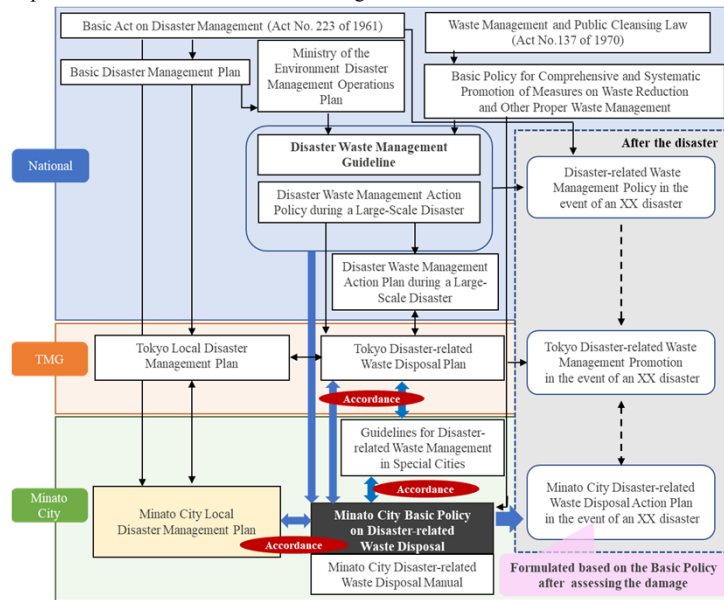


## 1 Introduction

- In recent years, natural disasters such as large-scale earthquakes and torrential rains have occurred frequently and become more serious across Japan, generating enormous amounts of disaster waste in the affected areas.
- The national government is working to strengthen the capacity of local governments to respond to disasters, through such measures as the Waste Disposal and Public Cleansing Act and the Basic Act on Disaster Management (enforced in 2015). The Tokyo Metropolitan Government (TMG) also formulated the Tokyo Metropolitan Government Basic Plan on Disaster Waste Management (June 2017).
- In Minato City (the City), there are few large open spaces to set up temporary storage areas for disaster waste such as large quantities of rubble generated from damaged houses. In addition, disasters can cause power outages, which can make it difficult for residents on the middle and upper floors of high-rise condominiums to dispose of household waste.
- In the event of a disaster, a large amount of various types of waste is generated at one time and mixed. This could have a serious impact on the living environment and public health. There are also concerns that there may be fires at temporary storage facilities, and infectious diseases may occur due to waste being left for long periods. Due to these reasons, disaster waste must be disposed of properly, smoothly, and promptly to protect the living environment and public health.
- The Minato City Basic Policy on Disaster-related Waste Disposal was formulated based on the national policy with the aim of disposing of disaster waste that would hinder recovery and reconstruction efforts.

## 2 Basic Policy

- The Basic Policy is based on the national guidelines and consistent with related plans and provides the basic mindset and disposal methods for disaster waste management.



## 3 Scope of the Basic Policy

### Applicable Disasters

- Disasters specified in Article 2, Item 1 of the Basic Act on Disaster Management, such as earthquakes and windstorms.
- Based on the “Possibility of Damage to Tokyo Caused by Earthquakes Directly Beneath the Tokyo Metropolitan Area,” the maximum amount of disaster waste generated in the City is estimated to be approximately 1.12 million tons (890,000 tons of concrete and 230,000 tons of wood waste).

### Applicable Wastes

- The City will properly treat the following disaster waste in accordance with the Basic Policy and the Minato City Waste Disposal Master Plan.
  - ✓ Waste generated by city residents (household waste, evacuation shelter waste, human waste, rubble)
  - ✓ Disaster waste generated by small and medium-sized enterprises collected together with household disaster waste
  - ✓ Disaster waste generated by small businesses supported by the City
- Business-related general waste from business establishments (excluding small businesses supported by the City) and industrial waste discharged will be properly disposed of by businesses, as it is their own responsibility. As business-related general waste will be managed by businesses in parallel with the disposal of disaster waste by the City, it is included in the basic policy because it is important to make adjustments so that the systems of waste processing facilities are not overloaded.

## 4 Disaster waste disposal policy

- In order to ensure public health and environmental conservation by appropriately, smoothly, and rapidly disposing of waste under conditions as close as possible to normal even in the event of a disaster, the City will implement specific measures based on the following disposal policies.

### ① Appropriate and prompt processing

In order to achieve the early restoration of the lives of the residents of the City, prompt treatment will be carried out while responding to the changing situations. The City will set a processing period, and if processing is required across a wide area, will cooperate with TMG to promote processing in the surrounding and wider areas.

### ② Promotion of recycling

The City will promote recycling as much as possible by thoroughly sorting and separating, and reduce the amount of landfill waste. Recycled materials will be effectively used as reconstruction materials.

### ③ Environmentally conscious treatment

In the event of a disaster, the City will consider the surrounding environment and promote appropriate disposal. Since the disposal of disaster waste may take a long time, the City will promote decarbonized processing as much as possible.

### ④ Hygienic treatment

Disposal of household waste, evacuation shelter waste, and human waste is given top priority. The City will promptly remove and dispose of disaster waste from the highest priority items based on their toxicity and putrefactive nature.

### ⑤ Ensuring safe operations

The City will ensure the safety of nearby residents and disposal workers during removal work in residential areas and loading and unloading work at temporary storage sites.

### ⑥ Economically conscious treatment

As long as processing is carried out using public funds, the City will select the processing method that is expected to be most effective at the least cost.

### ⑦ Cooperation and collaboration with related parties

To achieve swift recovery and restoration, the City will cooperate and collaborate with the national government, TMG, other municipalities, Clean Authority of TOKYO, and related organizations/groups/disaster volunteers.

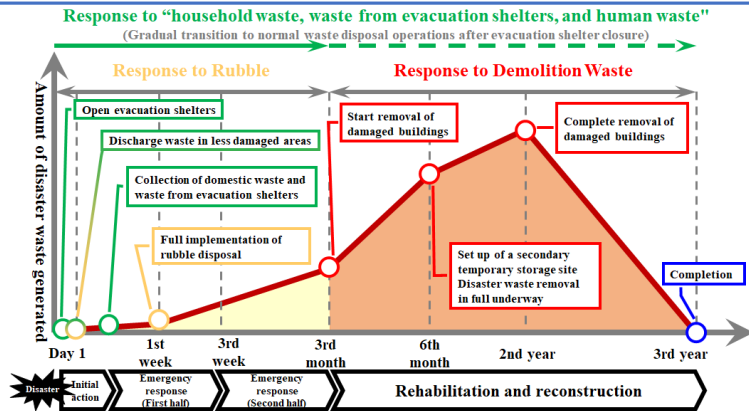
## 5 Role of each entity

Entity	Major Roles
Minato City	<ul style="list-style-type: none"> <li>● Collection and transport of major disaster waste and management of temporary storage sites in cooperation with Clean Authority of TOKYO and TMG</li> </ul>
City residents	<ul style="list-style-type: none"> <li>● Thorough sorting of waste when discharged</li> </ul>
Businesses that generate waste	<ul style="list-style-type: none"> <li>● Disposing of waste generated by its own business</li> <li>● Cooperate in disaster waste disposal conducted by TMG and the City.</li> </ul>
Clean Authority of TOKYO	<ul style="list-style-type: none"> <li>● Intermediate processing of disaster waste at general waste disposal facilities</li> <li>● Treatment of collected human waste (injection into the sewage system, etc.)</li> </ul>
Tokyo 23 Ward Cleaning Council	<ul style="list-style-type: none"> <li>● Liaison, coordination, management, and execution related to the collection and transport of waste</li> </ul>
Special City Disaster Waste Management Task Force	<ul style="list-style-type: none"> <li>● Regional integrated disposal through establishing shared facilities, such as secondary temporary storage and temporary disposal facilities</li> </ul>
Tokyo Metropolitan Government (TMG)	<ul style="list-style-type: none"> <li>● Technical support for disaster waste disposal and request for wide-area cooperation in other prefectures</li> </ul>
Government (Ministry of the Environment)	<ul style="list-style-type: none"> <li>● Technical advice and support through the Disaster Waste Treatment Support Network (D.Waste-Net)</li> </ul>
Business operators who have signed cooperation agreements	<ul style="list-style-type: none"> <li>● Support for materials and equipment for disaster waste disposal</li> <li>● Cooperation in disaster waste disposal by using the knowledge of waste disposal</li> </ul>
Disaster Volunteers	<ul style="list-style-type: none"> <li>● In cooperation with the City, provide support for victims such as cleaning up houses affected by the disaster.</li> </ul>

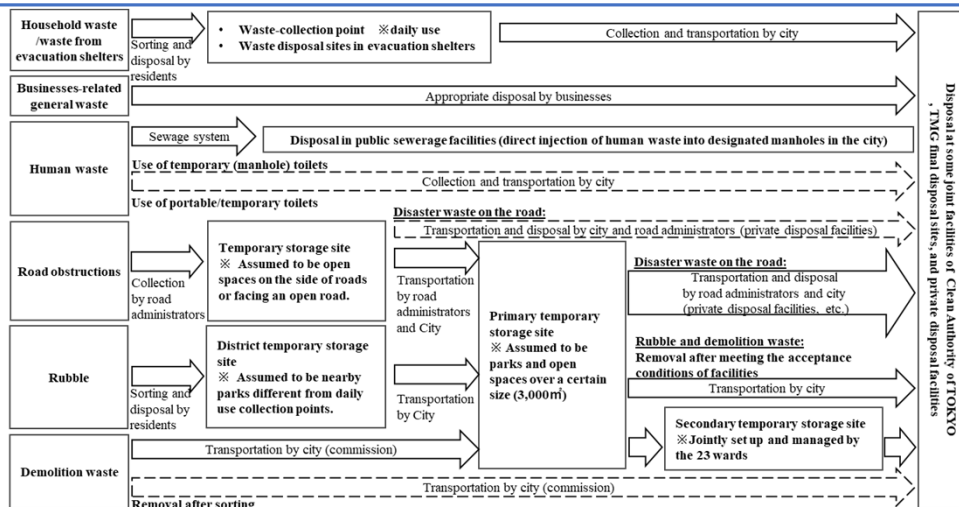
## 6 Established timeframe goals for disposal

- The City prioritizes collection, transportation, and disposal of household waste, evacuation shelter waste, and human waste.
- The City aims to complete the disaster waste disposal as soon as possible to achieve swift recovery and restoration.
- The timeframe goals for disposal will be set appropriately according to the scale of the disaster and the amount of disaster waste generated. In a large-scale disaster, the City aims to complete the following steps.
  - ✓ Removal of rubble from streets within three months of the onset of the disaster
  - ✓ Removal of damaged houses within two years of the onset of the disaster
  - ✓ Completion of disposal including the removal of waste from temporary storage areas within three years of the onset of disaster

## 7 Overview of waste disposal during a disaster

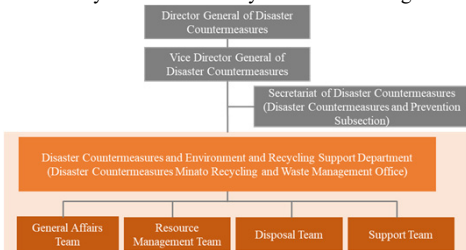


## 8 Processing flow



## 9 Organization

- After a disaster, the City will swiftly establish the following organization and promote the appropriate, smooth and rapid disposal of disaster waste in cooperation with relevant sections of the City.
- In order to promote appropriate, smooth, and rapid disaster waste disposal, the City will establish a system of cooperation with related parties, including not only administrative agencies but also city residents, disaster volunteers, and businesses. Also, the City will promote disaster waste disposal with parties based on the various agreements that the City has concluded.
- The City will establish a system for receiving human and material assistance swiftly after a disaster.



Groups	Major Roles
General Affairs Team	Overall management of disaster waste disposal operation Liaison with various parties Responsible for budget control, application for national treasury subsidy, etc.
Resource management Team	Securing, setting up, and operating temporary storage facilities Management and securing of materials and equipment
Disposal Team	Operations related to the treatment and disposal of disaster waste Environmental guidance
Support Team	Management and placement of incoming support

※Based on the Minato City Disaster Response Manual, the above organizations will be organized in cooperation with the Disaster Prevention and Urban Development Support Division.

## 10 Restoring waste disposal facilities

### In the event of a disaster

- After the disaster strikes, the City will confirm the damage to waste disposal facilities managed by the TMG and Clean Authority of TOKYO. The damage to waste disposal facilities managed by the City will also be checked under the City's emergency response manual and if restoration action is required, efforts will be made to repair the damage and resume operations as soon as possible.

### Disaster prevention measures

- The City will make a contact list of related parties such as Clean Authority of TOKYO and TMG, enhance earthquake and flooding countermeasures for waste treatment facilities managed by the City, and promote installing emergency power generation equipment and creating a disaster countermeasure manual so that processing can be continued in the event of a disaster.

## 11 Response to various types of waste

- Waste disposal will be carried out after thorough separation and implementation of infectious diseases prevention measures.
- For responses to various types of waste during a disaster, specific details of the required responses (who and what) will be prepared so the staff could take immediate actions.

### Household waste, evacuation shelter waste

- Since household and evacuation shelter waste contains a large amount of putrid waste, in consideration of sanitation of living environments, it needs to be given a top priority. To quickly implement household and evacuation shelter waste disposal after a disaster, priority will be given to the collection, transportation, and disposal of household and evacuation shelter waste.
- Household waste will be collected, transported, and disposed of at recyclables and waste collection points as usual. Evacuation shelter waste will be collected and transported from designated locations at evacuation shelters.
- It is expected that some residents in high-rise condominiums will have difficulty in discharging their household waste when elevators are shut down due to power outages or damage. They must ask for their fellow residents to help each other in discharging their household waste.

### Business-related general waste

- Businesses are responsible for the appropriate disposal of their waste. However, the City will consider assisting in collection, transportation, and disposal if there is a risk of damaging the living environment.

### Human waste

- Human waste is disposed of in the sewage system. If the sewage system is damaged, portable toilets will be used.
- If disposal using manhole toilets is difficult, portable toilets and temporary toilets (pumped or manhole) will be used appropriately. Human waste will be processed appropriately by promptly establishing a collection, transportation, and disposal system to ensure that it doesn't affect the lives of city residents.

### Rubble, demolition waste, etc.

- Information on the sorting of waste, disposal methods, collection frequency, and the establishment and operation of temporary storage sites will be promptly publicized through various means to ensure that accurate information reaches city residents, businesses, and volunteers.
- Road obstructions will be removed from the road and collected at an emergency temporary storage site with the cooperation of the related industries that have signed an agreement with the road administrator. They will then be moved to the primary temporary storage sites and appropriately disposed of at disposal facilities.
- Rubble will not be discharged to waste collection points, but will be sorted into combustible, non-combustible, and large-sized waste and discharged to the district temporary storage sites to be set up after the disaster. It will then be collected at primary temporary storage sites by the City and then transported to the disposal facilities where it will be appropriately disposed of.
- Demolition waste will be sorted and collected at primary temporary storage sites and appropriately disposed of at the waste treatment facilities. Demolition and removal are done by the owner in principle, however, for houses that are more than 50% damaged, small and medium business stores and offices attached to houses, and small and medium business stores and offices that the City decides to support, the City will demolish them based on the owner's application.

## 12 Disaster Preparedness

Education, training, and public awareness	<ul style="list-style-type: none"> <li>Improve disaster response capabilities through regular education and drills.</li> <li>The City requests residents and business operators to cooperate with waste management during a disaster.</li> </ul>
Revision of the Basic Policy on Disaster-related Waste Disposal	<ul style="list-style-type: none"> <li>Regularly review and revise this policy to improve its effectiveness.</li> </ul>
Future Initiatives	<ul style="list-style-type: none"> <li>Address various issues, such as preparing manuals for disposal of respective forms of waste, in order to improve the effectiveness of this policy.</li> </ul>