



# **Guidelines for Solid Waste Management During the COVID-19 Pandemic**

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Dhaka South City Corporation  
Chattogram City Corporation

Project for Strengthening of Solid Waste Management  
in Dhaka North City, Dhaka South City and Chittagong City

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# Acronyms and Abbreviations

ACWMO	Assistant Chief Waste Management Officer
CI	Conservancy Inspector
HCE	Health care establishment
JICA	Japan International Cooperation Agency
NGO	Non-governmental Organization
PCSP	Private collection service provider
PPE	Personal protective equipment
SSC	Safety Sanitation Committee
WBA	Ward-based Approach
WHO	World Health Organization

# 1 BACKGROUND

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## 1.1 PURPOSE

Since early 2020, infectious COVID-19 has spread out worldwide, and more than 180 thousand people, 3,000 people in daily basis, were infected in Bangladesh (as of July 14, 2020). It is assumed that the pandemic may continue for years although many efforts are being taken to contain the virus all around the world.

Waste collection and disposal is one of the vital public services for people's living all the time, even in the pandemic. City Corporation therefore has to make sure that waste management will not be disrupted and no extra risks for public health will be borne. On the other hand, workers in waste sector such as waste collection workers, drivers, cleaners, and landfill site and workshop staffs are considered at a high risk of getting the virus through disposed masks, gloves, and tissues. Thus, additional precautions and appropriate prevention measures should be taken for these workers to ward off the infection.

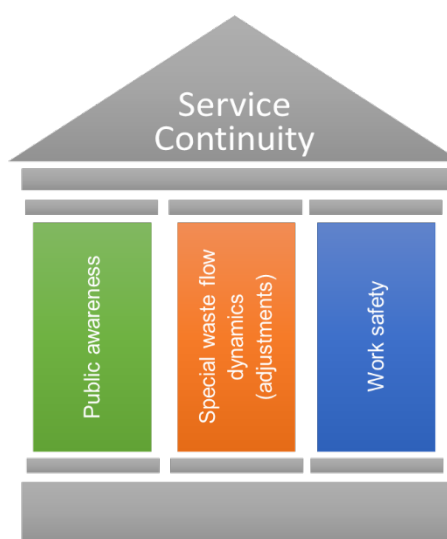
This guidelines aim to continue the waste management services of City Corporation with minimum impact by COVID-19, as well as to prevent the spread of COVID-19 as much as possible for protecting people's life and health. This is a living document which may be revised and enriched based on the information available and the evolving situation.

## 1.2 ROLES OF CITY CORPORATION

City Corporation is fundamentally responsible to continue the waste management services that should be structured with the three pillars in the COVID-19 pandemic, as show in Figure 1: Public awareness, special waste flow dynamics (adjustments), and work safety.

Accordingly, City Corporation will take the following actions in response to COVID-19:

- ✓ Implement appropriate prevention measures for the workers
- ✓ Raise awareness on citizens for proper waste



**Figure 1 Waste management service structure in the COVID-19 crisis**

disposal

- ✓ Communicate with other departments in City Corporation for cooperation, and the government authorities such as LGD, Ministry of Health and Family Welfare, and Ministry of Environment and Forests for instruction
- ✓ Guide waste management companies and NGOs to make sure the appropriate measures being taken
- ✓ Monitor and rearrange waste management system as needed to match any situation change on resources and waste generation

### **1.3 COMMON MEASURES AGAINST COVID-19**

According to WHO<sup>1</sup>, the following precautions can be effective to reduce a chance of being infected or spreading COVID-19, and should be applied by all people.

- ✓ Regularly and thoroughly clean your hands with an alcohol-based hand rub or wash them with soap and water.
- ✓ Maintain at least one meter (3 feet) distance between yourself and others.
- ✓ Avoid going to crowded places.
- ✓ Avoid touching eyes, nose and mouth.
- ✓ Make sure you, and the people around you, follow good respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately in separate medical waste poly bag/wrap with paper bag and wash your hands.
- ✓ Stay home and self-isolate even with minor symptoms such as cough, headache, mild fever, until you recover. Have someone bring you supplies. If you need to leave your house, wear a mask to avoid infecting others.
- ✓ If you have a fever, cough and difficulty breathing, seek medical attention, but call by telephone in advance if possible and follow the directions of your local health authority.

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<sup>1</sup> Coronavirus disease (COVID-19) advice for the public 2020. WHO; 2020. (<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>, accessed June 25, 2020).

## 2 PREVENTION AND CONTROL

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### 2.1 TYPES OF POTENTIALLY INFECTIOUS SOLID WASTE

#### 2.1.1 Solid waste

In Bangladesh, infected people with COVID-19 often stay home for recovery due to a skyrocketing number of the infected and shortage of medical facilities. Besides, in general, having an infection without any symptoms is very common. Therefore, solid waste generated at home and office is more likely to include COVID-19 infectious waste (COVID-19 waste), such as used face masks, paper tissues, and gloves.

#### 2.1.2 Medical waste

Medical waste disposed by health care establishments (HCEs) such as hospitals, clinics, and diagnosis centers include disposal medical products (tongue depressors, face masks, gloves, gowns, other disposable personal protective gears (PPEs), syringes etc.) that are more likely to be infected. Laboratory waste from testing suspected or confirmed COVID-19 testing specimens are also considered as COVID-19 contaminated.

### 2.2 WASTE WORKER'S PREVENTIVE MEASURES

#### 2.2.1 Infection prevention measures

There is a need to ensure the health and safety precautions of waste workers as they are one of the most important sanitary barriers to keep cities and people safe from several diseases, including COVID-19. Waste workers are everyday on the streets despite isolation and quarantine measures that are taken for the whole population. Therefore, the following measures are designed focusing on prevention of the infection to waste workers through handling solid waste.

(1) Common measures

##### At office

- ✓ Make sure that there are disinfectants and hand sanitizers available in every office.
- ✓ Regularly disinfect desks, chairs, tables, toilets, and other objects that people may touch such as door handles, handrails, etc.
- ✓ If possible, use web conferences with the headquarters and other offices to avoid people gathering.

- ✓ Restrict a number of people inside an office or room to avoid dense population.

#### Before work

- ✓ Before coming to work, measure your body temperature to make sure good physical condition. If you have a fever higher than normal<sup>2</sup>, or if any of the following apply without the high body temperature, stay at home and keep a record every day for monitoring.
  - ✧ Any severe symptoms such as difficulty breathing and a strong feeling of weariness
  - ✧ Relatively mild cold symptoms such as fever or a cough
- ✓ Wear a face mask, hand gloves, long sleeve cloth, and an apron or gown properly. Landfill site workers and workshop workers should wear other gears as needed such as gum boots and goggles.
- ✓ During daily attendance call, help an inspector to measure your body temperature, to check your PPEs, and to record in a register book, while keeping physical distance (at least 1m).

#### During work

- ✓ Make sure you always wear PPEs i.e. a face mask, hand gloves, and apron etc.
- ✓ Do not touch your face with hand gloves.
- ✓ Wash your hands thoroughly before you eat or drink.
- ✓ Try to keep physical distance (at least 1m) with other people all the time.

#### After work

- ✓ Wash your hands and reusable PPEs thoroughly with soap and water.
- ✓ Store used disposable PPEs in a plastic bag or well-wrapped by paper at a place designated by field manager.

#### (2) Job specific measures

##### For cleaners

- ✓ When you find infectious waste (face masks etc.) on street, do not touch them without hand gloves. Put it in a plastic bag or wrapped well for proper disposal. If you happen to touch such a waste, immediately wash your hands or part of your body which you touch.

##### For Private Collection Service Provider

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<sup>2</sup> According to WHO, if someone develops low-grade fever (i.e. a temperature of 37.3 C or more), the person should stay at home and self-isolate.

- ✓ Do not touch potentially infectious waste without hand gloves.
- ✓ Do not open sealed plastic bags, which may contain infectious waste.

#### For waste collection drivers and helpers

- ✓ Keep windows open for uninterrupted air flow when you are in the vehicle.
- ✓ Do not touch potentially infectious waste without hand gloves.
- ✓ Do not open sealed plastic bags which may contains infectious waste.
- ✓ Disinfect the interior vehicle cabins regularly.
- ✓ When a compactor is pushing waste to inside, try to keep physical distance from the compaction work to avoid exposure to fumes since it forces air from the waste into the surroundings. It may result in spreading viable virus at worst.

#### For landfill site workers

- ✓ Wear PPEs properly. An inspector has to check the worker's outfit before and during the work.
- ✓ Use an excavator to unload waste from an open truck to avoid direct contact with COVID-19 waste.
- ✓ Remind waste pickers at a landfill site not to touch the waste wrapped in plastic bags or paper. These wastes are highly likely to contain infectious waste.
- ✓ Disinfect and wash the interior vehicle cabins regularly.
- ✓ If you find many bare medical waste during unloading from a truck, record the vehicle plate number and inform it to the landfill site manager. The information will be used to identify the area where waste disposal is improperly operated, and to fix the problem with field managers.

#### For workshop workers

- ✓ Wear PPEs properly. An inspector has to check the worker's outfit before and during the work.
- ✓ Keep doors and windows open as long as possible for continuous ventilation.

### **2.2.2 Training**

All workers, formal and informal, must be trained on the risks and hazards associated with the exposure to the COVID-19 virus, as well as on appropriate workplace protocols to prevent and reduce the likelihood of exposure and infection. City Corporation and Japan International Cooperation Agency (JICA) have prepared the following materials for waste management workers in the COVID-19 pandemic:



- ✓ Leaflets and banners for cleaners, PCSPs, drivers, and workshop staffs (Attachment 1)
- ✓ Pocket manual for management of cleaners to prevent the spread of COVID-19 (Attachment 2)
- ✓ Pocket manual for landfill workers to prevent the spread of COVID-19 (Attachment 3)

City Corporation should implement the trainings using the materials in line with Ward-based Approach (WBA) system, which has been practiced in City Corporation for participatory decentralized solid waste management. Especially WBA 2, out of four major WBA activities, is to improve worker's safety with Safety Sanitation Committee (SSC) at every ward. Based on zone- and ward-based training, training sessions should be organized for cleaners and PCSPs to disseminate the preventative measures, including mock drills to put on and take off the mask, gloves, and other PPEs without getting in contact with them.

### **2.2.3 In case of infection**

For workers with symptoms of the disease:

- ✓ Advise workers not to come to work if they, any family member or person they have come in contact with, have any symptoms.
- ✓ If a worker feels sick before coming to workplace, advise him to inform field manager (CI etc.) for further actions, or directly call at 333 (COVID-19 public hotline) or 16263 (health hotline).

If any worker's infection is identified, City Corporation should trace the worker's contacts within his working place to find potential patients, and may ask the individuals to go into quarantine depending on the contact situation.

## **2.3 HOUSEHOLD INFECTIOUS WASTE MANAGEMENT**

### **2.3.1 Infection prevention measures**

The following measures are designed focusing on prevention of the domestic household infection and the infection to the waste workers through handling solid waste.

- ✓ All potentially infectious COVID-19 waste should be put in a plastic bag or wrapped by paper, and sealed immediately after use in order not to be touched by anyone. A colored bag could be assigned for easy distinction.
- ✓ Air inside the plastic bag should be removed to avoid a rupture during waste collection and transport.
- ✓ The COVID-19 waste bag or wrapped should be stored at a safe place inside the house,

separately from other household waste.

- ✓ If it is not possible to separate the COVID-19 waste from other waste, all waste from that household should be placed in a bag and sealed.
- ✓ Children and aged persons should not go out to deliver COVID-19 waste to the PCSP van or to any designated waste depositing point.
- ✓ Physical distance should be always kept while going to the waste collection point (at least 1 m).
- ✓ The person who comes back from the waste collection point should wash hands thoroughly with soap (at least 20 seconds) immediately.

### **2.3.2 Public awareness**

Public awareness on household waste management in the COVID-19 pandemic is one of the most important activities in City Corporation to reduce the infection risk to citizens and waste workers. City Corporation should thus implement following activities continuously or whenever necessary, and the field managers (CIs and ACWMOs) should regularly communicate with citizens and stakeholders to closely monitor the local situation.

- ✓ Hold a public awareness campaign for safe and appropriate disposal of household waste at community by a short community meeting, miking, and leaflet distribution (Attachment 4).
- ✓ If the new collection schedule and other related changes in city's waste management system are necessary, communicate with the public through radio, newspapers, social media and other channels.
- ✓ Explore collaboration with NGOs, religious groups, and PCSP in the context of providing access to PPE kits for the waste workers and spreading awareness especially to the poor, slum residents, and minority groups.

## 3 CONTINUITY OF THE SERVICES

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### 3.1 INFECTIOUS WASTE FROM HEALTH CARE ESTABLISHMENTS

Most of medical waste, including infectious waste, from HCEs are collected and treated by NGO on behalf of City Corporation. In the COVID-19 pandemic, City Corporation applies “Technical Guidance: Medical Waste Management Response to COVID-19” especially for careful handling and emergency treatment measures on increasing medical waste, and promote awareness on medical waste segregation and safe disposal at the HCEs and work safety for NGO staffs.

### 3.2 CONTINGENCY PLANNING

City Corporation has to develop a contingency plan that will make sure the essential waste services that should be provided in any case without additional health risks to workers. The contingency plan includes alternative solutions for resources (personnel and vehicles), and the services at lockdown areas. For medical waste, a contingency planning is also important in anticipation of the post-corona era.

#### (1) Waste generation and collection monitoring

Due to the COVI-19 prevention measures, the waste generation trend of City Corporation becomes different from the business-as-usual. City Corporation therefore should carefully monitor and identify changes in waste amounts and flows through field managers (CIs, ACWMO etc.) for efficient use of the resources and for keeping City clean, including:

- ✓ Areas generating more waste caused by COVID-19 preventive measures (e.g. diagnosis centers, small clinics, COVID-19 quarantine hotspots).
- ✓ Areas generating less waste caused by COVID-19 preventive measures (e.g. schools, commercial complexes).
- ✓ New illegal dumping points
- ✓ Waste generation at lockdown area
- ✓ Disposal waste amount at landfill site

Based on the analysis, City Corporation may reduce or increase the service capacity of the identified specific areas.

#### (2) Resource management

In case that a large number of SWM workers are absent from their work for weeks because of the infection, nursing family, or self-quarantine, temporary resource allocation should be considered in advance to keep the essential waste management services continued, including:

- ✓ Reassign staffs and vehicles
- ✓ Reroute collection vehicles
- ✓ Rearrange waste collection frequency

### (3) Waste collection and street cleaning services in lockdown area

The waste collection services have to be provided for citizens in a lockdown area. City Corporation and field managers should double-check that the drivers and collection workers in the area apply the preventative measures appropriately, and consider the following additional measures for the workers to minimize contact with potentially infectious waste.

[Waste collection]

- ✓ Intensify public awareness for citizens on infectious household waste management by means of non-contact tools (miking etc.)

[Street cleaning]

- ✓ Minimize street cleaning frequency
- ✓ Shorten the working hours

## **3.3 PREVENTION MEASURES IN PRIVATE SECTOR AND INFORMAL WORKERS**

It is highly recommended that private companies and informal workers in solid waste management, including contractors, PCSP, recyclers, and waste pickers, apply “2. Prevention and control” of this guidelines for prevention of COVID-19. City Corporation should raise awareness of the private sector and informal workers with this guidelines for safe waste collection and treatment through individual meetings, collaboration of community awareness activities etc.

## Reference

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- Getting your workplace ready for COVID-19, 19 March 2020. WHO.  
(<https://www.who.int/docs/default-source/coronaviruse/advice-for-workplace-clean-19-03-2020.pdf> )

**Attachment 1:**

**Leaflets and banners for cleaners, PCSPs, drivers, and workshop  
staffs**

**Attachment 2:**

**Pocket manual for management of cleaners to prevent the spread of COVID-19**

## **Attachment 3**

**Pocket manual for landfill workers to prevent the spread of  
COVID-19**