests and odour nuisance in the environment.

The SS 642 aims to ensure a level playing field for the manufacturers and suppliers by providing basic requirements for the design, construction and installation. This would also provide greater assurance in terms of quality, reliability, and durability to all the users of the system.

2. Where can I find a copy of the Singapore Standard SS 642: Code of Practice for Pneumatic Waste Conveyance System?

The SS 642 can be bought at <https://www.singaporestandardshop.sg> .

3. When are new developments with PWCS required to comply with the Singapore Standard SS 642: Code of Practice for Pneumatic Waste Conveyance System?

It will apply to developments for which Development Control submissions are made to NEA on, or after 1 Jun 2020.

4. Why is the requirement to comply with the Singapore Standard SS 642: Code of Practice for Pneumatic Waste Conveyance System immediate?

A circular has already been issued on 23 May 2019 to provide sufficient time for the industry to adjust. The circular informed Developers, QPs and other professional institutions of the requirement for new developments with PWCS to comply with the new Singapore Standard SS 642.

5. Why is there a new requirement for commercial and industrial premises to allocate space for on-site food waste treatment system?

Under the Resource Sustainability Act (RSA) enacted in October 2019, developers of new large commercial and industrial premises are required to allocate and set aside space for on-site food waste treatment systems in their design plans from 1 Jan 2021. This will allow owners and operators of these premises to implement on-site food waste treatments when mandated in 2024.

6. How is the space, minimum 25m² (5.0m by 5.0m) and a height clearance of 3.5m determined?

The floor area is based on the typical space required for the installation and operation of an on-site food waste treatment system of 1-tonne capacity and includes the space for servicing and maintenance works of the treatment system and access of SS EN-840 standard wheel bins. The height clearance is to allow for the use of a bin lifter. QPs may wish to cater more space depending on the system to be installed.

7. When will the requirements for Section 1.10 On-site Food Waste Treatment System take effect from? What are the requirements?

The requirements shall apply to new development applications submitted to URA from 1 January 2021.

Owners and operators of all new commercial and industrial premises that meet the threshold stated in the table below are required to allocate space for on-site food waste treatment systems.

Types of premises		Thresholds (Gross Floor Area)
Commercial	Shopping Malls	F&B Area > 3,000 sq m
	Hotels	Function + F&B Area > 3,000 sq m
Industrial	Single User Factories (SUFs)	Large food manufacturers ¹ (i.e. Operation area > 750 sq m) Premises which are solely used for specific trade activities ² can be excluded from the requirement. An exemption request along with the necessary documents shall be submitted to NEA for checks. Elaboration shall also be provided to support their request when required by NEA.

¹ As licensed under Singapore Food Agency's Licence to operate a food processing establishment

² Manufacturer of spices, dried foodstuffs, additives, bottled water, high pressure processing

	Multi-User Factories (MUFs)	At least 1 large food manufacturer (i.e. Operation area > 750 sq m) Or GFA > 20,000 sq m and > 20 food tenants (i.e. food manufacturers and food caterers)
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Premises where homogenous food waste is segregated for recycling into animal feed may be exempted from the requirement to set aside space for on-site food waste treatment. An exemption request along with the necessary documentations shall be submitted to NEA for verification.

More information on the requirements can be found at: <https://www.nea.gov.sg/media/news/news/index/businesses-required-to-segregate-food-waste-for-treatment-under-new-legislation>

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Section	Previous Requirement (COPEH Edition – Jul 2017)	New/Revised Requirement (COPEH Edition - Jun 2020)	Remarks
1	REFUSE STORAGE AND COLLECTION SYSTEM		
1.3	<p><u>Refuse Chute</u></p> <p>Refuse chutes shall be provided for residential buildings and buildings with residential component taller than four (4) storeys so that occupants need not have to bring their refuse into lifts or walk down the stairs with it. Refuse chutes shall meet the following requirements:</p> <p>(a) The cross-sectional area of the chute shall be at least 0.3 sqm</p>	<p><u>Refuse Chute</u></p> <p>Refuse chutes shall be provided for residential buildings and buildings with residential component taller than four (4) storeys so that occupants need not have to bring their refuse into lifts or walk down the stairs with it. Refuse chutes shall meet the following requirements:</p> <p>a) The refuse chute shall be made of <u>reinforced concrete</u> with cross-sectional area of at least 0.3 sqm.</p> <p><i>[Newly Inserted]</i></p> <p>A refuse chute chamber or room shall be built at the bottom of the refuse chute. As the refuse chambers are smaller than refuse room, a refuse bin point or refuse bin centre with additional storage for the refuse shall be provided within the development. The refuse collection vehicle collects the refuse from the bin point or bin centre. Conversely, refuse rooms are larger than refuse chamber and designed with the full refuse storage capacity, and refuse is collected directly from the refuse rooms by refuse collection vehicle.</p>	<p>To be complied with immediate effect.</p>

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<p>1.4</p>	<p><u>Refuse Chute Chamber (for Premises with Refuse Bin Centre/Bin Point)</u></p> <p>A refuse chute chamber is located at the bottom of a chute and houses a bin. The refuse chute chamber shall be suitably located to facilitate easy and nuisance-free conveyance of refuse. The refuse chute chamber shall meet the following requirements:</p> <p>(a) The design of the refuse chute chamber shall be large enough to house a wheeled refuse bin with cover, which can contain at least one (1) day of refuse output from all the premises connected to the chute. If this is not possible for authorised reasons, the bin shall be cleared more frequently (not more than 3 times per day) as required to prevent excessive piling of refuse within the refuse chamber.</p> <p>(b) The walls shall be lined with tiles or other impervious materials.</p> <p>(c) The floor shall be recessed at least 100 mm below the apron area and graded towards a gully connected to a sewer.</p> <p>(d) The maximum gap between the termination point of the refuse chute and the top of the bulk bin shall be 200 mm.</p>	<p><u>Refuse Chute Chamber</u></p> <p>The refuse chute chamber shall be suitably located to facilitate easy and nuisance-free conveyance of refuse. The refuse chute chamber shall meet the following requirements:</p> <p>(a) The chamber shall be designed to house an SS EN-840 standard wheeled refuse bin which can contain at least one (1) day of refuse output from all the premises connected to the chute. <u>The refuse bin shall have a maximum capacity of 660 litres. In the event where it is not possible to provide storage for one day of refuse output even with the largest 660-litre bin, the refuse in bin shall be cleared more frequently as required to prevent spillage of refuse within the refuse chamber. However, the total daily refuse output from all the premises connected to the chute shall not exceed 1980L.</u></p> <p>(b) The <u>refuse chute chamber's walls</u> shall be lined with tiles or other smooth, impervious materials.</p> <p>(c) The <u>refuse chute chamber's floor</u> shall be recessed at least 100 mm below the apron area and graded towards a gully connected to a sewer.</p> <p>(d) The maximum gap between the termination point of the refuse chute and the top of the <u>refuse bin</u> shall be 200 mm.</p>	<p>To be complied with immediate effect.</p>
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1.5	<p><u>Refuse Room (for Premises without Refuse Bin Centre/Bin Point)</u></p> <p>A refuse room is located at the bottom of a chute and houses a mechanical refuse handling equipment, e.g. a dust-screw or any other enclosed fixed system. Refuse collected in the refuse handling equipment is conveyed directly into a refuse collection vehicle, which backs up into the refuse room. The refuse room shall meet the following requirements:</p> <p>(a) The refuse room shall be large enough to accommodate two (2) days of refuse output from all the premises connected to or served by the chute.</p> <p>(b) The access to the refuse room shall be such that a refuse collection vehicle can make a three-point turn within the premises to back up into the entrance of the refuse room. To allow the ease of access, the bin centre floor level shall be at the same level as the vehicular access road. The reverse distance by refuse collection vehicles shall be minimised. A setback distance of at least 13 m shall be provided to ensure that the bin centre is accessible to refuse collection vehicles. The swept path of a refuse truck from the service road to refuse room shall meet the minimum required turning radius of 9 m (or 4 m if the access road is equal or larger than 5 m in width) and also be free of obstructions.</p> <p>(c) The walls shall be lined with tiles or other impervious materials.</p>	<p><u>Refuse Room</u></p> <p>The refuse room shall house a <u>mechanical refuse handling equipment</u>, e.g. a dust-screw or any other enclosed fixed system. Refuse collected in the refuse handling equipment is conveyed directly into a refuse collection vehicle, which backs up into the refuse room. The refuse room shall meet the following requirements:</p> <p>(a) The refuse room shall be large enough to accommodate two (2) days of refuse output from all the premises connected to the refuse chute.</p> <p>(b) <u>The vehicular service road to the refuse room shall be free from obstruction and such that the refuse collection vehicle can make a three-point turn within the premises to back up into the refuse room. To facilitate this, the refuse room floor and vehicular service road shall be of the same level with a setback distance of at least 13 m in front of the refuse room. The swept path of the refuse collection vehicle shall meet the minimum required turning radius of 9m and the distance required to reverse into the refuse room shall also be minimised.</u></p> <p>(c) The <u>refuse room's</u> walls shall be lined with <u>smooth tiles</u> or other smooth impervious materials.</p>	<p>To be complied with immediate effect.</p>
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1.6	<p>(d) The floor shall be graded towards a gully/floor trap connected to sewer.</p> <p>(e) A water tap shall be provided in accordance with the latest Public Utilities (Water Supply) Regulations and Singapore Standard CP 48. The standards and requirements for water taps stipulated by PUB can be found at PUB's website at www.pub.gov.sg. The water tap shall be securely locked to prevent unauthorised use.</p> <p><u>Refuse Bin Point and Refuse Bin Centre</u></p> <p>For premises adopting the Refuse Chute Chamber system, a bin centre shall be provided when the amount of refuse output exceeds 1,000 litres/day. The bin centre shall meet the following requirements:</p>	<p>(d) The <u>refuse room's</u> floor shall be graded towards a gully/floor trap connected to the sewer.</p> <p>(e) A water tap shall be provided in accordance with the latest Public Utilities (Water Supply) Regulations and <u>Singapore Standard 636: Code of Practice for Water Services</u>. The water tap shall be securely locked to prevent unauthorised use.</p> <p><i>[Newly Inserted]</i></p> <p>(g) The refuse room shall be provided with a roller shutter door with a clear width of 3.4m and clear height of 4m.</p> <p><u>Refuse Bin Point and Refuse Bin Centre</u></p> <p>Developments not adopting the Refuse Room system i.e. those with or without refuse chambers shall be provided with either a bin point or a bin centre within the premises. Refuse collections shall be carried out only from within the premises. A bin centre shall be provided if refuse output exceeds 1,000 litres/day.</p> <p>For developments adopting the Refuse Chute Chamber system, the combined refuse storage capacity of the bin centre or bin point and the refuse chute chambers shall be sufficient for at least two (2) days of refuse output of the development. For developments without refuse chute chambers, the bin centre or bin point capacity shall be sufficient for at least two (2) days of refuse output of the development.</p>	<p>To be complied with immediate effect</p>
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	<p>(b) The refuse storage capacity in the bin centre and the refuse chute chambers shall cater for a total of two (2) days of refuse output from the proposed development. The bin centre shall be designed for SS-EN 840 standard wheeled bins access from within the development. If refuse bins are being used for the development, sufficient space shall be provided for washing and manoeuvring of refuse bins within the bin centre.</p> <p>(c) The walls shall be lined with tiles or other impervious materials.</p> <p>(d) The floor shall be graded towards a gully/floor-trap connected to sewer.</p> <p>(e) A roof with no gutters shall be provided. The roof shall have adequate gradient to avoid the stagnation of water and prevent mosquito breeding.</p> <p>(g) The entrance and ventilation openings of the bin centre shall face away from any residential premises in the vicinity. Aesthetic screening shall be provided where practical, so as not to cause nuisance to neighbouring premises.</p>	<p>The bin centre shall meet the following requirements:</p> <p>(b) <u>The bin centre shall be designed for access of SS EN-840 standard wheeled bins from within the development. Sufficient space shall be provided for washing and manoeuvring of refuse bins within the bin centre.</u></p> <p>(c) The <u>bin centre's walls</u> shall be lined with <u>smooth</u> tiles or other <u>smooth</u>, impervious materials.</p> <p>(d) The <u>bin centre's floor</u> shall be graded towards a gully/floor-trap connected to the sewer.</p> <p>(e) <u>The bin centre shall be provided with a roof with no gutters.</u> The roof shall have an adequate gradient to prevent water stagnation and mosquito breeding.</p> <p>(g) The <u>bin centre's</u> entrance and ventilation openings shall face away from any residential premises in the vicinity. Aesthetic</p>	
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	<p>(h) An access walkway of at least 1m clear width shall be provided within the bin centre.</p> <p>(i) Where the daily refuse output of the premises is less than 4,000 litres, the area of the bin centre shall be large enough to store the required number of wheeled refuse bins for two (2) days refuse output in 1.6 (b).</p> <p>(j)</p> <p>iii. A setback distance of at least 13 m shall be provided to ensure that the bin centre is accessible to refuse collection vehicles. The swept path of a refuse truck from the main or service road to bin centre shall meet the minimum required turning radius of 9 m (or 4 m if the access road is equal or larger than 5 m in width) and also be free of obstructions</p> <p>iv. The bin centre floor level shall be at the same level as the vehicular access road</p>	<p>screening shall be provided where practical, so as not to cause a nuisance to neighbouring premises.</p> <p>(h) An access walkway of at least 1m clear width <u>around all items</u> in the bin centre shall be provided.</p> <p>(i) <u>Where the daily refuse output of the premises is less than 4,000 litres, SS EN-840 wheeled bins can be used for storage of refuse in the bin centre.</u></p> <p>(j)</p> <p>iii. A setback distance of at least 13 m shall be provided to ensure that the bin centre is accessible to <u>refuse collection vehicles</u>. The swept path of a refuse collection vehicle from the main or service road to the bin centre shall meet the minimum required turning radius of 9m and also be free of obstructions.</p> <p>iv. The bin centre floor level shall be at the same level as the vehicular access road and <u>the RORO compactor/container shall be resting on the bin centre floor.</u></p>	
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1.7	<p>(k) Where the daily refuse is less than 1,000 litres and a bin point is required, washing and tap point is not required and the bin point need not be connected to the sewerage system. The bin point shall also be sited so as not to cause nuisance and unsightliness to neighbouring premises.</p> <p><u>Pneumatic Refuse Conveyance System</u></p> <p>(a) For refuse chute which are square, the cross-sectional area of the chute shall be not less 0.3 sq m. For refuse chute which are round, the minimum internal diameter of the chute should not be less than the diameter of 600mm</p>	<p><i>[Newly Inserted]</i></p> <p>vii. When there are more than 1 RORO compactor/container in the bin centre, the minimum separation between the adjacent compactor/containers shall be 0.5m.</p> <p>viii. The orientation of RORO compactor/container's tail gate shall face the inside of the bin centre.</p> <p>ix. Floor markings shall be provided in front of the entrance of the bin centre to guide the refuse collection vehicle when reversing during operation.</p> <p><i>[Removed (k) and replaced following paragraph]</i></p> <p>Where a bin point is provided, washing points and water taps are not required and the bin point need not be connected to the sewer. The bin point shall have a pleasant architectural appearance and be sited so as not to cause a nuisance to neighbouring premises.</p> <p><u>Pneumatic Waste Conveyance System (PWCS)</u></p> <p>(a) For refuse chute which are square, the cross-sectional area of the chute shall be not less 0.3 sq m. For refuse chute which are round, the minimum internal diameter of the chute should not</p>	<p>To be complied with immediate effect</p>
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		<p>be less than the diameter of 600mm. <u>The refuse chute shall be made of reinforced concrete material.</u></p> <p><i>[Newly Inserted]</i></p> <p>(n) The design of the PWCS shall comply with the latest Singapore Standard SS 642: Code of Practice for Pneumatic Waste Conveyance System.</p> <p><i>[Newly Inserted]</i></p> <p><u>1.8 Mandatory Waste Reporting Scheme</u></p> <p>Developments required to report their waste data may make their own provisions to weigh their refuse by installing in-house weighing systems e.g. by fitting their dust drum system with load cells and weighing system. Alternatively, they may engage the services of general waste collectors who may provide weighing records from on-board truck weighing systems or weighbridge records from incineration plants.</p> <p><i>[Newly Inserted]</i></p> <p><u>1.9 Location of Grease Trap</u></p> <p>(a) Grease trap shall be installed and sited at suitable location that allows for easy access to facilitate maintenance, not give rise to public health, noise and hygiene problems during operation and maintenance, and be accessible for the transfer of greasy waste directly into Class C waste collection trucks without double transfers. Road access and vehicle parking shall be made available within the development for the Class C waste collection trucks so that the collection trucks are not more than</p>	
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		<p>10m away from the grease traps to facilitate suction of the greasy waste into the trucks' waste collection tanks.</p> <p>(b) For food shop located in development with no internal access roads, the grease traps shall be located close to external road access with vehicle parking for the temporary stationing of Class C waste collection trucks not more than 10m away from the grease traps.</p> <p>(c) Where portable greasy trap is permitted and installed within the food shop, road access and vehicle parking shall be made available for the Class C waste collection trucks to be not more than 10m away from the building in which the food shop is located</p> <p><i>[Newly Inserted]</i></p> <p><u>1.10 On-Site Food Waste Treatment System</u></p> <p>All new commercial and industrial premises that meet the thresholds stated in the table below are required to allocate space for on-site food waste treatment system. The requirements shall apply to new development applications submitted to URA from 1 January 2021 onwards. Applicants shall provide a copy of URA's Provisional Permission in their DC application to NEA.</p>	<p>Applies to URA PP submission after 1st Jan 2021</p>
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Types of premises		Thresholds (Gross Floor Area)
Commercial	Shopping Malls	F&B Area > 3,000 sq m
	Hotels	Function + F&B Area >3,000 sq m
Industrial	Single User Factories (SUFs)	Large food manufacturers ¹ (i.e. Operation area > 750 sq m) <i>Premises which are solely used for specific trade activities² can be excluded from the requirement. An exemption request along with the necessary documents shall be submitted to NEA for checks. Elaboration shall also be provided to support their request when required by NEA.</i>
	Multi-User Factories (MUFs)	At least 1 large food manufacturer (i.e. Operation area > 750 sq m) Or GFA > 20,000 sq m and > 20 food tenants (i.e. food manufacturers and food caterers)
Building plans of all affected premises shall be submitted. The plans shall clearly demarcate the allocated area for on-site food waste treatment system.		

¹ As licensed under Singapore Food Agency's Licence to operate a food processing establishment

² Manufacturer of spices, dried foodstuffs, additives, bottled water, high pressure processing

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		<p>Premises where homogenous food waste is segregated for recycling into animal feed may be exempted from the requirement to set aside space for on-site food waste treatment. An exemption request along with the necessary documentations shall be submitted to NEA for verification.</p> <p style="text-align: center;">The space set aside for on-site food waste treatment meet the following requirements:</p> <ul style="list-style-type: none"> (a) The space shall be sited in the building or within the premises on which the building is situated. Possible areas include the refuse bin centre or a dedicated food waste treatment room. (b) The size and layout of the space set aside shall be designed to support the implementation of the on-site food waste treatment system including: <ul style="list-style-type: none"> i. Minimum space required for the on-site system, including space for service and maintenance works of the treatment system and access of SS EN-840 standard wheel bins is 25m² (i.e. 5.0m by 5.0m). ii. The space shall have a minimum height clearance of 3.5m. iii. Provisions shall be made for the effluent from the food waste treatment system to be discharged into the sewer through a grease trap. (c) Where the space is located within the Refuse Bin Centre, the space set aside shall comply fully with requirements outlined in Section 1.6. 	
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		<p>(d) Where a dedicated food waste treatment room is provided, the following additional design requirements shall apply:</p> <p>i. The floor shall be graded towards a gully connected to the sewer.</p> <p>ii. The room shall be adequately ventilated and rendered pest proof against birds, rodents and insects.</p> <p>iii. The room shall not pose any pest or odour nuisance or pollution concerns to occupants, neighbouring premises and public.</p> <p>iv. Additional space for washing point to wash refuse bins. The water tap provided for washing shall be in accordance with the latest Public Utilities (Water Supply) Regulations and Singapore Standard 636: Code of Practice for Water Service</p> <p>v. The entrance and ventilation openings/exhaust discharge shall face away and be aesthetically screened from any neighbouring premises in the vicinity.</p>	
11	<p>STORAGE AND COLLECTION SYSTEM FOR RECYCABLES AT STRATA-TITLED PROPERTIES WITH RESIDENTIAL UNITS</p>		
11.4	<p><u>Recyclables Chute System</u></p> <p>(a) A recyclable chute shall be provided next to every refuse chute in the premises. The recyclables chute shall comply with the same requirements for refuse chutes stated in section 1.3.</p>	<p>(a) A recyclables chute shall be provided next to every refuse chute in the premises. The recyclables chute shall comply with the same requirements for refuse chutes stated in section 1.3. <u>A signage shall be provided above the recyclables chute hopper to</u></p>	<p>To be complied with immediate effect.</p>

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		<u>inform users of suitable recyclables to be disposed into the chute.</u> <u>An example of the signage is shown in Appendix 1C.</u>	
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