National Environment Agency
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NOTIFICATION OF NEW EDITION OF CODE OF PRACTICE ON ENVIRONMENTAL HEALTH (2021 EDITION)

Reference: NEA/EP/PDD/05-00075
Date : 1 September 2021

CIRCULAR TO PROFESSIONAL INSTITUTIONS

Who should know
Developers, Architects, Engineers

Dear Sir/Madam,

We would like to notify all Qualified Persons (QPs) that a new 2021 Edition of the Code of Practice on Environment Health (COPEH) has been released.

2. **Table 1** shows the amendments to the COPEH sections.

Table 1: COPEH Sections

Removed / Amended / New	Previous Section no.	Name of Previous Section	Current Section no.	Name of Current Section	Amendments
Amended	1	Refuse Storage and Collection System	1	Refuse Storage and Collection System	Amendments to sub-section 1.10
Amended	2	Public Toilet	2	Public Toilet	Updated existing requirements to enhance public health resilience
Amended	3	Food Retail Outlet	3	Ventilation, Ducting and Kitchen Exhaust Systems in Food Shop	Revised sub-section 3.2.11 into a section
Removed	4	Supermarket	–	–	–
Removed	5	Food Catering Outlet	–	–	–
Removed	6	Market	–	–	–
Amended	7	Swimming Pool	5	Aquatic Facility	Include requirements for multi-use spa pools and water playgrounds (including interactive water fountains) and amendments to the current requirements for swimming pools
Removed	8	Dormitory	–	–	–
Amended	9	Anti-Mosquito Breeding	7	Anti-Mosquito Breeding	Amendment to include a note on waiver requests
Removed	10	Premises with Cattle	–	–	–

Removed / Amended / New	Previous Section no.	Name of Previous Section	Current Section no.	Name of Current Section	Amendments
Amended	11	Storage and Collection System for Recyclables	6	Storage and Collection System for Recyclables	Amendment to sub-section 6.3 (formerly known as sub-section 11.3) on Designated Recycling Points for Recycling Receptacles
New	–	–	4	Cooling Tower	Design requirements on siting of cooling tower transferred from the Code of Practice for The Control of *Legionella* Bacteria in Cooling Towers

3. **Table 2** shows the amendments to the COPEH appendices.

Table 2: COPEH Appendices

Removed / Amended / No change/ New	Previous Appendix no.	Name of Previous Appendix	Current Appendix no.	Name of Current Appendix	Amendments
No change	1	Example of Layout of Bin Centre	1	Example of Layout of Bin Centre	–
Amended	2	Provision of Sanitary Facilities	2	Provision of Sanitary Facilities	Update on categories of places
Removed	3	Mist Generating System and Fan	–	–	–
Removed	4	Plumbing Details for Market	–	–	–
No change	5	Details of Deck Level Channel	3	Details of Deck Level Channel	–
Removed	6	Suggested Guidelines on Safety Features in Pool Design and Landscaping	–	–	–
Amended	7	Glossary of Terms	5	Glossary of Terms	Aligned with latest PUB Water Efficiency Standards for flush valve
New	–	–	4	Example of 5 m Setback Measurement of a Cooling Tower	–
Removed	Drawing 1	Layout Of Drainlines For Market	–	–	–

4. The above-mentioned amendments in paragraphs 2 and 3 will take effect on 1 September 2021, except for Sections 2 and 5 which will take effect on 1 March 2022.

5. The new COPEH (2021 Edition) can be downloaded from NEA website at https://www.nea.gov.sg/corporate-functions/resources/practices-and-guidelines/guidelines/practices.

6. Please note that it is the responsibility of the QPs to design the developments to meet the above COPEH.

7. Should you require further clarification on the matter, please let us know through the feedback form available on the NEA website at http://www.nea.gov.sg/feedback, myENV (http://www.nea.gov.sg/myenv) or OneService mobile applications.

Thank you.

Sincerely,

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Annex 1 – FAQs for COPEH Amendments

General

1. **Do building plans submitted at development control stage need to comply with the new/revised requirements of COPEH 2021?**

   The amendments for Sections 2 and 5 of COPEH 2021 will take effect for building plans submitted from 1 March 2022 onwards. A period of 6 months is catered for readiness of industry. The amendments for Sections 1, 3, 4, 6 and 7 will take effect immediately from 1 September 2021 as these are existing requirements amended for better clarity.

Section 1.10: On-site Food Waste Treatment System

2. **Do non-mandated premises (i.e. premises that do not meet the thresholds stipulated by the Resource Sustainability Act) need to comply with the minimum space requirement of 25 m^2 stated in Section 1.10 (b)(i)?**

   The typical space required for the installation and operation of an on-site food waste treatment system of 1 tonne capacity is 25 m^2. For non-mandated premises, the space requirement may be lower than 25 m^2 depending on the system capacity. QPs shall work with suppliers of on-site food waste treatment systems to determine the space required for the system, including space for service and maintenance works of the treatment system and access of SS EN-840 standard wheel bins.

3. **What is the minimum height clearance for the allocated space of the on-site food waste treatment system?**

   The typical height clearance catered for on-site food waste treatment system with bin lifter system is 3.5 m. QPs shall work with suppliers of on-site food waste treatment system during design phase to ensure that sufficient height clearance for bin lifter has been catered for, if required.

Section 3: Ventilation, Ducting and Kitchen Exhaust Systems for Food Shops

4. **Do QPs need to comply with "Operations Requirements" and "Other Requirements and Guidelines" at building plan stage?**

   The information on operations requirements are usually only available during pre-licensing stage and not during building plan stage, and hence, these requirements are not required to be complied with at building plan stage. Other requirements and guidelines are for QPs' reference only.

Section 4: Cooling Tower

5. **Since siting requirements for cooling towers are in COPEH now, what will happen to the Code of Practice for Control of *Legionella* in Cooling Towers ("COP") and does QP still need to comply with it for cooling towers at building plan stage?**

   The Code of Practice for The Control of *Legionella* Bacteria In Cooling Towers ("COP"), covers cooling tower design, servicing, maintenance, monitoring of cooling system and workers' safety during servicing and maintenance. The design components in COP (siting requirements) is transferred to COPEH under a new Section – Cooling Tower. The operational content of COP will be published as best practices guideline and the COP will be retired.

Section 5: Aquatic Facility

6. Why is NEA including design requirements for water playgrounds (including interactive water fountains) and multi-use spa pools?

Water playgrounds (including interactive water fountains) and multi-use spa pools are gaining popularity locally and in the interest of public health, NEA has decided to license these facilities and at the same time, implement design requirements for QPs to comply with.

7. Where can I find a copy of the Singapore Standard SS 556: Code of Practice for the Design and Management of Aquatic Facilities?

The SS 556 can be bought at https://www.singaporestandardseshop.sg.

8. How is the number of inlets required for swimming pools determined?

The requirement was adapted after literature reviews of various countries' standards and consultation with local aquatic facilities designers and industry-related associations were conducted.

9. Why are automated chemical feeders required?

Automated chemical feeders are required to ensure adequate disinfection of aquatic facilities at all times.

Annex 2 – Key COPEH Amendments

Section 1: Refuse Storage and Collection System

<table>
<tr><th>New subsection</th><th>Previous Requirement (COPEH edition – June 2020)</th><th>New/Revised Requirement (COPEH edition – September 2021)</th></tr>
<tr><td>1.10</td><td>On-Site Food Waste Treatment System</td><td>On-Site Food Waste Treatment System</td></tr>
<tr><td></td><td>
<table>
<tr><th colspan="2">Types of premises</th><th>Thresholds (Gross Floor Area)</th></tr>
<tr><td rowspan="2">Commercial</td><td>Shopping Malls</td><td>F&B Area > 3,000 sq m</td></tr>
<tr><td>Hotels</td><td>Function + F&B Area > 3,000 sq m</td></tr>
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</table>
<u>[1]Gross floor area set aside for supermarkets located in shopping malls will count towards the computation of F&B area of said shopping malls</u>.
</td></tr>
<tr><td></td><td>(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:
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.</td><td>(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:

i. <u>For mandated premises (i.e. premises that meet the respective thresholds stipulated in the Resource Sustainability Act),</u> the 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 25 m^2 <u>(e.g. 5.0 m by 5.0 m for a square space</u>). <u>For all other premises, the space to be set aside will depend on the specific on-site system to be installed.</u>

ii. <u>If a bin lifter system is employed, there shall be sufficient height clearance to enable the bin lifter to handle the bin properly.</u></td></tr>
</table>

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	–	(d) Provisions shall be made for the effluent (if any) from the food waste treatment system to be discharged into the sewer through a grease trap.

Section 2: Public Toilet

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
2.1	**Objective** The public toilets shall be designed to withstand heavy usage. Ventilation is therefore important. The design shall also take into consideration ease of maintenance and should facilitate proper toilet use and personal toilet hygiene. There shall be adequate provision of toilet facilities for premises provided with public toilet.	**Objective** The public toilets shall be designed to withstand heavy usage. Ventilation is therefore important. The design shall also take into consideration ease of maintenance and should facilitate proper toilet use and personal toilet hygiene. There shall be adequate provision of toilet facilities for premises provided with public toilet. Owners/occupiers should ensure that sanitary and water fittings, amenities and ventilation systems are adequately maintained.
2.2	**Definition of Public Toilet**	**Definition of Public Toilet**
2.2.1	A public toilet is defined as a toilet within premises which the general public has free access, regardless of payment/ non-payment to access the premises. The general public is free to access the public toilet without having to be a resident, student, staff, member or a guest, or a regular client. Toilets in the following places are classified as public toilets: shopping mall or centre, including the floor in commercial buildings with shops; supermarket and wet market; eating establishment and food centre (restaurant, coffeeshop, hawker centre food court)/ bar/ nightclub/ discotheque/ pub;	A public toilet is defined as a toilet within premises which the general public has free access, regardless of payment/ non-payment to access the premises. The general public is free to access the public toilet without having to be a resident, student, staff, member or a guest, or a regular client. Toilets in the following places are classified as public toilets: shopping mall or centre, including the floor in commercial buildings with shops; supermarket and wet market; eating establishment and food centre (restaurant, coffeeshop, hawker centre, food court)/ bar/ nightclub/ discotheque/ pub; conference hall/ cinema/ theatre/ convention hall/ exhibition hall;

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	conference hall/ cinema/ theatre/ convention hall/ exhibition hall; park; bus terminal/ interchange; petrol station; community centre/ community clubs; MRT station; stadium; public swimming pool. Although toilets within premises which the general public does not have free access (e.g. condominiums, terraced workshops, places of worship, etc) are not covered under this code of practice, QPs are encouraged to adopt the guidelines stipulated here.	park, park connector; bus terminal/ interchange; petrol station; MRT station; stadium; and public swimming pool. QPs are also encouraged to adopt the guidelines stipulated within, for toilets within premises without free access to the general public (e.g. condominiums, terraced workshops, places of worship, etc.).
2.3	**General Design Criteria**	**General Design Criteria**
	(c) The toilet's main entrance shall preferably have no door, and the cubicles, urinals and mirrors shall be away from the line of sight from the main entrance.	(c) The toilet's main entrance shall preferably have no door and with a labyrinth entrance, and the cubicles, urinals and mirrors shall be away from the line of sight from the main entrance. Toilets with sufficient space that are unable to incorporate labyrinth entrances are recommended to install hands-free or sensor-operated doors.
	(d) The minimum lighting level shall be 300 lux to ensure that areas with water closets, wash basins and urinals are sufficiently illuminated.	(d) The minimum lighting level shall be 300 lux to ensure that areas with water closets, wash basins and urinals are sufficiently illuminated. QPs should incorporate the usage of natural lighting where feasible, e.g. outdoor venues, top floor of buildings with open concept, etc.
	–	(g) Design symmetrical layout concept for toilet, where space is available, so as to reduce disruption to toilet usage during cleaning maintenance e.g. allow half of the toilet to be closed for maintenance while keeping the other half open for use.

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
2.4	**Sanitary and Water Fittings Required in Public Toilet** Sanitary and water appliances and fittings installed in public toilets shall be of heavy-duty classification and quality and shall be easily cleaned. Water fittings shall comply with the relevant standards and requirements stipulated by PUB and their installation shall be in accordance with the latest Public Utilities (Water Supply) Regulations and Singapore Standard CP 48 – Code of Practice for Water Services. For water fittings, appliances and products covered under PUB's Mandatory Water Efficiency Labelling Scheme, only fittings, appliances and products registered under the Scheme shall be installed. The standards and requirements for water fittings stipulated by PUB and fittings, appliances and products registered under PUB's Mandatory Water Efficiency Labelling Scheme can be found at PUB's website at www.pub.gov.sg. Where sanitary and water provisions are to be made for person with disabilities, such provisions shall be in accordance with the requirements stipulated in BCA's "Code on Barrier-Free Accessibility in Buildings". A glossary of the terms used in this section is given in Appendix 8.	**Sanitary and Water Fittings Required in Public Toilet** Sanitary and water appliances and fittings installed in public toilets shall be of heavy-duty classification and quality and shall be easily cleaned. Water fittings shall comply with the relevant standards and requirements stipulated under the latest PUB S&R*, and their installation shall be in accordance with the latest Public Utilities (Water Supply) Regulations and Singapore Standard 636 – Code of Practice for Water Services. For water fittings and appliances covered under PUB's Mandatory Water Efficiency Labelling Scheme (MWELS), only models which are registered under the Scheme shall be installed. The PUB S&R and list of registered MWELS products can be found in PUB's website at www.pub.gov.sg. This includes the amount of water per flush in urinals and water closets, waterless urinals, flow rate for self-closing delayed-action sensor type taps etc. Where sanitary and water provisions are to be made for persons with disabilities and families with young children, such provisions shall be in accordance with the requirements stipulated in BCA's "Code on Accessibility in the Built Environment". Sanitary facilities for premises are to be provided in accordance with the requirements stipulated in **Appendix 2**. These facilities provided are over and above the BCA's requirements with regard to the provisions of accessible toilet, family toilet, child-friendly toilet and child-friendly wash basin. A glossary of the terms used in this section is given in **Appendix 5**. *PUB's Stipulation of Standards & Requirements for Water Fittings for Use in Potable Water Service Installations.
2.4.1	Number of sanitary fittings The number of public toilets and sanitary fittings to be provided in buildings accessible to the general public is	Number of sanitary fittings (a) The number of public toilets and sanitary fittings to be provided in buildings accessible to the general public is given in

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	given in Appendix 2. The numbers of facilities provided are minimum requirements and QPs should design the toilets to ensure sufficient facilities are provided based on the highest expected toilet use.	**Appendix 2**. The numbers of facilities provided are minimum requirements and QPs should design the toilets to ensure sufficient facilities are provided based on the expected toilet use during peak hours. (b) Owners/occupiers should also provide sufficient sanitary facilities based on anticipated usage, for toilets that fall out of the categories of places mentioned in **Appendix 2**. (c) Where there are public toilets within the building where a food shop is located, the provision of a toilet within the food shop is not necessary. Otherwise, the number of toilets and sanitary fittings provided shall be in accordance with the requirements in **Section 2** and **Appendix 2**.
2.4.2	<u>Water closets</u>	<u>Water closets</u>
	(b) The cubicle, where a squatting WC pan is provided, should be kerbed such that water will not flow out of the boundary of the cubicle. The cubicle floor shall be properly graded towards the gully trap within the cubicle.	-
	(c) Each water closet shall be fitted with a sensor-operated flush valve and coupled with manual by-pass and manual override.	(b) Each water closet shall be fitted with a sensor-operated flush valve and coupled with manual by-pass and manual override.
	(d) For volume of water per flush in urinals and water closets, please refer to the latest Public Utilities (Water Supply) Regulations and Singapore Standard CP 48 – Code of Practice for Water Services.	-
	(e) A water tap point with spring loaded nozzle shall be provided within one cubicle of the toilet.	(c) A water closet with a bidet fixture shall be provided within at least one cubicle of the toilet.

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	(f) Where water tap points with spring loaded nozzle are provided, they shall be installed with a check-valve and an anti-vacuum valve to prevent backflow. (g) For cubicles where water tap points with spring loaded nozzle are provided, the cubicle floor shall be properly graded towards the gully trap within the cubicle. Scupper drains with metal grating shall preferably be installed within the cubicle to facilitate the draining off of water. For such cubicles, there shall be signage on the cubicle door indicating the provision of the water tap point with spring loaded nozzle. Signage is not required for toilets where all cubicles are provided with the water tap point with spring loaded nozzle. .	(d) For cubicles where water closets with bidet fixtures or water tap points with spring loaded nozzle are provided, the cubicle floor shall be properly graded towards the gully/floor trap within the cubicle. Scupper drains with metal grating shall preferably be installed within the cubicle to facilitate the draining off of water. For such cubicles, there shall be signage on the cubicle door indicating the provision of the water closet with a bidet fixture. Signage is not required for toilets where all cubicles are provided with the water closet with a bidet fixture.
2.4.3	<u>Urinals</u>	<u>Urinals</u>
	(b) Where a waterless urinal is installed, it shall be maintained in accordance with manufacturer's instructions and not cause any odour nuisance. Only waterless urinals registered under PUB's Mandatory Water Efficiency Labelling Scheme shall be installed.	(b) Where a waterless urinal is installed, it shall be maintained in accordance with manufacturer's instructions and not cause any odour nuisance.
	(d) Handrails or grab bars shall be provided for at least one urinal.	–
	(e) Individually wall-hung urinal units shall be at least 300 mm wide and the lip of the collection area shall project from the wall by at least 300 mm.	(d) Individually wall-hung full length urinal units shall be installed to facilitate use for different users and to reduce urine drip onto floors. It shall be at least 300 mm wide and the lip of the collection area shall project from the wall by at least 300 mm.
2.4.4	<u>Wash hand basins and taps</u>	<u>Wash hand basins and taps</u>

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	(a) Wash-hand basins shall be installed such that there is sufficient gradient to allow dirty and debris to be effectively washed into the drain pipes.	(a) Wash hand basins shall be installed such that there is sufficient gradient to allow dirty and debris to be effectively washed into the drain pipes. Flat-bottomed basins should not be installed.
	(b) Wash hand basins shall be under-counter. Other designs are allowed provided that they can minimise the problem of water spilling over from the basin to the counter. For basins that sit on top of the counter or are stand-alone, these shall be deep enough to prevent water splashing out of the basins when in use.	(b) Wash hand basins shall be under-counter. Other designs are allowed, provided that they can minimise the problem of water spilling over from the basin to the counter. For basins that sit on top of the counter or are stand-alone, these shall be deep enough to prevent water splashing out of the basins when in use. The water discharge point from the wash hand basin tap shall also be of a sufficient height above the bottom of the wash hand basin to prevent contact of hands with the basin.
	(c) All wash hand basin taps shall be sensor taps with self-closing delayed action feature, except for one which shall be self-closing delayed-action mechanical or battery-operated sensor type tap, installed per toilet block to ensure that one tap remains functional during power supply outage. For toilet block provided with only one wash hand basin, only self-closing delayed-action mechanical or battery-operated sensor type tap shall be installed. To support water conservation, the flow rate for the self-closing delayed-action mechanical or sensor type taps at these basins shall be set at 2 litres/minute. Please refer to the Public Utilities (Water Supply) Regulations and the Singapore Standard CP 48 – Code of Practice for Water Services for requirements on timings and allowable flowrates for taps. Public toilet shall be located at common area should be included.	(c) All wash hand basin taps shall be sensor taps with self-closing delayed-action feature with flow rate of 2 litres/min (with tolerance of ±0.2 litre/min) and a fixed pre-set flow timing of 60 seconds (with tolerance of ±5 seconds) and water supply shall be automatically cut-off when hands are moved away from beneath the tap, whichever is earlier. To ensure that one tap remains functional during power supply outage, one tap per toilet block shall be a battery-operated or chargeable battery-operated sensor type tap. For toilet block provided with only one wash hand basin tap, only a self-closing delayed-action mechanical type tap shall be installed. (d) Wash hand basins should also be provided for public toilets located at common areas.

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	(d) Wash hand basins provided in accessible individual washrooms as prescribed in BCA's "Code on Accessibility in the Built Environment" hall have either self-closing delayed-action sensory type taps or long lever handle taps. For accessible toilets where the wash basin designated for persons with disabilities is grouped together with wash basins for general use, the wash basin designated for persons with disabilities shall only have self-closing delayed-action sensor type taps.	–
	(f) Where there is more than one wash hand basin provided, at least one shall be installed at a level to accommodate use by children.	–
2.5	**Amenities to Be Provided**	**Amenities to Be Provided**
(a)	Liquid soap or foam soap dispenser One soap dispenser shall be provided for every two count of wash hand basins, subject to a minimum of one. The dispenser shall be positioned at least between every two wash hand basins. The dispenser shall have a transparent window so that the level of soap in the dispenser is clearly visible.	Liquid soap or foam soap dispenser One soap dispenser shall be provided for every two count of wash hand basins, subject to a minimum of one. The dispenser shall be positioned directly above and at least between every two wash hand basins. The dispenser shall have a transparent window so that the level of soap in the dispenser is clearly visible. The soap dispenser shall be filled with liquid or foam soap at all times.
(b)	Hand-dryer blower or paper towel dispenser One electronic hand-dryer or paper towel dispenser shall be provided for every two count of wash hand basins, subject to a minimum of one. The electronic hand-dryers shall be positioned immediately next to the wash hand basins where practical. Where paper towel dispensers are provided, they shall be positioned directly above and at least between every two wash hand basins.	Hand-dryer blower or paper towel dispenser One electronic hand-dryer or paper towel dispenser shall be provided for every two count of wash hand basins, subject to a minimum of one. The electronic hand-dryers shall be positioned immediately next to the wash hand basins where practical, and located away from toilet cubicles. Where paper towel dispensers are provided, they shall be positioned directly above and at least between every two wash hand basins. Paper towel dispensers are

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
		recommended in toilets frequented by immuno-deficient persons and where infection control is critical.
(c)	Litterbins A minimum of one litterbin shall be provided directly below or in close proximity to the wash hand basins. A sanitary bin for the disposal of sanitary pads shall be provided in each WC cubicle in the female and unisex toilets. Bins shall be operated without hand contact e.g. foot pedal or electronic motion sensor devices.	Litterbins A minimum of one litterbin shall be provided directly below or in close proximity to the wash hand basins. A separate sanitary bin for the disposal of sanitary pads shall be provided in each WC cubicle in the female and unisex toilets. Bins shall always be covered and operated without hand contact e.g. foot pedal or electronic motion sensor devices.
2.6	**Ventilation** (a) The toilet shall well-ventilated by natural or mechanical means to remove odours and to keep floors dry. Where mechanical means are used, the air exchange rate shall have a minimum of 15 air changes per hour. Service access ducts, if fully enclosed, shall be connected to the mechanical ventilation system. For natural ventilation, suitable fresh air inlet grilles shall be provided to ensure an air exchange rate of 5 air changes per hour. (b) The exhaust system shall dispel the air directly outdoors without causing any nuisance to neighbouring premises. Note: While this Code stipulates the minimum basic design criteria, QPs are encouraged to refer to the publication <A Guide to Better Public Toilet Design and Maintenance> for further reference on good examples of toilet design.	**Ventilation** (a) The toilet shall be well-ventilated by natural or mechanical means to remove odours and to keep floors dry. Where mechanical means are used (i.e. extractor/exhaust fan), the air exchange rate shall have a minimum of 20 air changes per hour. Service access ducts, if fully enclosed, shall be connected to the mechanical ventilation system. Ventilation for toilets with natural ventilation shall be provided by means of one or more openable windows or other openings with an aggregate area of not less than 5% of the floor area of the toilet. (b) The exhaust system shall dispel the air directly outdoors without causing any nuisance to neighbouring premises. Note: While this Code stipulates the minimum basic design criteria, QPs are encouraged to refer to Restroom Association (Singapore)'s publication <A Guide to Better Public Toilet Design and Maintenance> for further reference on good examples of toilet design.
Appendix 2	**Provision of Sanitary Facilities**	**Provision of Sanitary Facilities**

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	Sanitary facilities shall be provided in accordance with the requirements listed below. The floor area for Category (1) to (3) refers to the gross floor area.	(a) Sanitary facilities shall be provided in accordance with the requirements listed below. The numbers stated are meant for concurrent usage. Note: These facilities are over and above the provisions of accessible toilet, family toilet, child-friendly toilet and child-friendly wash basin as stipulated in BCA's Code on Accessibility in the Built Environment. (b) Owners/occupiers should provide sufficient sanitary facilities based on anticipated demand and usage, for toilets that fall out of the categories of places mentioned in **Appendix 2.** (c) Where there are public toilets within the building where a food shop is located, the provision of a toilet within the food shop is not necessary. Otherwise, the number of toilets and sanitary fittings provided shall be in accordance with the requirements in **Section 2** and **Appendix 2**. (d) The floor area for Category (1) to (3) refers to the gross floor area. (e) For male sanitary facilities, WC can be used to replace UR.
(3) Eating establish-ment/Food centre/Bar /Nightclub	–	The gross floor area of the premises refers to the gross floor area within the Eating Establishment/ Food Centre/ Bar/ Nightclub, and does not include the Outdoor Refreshment Area (ORA) of the premises, if any.
(5)	**Park**	**Park and Park Connector**
(11)	**Construction Site/Dormitory**	**Construction Site**

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	(a) Construction site with living quarters/ dormitories Every 15 male workers or less Every 15 female workers or less (b) Construction site without living quarters, Every 25 male workers or less, up to 500 male workers Every 25 female workers or less, up to 500 female workers	Construction site without living quarters: Every 25 male workers or less, up to 500 male workers Every 25 female workers or less, up to 500 female workers Provision of bench in bathroom is not mandatory.
Appendix 5	**Glossary of Terms**	**Glossary of Terms**
1	**Sensor-operated flush valves** A valve with an electronic control device that is automatically actuated to supply a predetermined quantity of water (not more than 4.5 and 1.5 litres of water per flush for WC and urinal respectively) to a WC or urinal for the purpose of flushing after each use.	**Sensor-operated flush valves** A valve with an electronic control device that is automatically actuated to supply a predetermined quantity of water (not more than 4.5 and 1.0 litres of water per flush for WC and urinal respectively) to a WC or urinal for the purpose of flushing after each use.
2	**Manual override** A built-in feature in the urinal sensor-operated flush valve to allow the user to manually actuate an immediate flushing of the urinal by pressing a button. The sensor and the manual override will not function in the event of a power supply failure. When the override button is used, the manual override feature overrides the sensor operation and discharges only a preset volume of water (not more than 1.5 litres of water per flush) even if the button continues to be held actuated. No second flush shall be activated when the user leaves the urinal.	**Manual override** A built-in feature in the urinal sensor-operated flush valve to allow the user to manually actuate an immediate flushing of the urinal by pressing a button. The sensor and the manual override will not function in the event of a power supply failure. When the override button is used, the manual override feature overrides the sensor operation and discharges only a pre-set volume of water (not more than 1.0 litres of water per flush) even if the button continues to be held actuated. No second flush shall be activated when the user leaves the urinal.

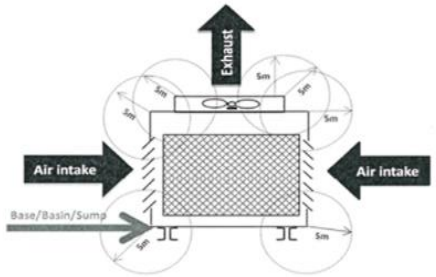
Section 3: Ventilation, Ducting and Kitchen Exhaust Systems for Foodshops

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
3.1	–	**Objective** This section addresses the design criteria for kitchen exhaust ducting and systems of foodshop(s) at building plan and pre-operation (pre-licensing) stages.
3.2	–	**General Design Criteria** Qualified Person(s) (QP) shall adopt the following design siting requirements at building plan stage.
(a)	The cleaned air shall be exhausted outdoors by a hood and flue or other extractor fan system at or above the roof, facing away and aesthetically screened from the immediate neighbouring premises, such that it will not cause smell or other public health nuisance. Where it is not practical to exhaust the fumes at or above the roof, an alternate location of the discharge point in the outdoors may be selected, facing away and aesthetically screened from the immediate neighbouring premises.	The fumes from the kitchen exhaust system shall be exhausted above the roof and not face in the direction of adjacent buildings. Where it is not practical to exhaust the fumes at or above the roof, an alternate location of the discharge point in the outdoors may be selected, and not face in the direction of adjacent buildings.
(b)	Consideration shall be given to aesthetic aspect of the exhaust outlets if it is sited near residential premises.	Consideration shall be given to aesthetic aspect of the exhaust outlets, particularly when it is sited near residential premises. Suitable aesthetic screen design shall be provided to screen off the kitchen exhaust duct and exhaust outlets from view of nearby neighbouring premises and the public.
(c)	–	Kitchen exhaust outlets shall be sited more than 5 m from all edges or structures of cooling towers.
3.3	–	**Operations Requirements** Licensee(s) shall ensure the following requirements are met in accordance to the pre-licensing requirements, prior to operations.
(a)	All fumes from the cooking range shall be extracted immediately and treated with an air cleaning system.	All fumes from the cooking range shall be extracted immediately and treated with an air cleaning system. The air cleaning system

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	The air cleaning system shall capture particulate matters, grease, oil, water vapour and smell causing compounds.	shall capture particulate matters, grease, oil and water vapour with no visible smoke and fumes exhausting.
(b)	The cleaned air shall be exhausted outdoors by a hood and flue or other extractor fan system at or above the roof, facing away and aesthetically screened from the immediate neighbouring premises, such that it will not cause smell or other public health nuisance. Where it is not practical to exhaust the fumes at or above the roof, an alternate location of the discharge point in the outdoors may be selected, facing away and aesthetically screened from the immediate neighbouring premises.	The treated air is to be exhausted outdoors by a hood and flue or other extractor fan system above the roof and not face in the direction of adjacent buildings. Where it is not practical to exhaust the fumes at or above the roof, an alternate location of the discharge point in the outdoors may be selected, and not face in the direction of adjacent buildings.
3.4	–	**Other Requirements and Guidelines** The following are references (*) for QP and licensees to refer to.
(a)	There shall be regular cleaning and maintenance of the exhausts.	Singapore Civil Defence Force's Code of Practice for Fire Precautions in Buildings: The entire (interior and exterior) exhaust duct and kitchen hood shall be degreased and cleaned at least once every 12 months. The work shall be carried out by a specialist and the records of cleaning and degreasing shall be kept by the owner/operator for verification by the authority having jurisdiction.
(b)	For approval of building plans for premises with food shop(s), a qualified person shall ensure that the exhaust and ventilation system complies with the above requirements and all applicable guidelines stipulated under Section 12.2 and 14.3 of the latest edition of Singapore Standard SS 553 : 2009.	Singapore Standard's SS 553: Code of Practice for Air-Conditioning and Mechanical Ventilation in Buildings: Guidelines on kitchen ventilation and maintenance of kitchen exhaust system.
		(*): As the descriptions/requirements/guidelines may be subjected to change, the QP and licensees should always refer to the prevailing regulatory requirements, code of practices, standards and guidelines.

Section 4: Cooling Tower

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
4.1	–	**Objective** This section serves to provide the minimum design criteria for siting of cooling towers at building plan submission.
4.2	–	**General Design Criteria** Qualified Person(s) (QP) shall ensure the following design siting requirements are complied with.
(a)	–	The cooling tower shall be located at least 5 m from any air circulating and ventilating inlet, openable window and occupied area, pedestrian thoroughfare, trafficable area and any other areas of public access.
(b)	–	The cooling tower shall also be located at least 5m from any kitchen exhaust discharge outlet, air handling system or other areas where nutrients conveyed from these systems could assist in the growth of Legionella bacteria in the cooling tower system.
(c)	–	On the measurement point for the minimum 5 m setback distance, this 5 m distance shall include measurement from the nearest edge or structure of the cooling towers, including the base/basin/sump, packing exhaust and outlet point of exhaust hood, if any is installed. Please see **Appendix 4** for an example showing the 5 metres setback measurement.
(d)	–	All access routes such as doorways leading to the areas that is within the 5 m setback distance of the cooling towers, should have a clear signage to inform and deter public from entry and accessible only by cooling tower maintenance staffs who understand the risk of Legionellosis and will work in accordance to their safe work procedures based on their risk assessment done.
Appendix 4	–	**Example of 5 m Setback Measurement of a Cooling Tower**

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
		

Section 5 : Aquatic Facility

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
5.1	**Objective** This section addresses specifically the design criteria for public swimming pools from the consideration of public health. The pool shall be so designed that the water quality will always remain safe for the public during its operation. Whilst landscaping to enhance the appearance of the pool is encouraged, it shall not be done in such a way or to such an extent that it can contaminate the water in the pool or create a problem for the maintenance of the pool. A good pool design shall also take into consideration the physical safety of swimmers and safety guidelines mentioned in Appendix 6, the expected user load, water depth, relevant guidelines available within the Singapore Standard 556 (herein referred as "SS 556"), and the regulatory requirements outlined in the Environmental Public Health (Swimming Pools) Regulations, including the requirements for licensing of swimming pools.	**Objective** This section serves to provide the minimum design criteria to address public health concerns for regulated aquatic facilities (AF). The AF shall be designed such that the water quality will always comply with regulated limits at all times. The AF include: 1) Swimming Pool: An artificial pool which operates with a water recirculation system, intended primarily for swimming, diving, wading, or dipping but does not include a reservoir or a pond. 2) Water Playground (including interactive water fountain): A recreation area installed with artificial water features that operate with a water recirculation system designed for play and interaction. 3) Multi-use Spa Pool: An artificial pool which operates with a water recirculation system, and utilises hydrojet circulation or air induction bubbles. This includes hydrotherapy pools, hot tubs, Jacuzzis and onsen pools where water is recirculated after use each time, and is not drained out.

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
		As AF users' safety components do not form part of the Minimum Design Criteria, please refer to Singapore Standard SS 556: Code of Practice for the Design and Management of Aquatic Facilities for guidance on the safety components for AF.
5.2	–	**<u>Minimum Design Criteria</u>** The AF system shall be sized in accordance to the volume and estimated maximum bather load. Water in the AF shall be circulated through a filtration system which produces water that comply with regulated limits prior to its return to the AF. The minimum design criteria for AF (Swimming Pools, Water Playgrounds (including Interactive Water Fountains) and Multi-use Spa Pools) can be classified into 2 categories: a) minimum design requirements to be declared by QP to comply with on building plan (BP); and b) minimum design requirements to be considered by QP to allocate and indicate the space on BP to install required equipment and declared by QP that they will adhere to requirements for equipment specifications.
5.2.1	–	**Aquatic Facilities**
	–	The minimum design criteria that QP should take note are:
(a)	–	The AF system shall consist of pumps, filters, automated chemical feeders, perimeter overflow systems/skimmers, valves, pipes, connections, fittings and appurtenances. These systems shall treat the water in the AF in accordance with the relevant regulatory requirements. Space shall be catered for installation of these equipment at building plan stage. If a development has multiple types of AF, the AF shall have filtration and water treatment systems to meet the required turnover rate of each AF.
(b)	Pool edges and landscaping shall be of such design and materials so as facilitate easy cleaning.	AF edges and landscaping shall be of such design and materials to facilitate easy maintenance and minimise the contamination of

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	The design of planting strips(s) close to the pool edge shall incorporate measures to ensure no overflow of water or run-off from the planting strip(s)/ area(s) into the pool water.	water (e.g. accumulation of debris, etc.). The landscaping to enhance the appearance of the AF shall not be done to an extent that it can contaminate the water in the AF or create a problem for the maintenance of the AF. The design of planting strips(s) close to the edge of AF shall incorporate measures to ensure no overflow of water or run-off from the planting strip(s)/ area(s) into the water. A space of at least 1 m along the perimeter of AF shall be buffered to facilitate maintenance.
(c)	For balancing tanks and surge tanks of swimming pools, the following conditions shall apply: i. They shall not contain, or be located directly below any sanitary or sewerage pipes, or such other pipes conveying fluids that may cause contamination to the water in the tanks. ii. There shall be easy and safe access to the tanks to allow for maintenance and inspection of the tanks. iii. Any overflow pipes and air vents installed on the balancing tanks shall be properly screened with non-corrodible, or corrosion-resistant stainless steel mosquito-proof netting of aperture size not exceeding 0.65 mm. iv. For the fresh water supplied to the tanks, the water fittings should not allow any backflow or siphonage (e.g. either by using double check valves or any other means). v. Filter backwash water shall be discharged into the sewer via a backwash water holding tank.	For balancing/surge tanks of AF, the following conditions shall apply: (i) Any overflow pipes and air vents installed on the balancing/surge tanks shall be properly screened with non-corrodible, corrosion-resistant stainless-steel mosquito-proof netting of aperture size not exceeding 0.65 mm. (ii) For the makeup water supplied from PUB mains to the tanks, the water fittings shall not allow any backflow.
(d)	For premises with one swimming pool, a minimum of two pre-swim showers shall be provided around the swimming pool.	Rinse showers shall be situated adjacent to each of the AF to encourage users to use the rinse shower before entering the AF.

<table>
<tr><th>New subsection</th><th>Previous Requirement (COPEH edition – June 2020)</th><th>New/Revised Requirement (COPEH edition – September 2021)</th></tr>
<tr><td></td><td>Premises with multiple swimming pools shall have a minimum of two pre-swim showers for the largest pool (based on area of swimming pool), and a minimum of one pre-swim shower around each additional pool.</td><td>(i) For premises with one AF, a minimum of two rinse showers shall be provided for the AF. Premises with multiple AF shall have a minimum of two rinse showers for the largest AF (based on pool/splash zone area of AF), and a minimum of one rinse shower for each additional AF.

(ii) A minimum of one rinse shower shall be provided for each standalone water playground within a premises. Standalone water playground refers to water playground that does not share the filtration system with any other types of AF.

(iii) The rinse shower water shall drain directly into the sewer system and not into the AF and the overflow perimeter flow system or splash zone of AF

(iv) It is strongly encouraged to provide signages to direct users to use the rinse showers before entering the AF.</td></tr>
<tr><td>(e)</td><td>–</td><td>Surfaces surrounding the AF (e.g. deck, ramps, etc.) shall be free of stagnant water at all times.</td></tr>
<tr><td>(f)</td><td>–</td><td>The automated chemical feeder shall be capable of supplying the required amount of disinfectant to disinfect the AF based on the capacity and maintenance frequency of the AF. A device to determine rate of flow shall be provided for each disinfectant feeder and it shall not allow the back flow of water from AF into the disinfectant container.</td></tr>
<tr><td>(h)</td><td>A water-circulation system consisting of pumps, piping, perimeter overflow system, strainer(s), balancing or surge tank, return inlets, filters and other necessary equipment shall be provided for complete circulation of the water through all parts of the pool. The water-circulation pumps and motors shall be of adequate sizes to turn over the entire pool water capacity at least once every 6 hours for the main pool and not more than 2 hours for standalone wading pool.</td><td>The water-circulation pumps and motors shall be of adequate sizes to turn over the entire AF pool water capacity as below:
<table>
<tr><th>Type of AF</th><th>Maximum Permissible Turnover time</th></tr>
<tr><td>Swimming Pool (designed mainly for young children’s use*)</td><td>2 h</td></tr>
<tr><td>Swimming Pool (designed for all other uses)</td><td>6 h</td></tr>
</table>
</td></tr>
</table>

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
		<table><tr><td>Multi-use Spa Pool</td><td>2 h</td></tr><tr><td>Water playground (including interactive water fountain)</td><td>30 min</td></tr></table> **individuals up to age of 5*
(i)	The filtration plant shall be the rapid sand, diatomaceous earth or any other acceptable filtration system. Individual filters shall be designed with necessary valves and piping to permit isolation of individual filters for repairs or backwashing while other units are in service.	The filtration plant shall be either the rapid sand, diatomaceous earth, glass, zeolite or any other filtration system approved by the Director-General of Public Health. Individual filters shall be designed with necessary valves and piping to permit isolation of individual filters for repairs or backwashing while other units are in service.
(m)	–	A non-corrosive removable catch screen or overflow strainer shall be installed at all discharged points before the water enters the balancing/surge tank to prevent large debris from collecting within.
(o)	–	All materials should be of non-toxic nature, corrosion-resistant, both externally as well as internally, and able to withstand the water pressure and resistant to chlorine/bromine content in the system.
5.2.1.1	**Swimming Pool**	**Swimming Pool**
	–	The minimum design criteria that QP should take note are:
(a)	The swimming pool system shall be equipped with chemical feeders, pumps or such other systems or devices, to treat the water in the pool in accordance with the relevant regulatory requirements prescribed in the Environmental Public Health (Swimming Pools) Regulations.	A swimming pool system consisting of pumps, piping, perimeter overflow system, strainer(s), balancing/surge tank, return inlets, filters, automated chemical feeder and other necessary equipment shall be provided for complete circulation of the water through all parts of the pool.
(b)	–	Each pool shall be provided at least 2 recirculation system inlets for the first 15,000 gal or 57,000 L capacity, and one additional inlet for every additional 15,000 gal or 57,000 L or less capacity.

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
		Locations of Inlet fittings shall be arranged in a way which will allow for uniform circulation.
(c)	A perimeter overflow system shall be provided for at least 50% of the perimeter of the pool. Design of a perimeter overflow system should take into consideration the following: a) It should allow ease of inspection, cleaning, and repair. b) Be designed and provided with sufficient drains and piping which will not allow backflow of water into the pool, and flooding of the overflow channel during the normal operation of the pool. c) Water that overflows from the pool shall be recirculated for reuse. d) A deck level channel design can be adopted for the perimeter overflow system. Drawings of an example of deck level channel can be found in Appendix 5.	A perimeter overflow system shall be provided for at least 50% of the perimeter of the pool and designed such as to avoid water stagnancy. Design of a perimeter overflow system shall take into consideration the following: (i) It shall allow ease of inspection, cleaning, and repair. (ii) It shall be designed and provided with sufficient drains and piping which will not allow backflow of water into the pool, and flooding of the overflow channel. (iii) Water that overflows from the pool shall be recirculated for reuse. (iv) A deck level channel design can be adopted for the perimeter overflow system. An illustrated example of deck level channel can be found in **Appendix 3**.
(d)		Surface skimmers can be used where the water surface area is less than 450 m^2. Surface skimmers shall be located in an appropriate position in relation to inlets to maintain effective skimming action and avoid water stagnancy in the pool. At least 1 surface skimmer is provided for every 13.5 m^2 of water surface area to maintain effective skimming action throughout the pool. The skimmer system shall be equipped with auto water top-up devices.
(e)	–	The number of toilets and sanitary fittings provided shall be in accordance with the requirements in **Section 2** of the COPEH.
5.2.1.2		**Water Playground**

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	–	The minimum design criteria that QP should take note are:
(a)	–	A water playground system consisting of pumps, piping, perimeter overflow system, strainer(s), balancing/surge tank, return inlets, filters, automated chemical feeder and other necessary equipment shall be provided for complete circulation of the water through all parts of the water playground.
(b)	–	The splash zone shall be sloped in a way such that only water from the water playground will flow back to the balancing/surge tank. Areas adjacent to the splash zone shall be sloped away and downwards from the spray ground to deck drain or other surface water disposal system.
(c)	–	All foggers or misters shall be supplied directly from a potable water source and not recycled from the balancing/surge tank.
5.2.1.3		**Multi-use Spa Pool**
	–	The minimum design criteria that QP should take note are:
(a)	–	A multi-use spa pool system shall contain filters, pumps, automated chemical feeders, pumps or such other systems or devices, to treat the water, aerator/jet system and other equipment (e.g. heater, etc.).
(b)	–	The perimeter overflow system shall be designed and constructed so that the water level in the multi-use spa pool is maintained at the operation level of the rim or weir device.
(c)	–	If surface skimmers are used as the sole overflow system, one surface skimmer shall be provided for every 13.5 m^2. The skimmer system shall be equipped with auto water top-up devices. When 2 or more skimmers are used, they shall be located in such a way to maintain effective skimming action over the entire surface area of multi-use spa pool.

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
(d)	–	The inlets and outlets shall be arranged in such a way to allow a uniform distribution of disinfectants throughout the multi-use spa pool.
(e)	–	Multi-use spa pool shall have outlets to drain the water completely for thorough cleaning purpose (e.g. bottom drains, drain plug, circulatory system, etc).
(f)	–	The air intake source of air induction system shall be positioned or designed to minimise contamination of the multi-use spa pool.

Section 6: Storage and Collection System for Recyclables at Strata-titled Properties with Residential Units

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
6.3	**Designated Recycling Points for Recycling Receptacles**	**Designated Recycling Points for Recycling Receptacles**
	All premises shall be provided a recycling point at each residential block for depositing recyclables. The recycling system within the premises shall meet the following requirements: - (a) Arrangements shall be made for the consolidation and storage of the recyclables from each residential block's recycling point to a main recycling point. The main recycling point shall be accessible to a recyclables collection vehicle. The main recycling point shall allow the placement of bulk bin(s) or container(s) to accommodate the collection and storage of the minimum daily recyclables output specified in section 11.2. The main recycling point shall be separate and independent from, and also not compromise the refuse storage and collection system.	All premises shall be provided with a designated recycling point for each residential block to allow residents to deposit recyclables. The recycling system within the premises shall meet the following requirements: - (a) Arrangements shall be made for the consolidation and storage of the recyclables from the recycling points to a main recycling point. The main recycling point shall be accessible to a recyclables collection vehicle. The main recycling point shall allow the placement of bulk bin(s) or container(s) to accommodate the collection and storage of the minimum daily recyclables output specified in **Section 6.2(b)**. The main recycling point shall be separate and independent from, and also not compromise the refuse storage and collection system.

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
	(b) A setback distance of at least 13 m shall be provided to ensure that the main recycling point is accessible to recyclables collection vehicles . The main recycling point floor level shall be at the same level as the vehicular access road. The distance for recyclables collection vehicles to reverse into the main recycling point shall be minimised.	(b) If an enclosed RORO compactor/container, dust screw compactor or a rotary drum system is provided for storage of recyclables, a setback distance of at least 13 m shall be provided to ensure that the main recycling point is accessible to recyclables collection vehicles. The main recycling point floor level shall be at the same level as the vehicular access road. The distance for recyclables collection vehicles to reverse into the main recycling point shall be minimised
	(c) The capacity of the intermediate recycling receptacles at intermediate recycling points shall not be deducted from the required capacity (as calculated under 11.3(a)) of the recycling receptacles that are placed at the main recycling point.	(c) The capacity of the intermediate recycling receptacles at intermediate recycling points shall not be deducted from the required capacity (as calculated under **Section 6.2(b)**) of the recycling receptacles that are placed at the main recycling point.
	(d) The collection of recyclables shall not cause any nuisance to estate occupants and occupants of neighbouring premises.	(d) The designated collection point shall not cause any pest and odour nuisance to estate occupants and occupants of neighbouring premises.
6.4	**Recyclables Chute System**	**Recyclables Chute System**
	(b) A recyclables chute chamber shall be provided. It shall be connected to a recyclables chute and house a recycling bin. The recyclables chute and its chamber shall be suitably located to facilitate easy and nuisance-free removal of recyclables and shall be designed to meet the same requirements as those for the refuse chute chamber stated in section 1.4. Its capacity shall be sufficient for at least one day of recyclables output from all the premises connected to the recyclables chute. Recyclables deposited in the recyclables chute chamber shall be consolidated and stored main recycling point for collection. The main recycling point shall comply with the same requirements stated in section 11.3(a) and 11.3(b).	(b) A recyclables chute chamber shall be provided. It shall be connected to a recyclables chute and house a recycling bin. The recyclables chute and its chamber shall be suitably located to facilitate easy and nuisance-free removal of recyclables and shall be designed to meet the same requirements as those for the refuse chute chamber stated in **Section 1.4**. Its capacity shall be sufficient for at least one day of recyclables output (as specified in **Section 6.2(b)**) from all the premises connected to the recyclables chute. Recyclables deposited in the recyclables chute chamber shall be consolidated and stored main recycling point for collection. The main recycling point shall comply with the same requirements stated in **Sections 6.3(a) and 6.3(b)**.

Section 7: Anti-Mosquito Breeding

New subsection	Previous Requirement (COPEH edition – June 2020)	New/Revised Requirement (COPEH edition – September 2021)
7	**Anti-mosquito breeding**	**Anti-mosquito breeding**
7.2	a. With effect from 1 Nov 2005, no roof gutters shall be installed for any new developments. b. With effect from 1 Sep 2016, existing roof gutters shall be removed or sealed up in all building works involving roof structures which are also A&A or reconstruction works, where such building works are as defined under the Building Control Act. c. Qualified Persons (QP) are advised to consider alternative designs/solutions to ensure effective conveyance and drainage of rainwater.	a. With effect from 1 November 2005, no roof gutters should be installed for any new developments. b. With effect from 1 September 2016, existing roof gutters should be removed or sealed up in all building works involving roof structures which are also A&A or reconstruction works, where such building works are as defined under the Building Control Act. c. QPs are advised to consider alternative designs/solutions to ensure effective conveyance and drainage of rainwater. Note: Waiver requests for the above may be assessed and approved on a case-by-case basis. From 1 November 2017, QPs are no longer required to submit roof gutter waiver applications for flat roofs (including balconies) if QPs assess that the entire length of the roof gutters (including rainwater outlets, scupper drains and rainwater downpipes) can be inspected and maintained safely by the occupier from a permanent space on the roof (or balcony).