



ಗ್ರಾಮೀಣ ಕುಡಿಯುವ ನೀರು ಮತ್ತು ನೈರ್ಮಲ್ಯ ಇಲಾಖೆ
ಗ್ರಾಮೀಣಾಭಿವೃದ್ಧಿ ಮತ್ತು ಪಂಚಾಯತ್ ರಾಜ್ ಇಲಾಖೆ



Detailed specification for constructing the Solid waste management unit at Grama Panchayat

Introduction

A solid waste management unit refers to a facility or system designed to store, process and sort the solid waste in an efficient and environmentally responsible manner. The primary goal of a solid waste management unit is to minimize the negative impacts of waste on public health, the environment, and society as a whole.

The activities carried out in a solid waste management unit may include:

1. Segregation and Sorting: Solid waste is segregated and sorted to separate recyclable materials from non-recyclable waste. This process helps maximize resource recovery and reduces the volume of waste sent for disposal.

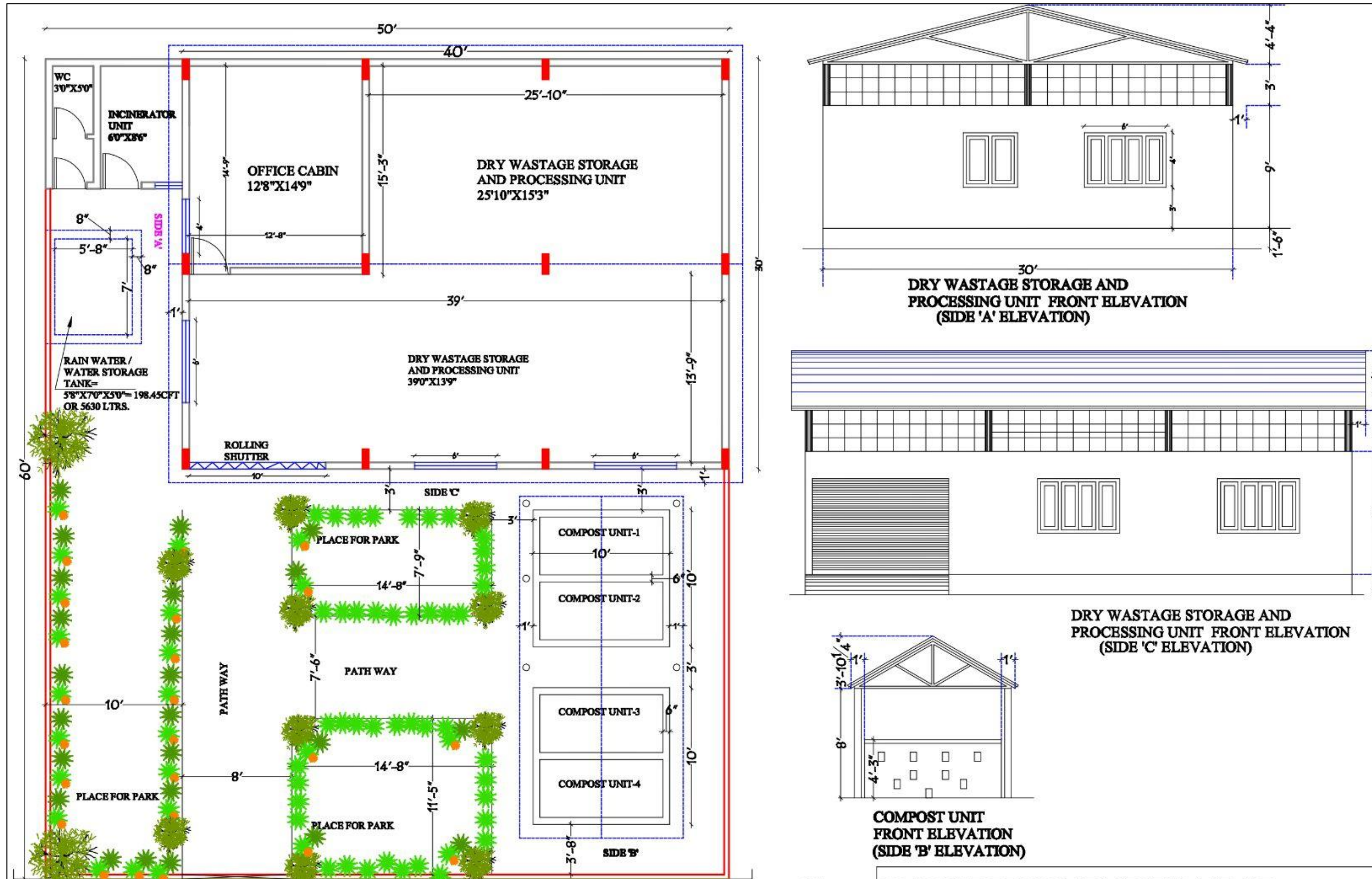
2. Processing of wet waste: The will have composting units to manage the wet collected at Grama Panchayat

Efficient solid waste management units employ sustainable practices, such as promoting waste reduction, encouraging recycling and reuse, and adopting innovative technologies to minimize the environmental footprint of waste management activities.

Required features a model SWM unit

1. Well covered (roof and surrounding) Dry waste storage and processing area.
2. Composting units (NADEP Preferred).
3. Toilets (twin pit model).
4. Office room (with table and chairs).
5. Dry waste sorting table.
6. Electricity and water connection to the unit.
7. Fire extinguishers.
8. Weighing scale.
9. Complaint and suggestion box.
10. Information boards.
11. Register books.
12. Rain water harvesting system (If required).

Sample layout view of SWM unit



Sample image of SWM unit



Dry waste storage and processing center

1. The dry waste storage and processing unit should be constructed with a size of 1200 sqft to accommodate the processing of 1 ton of dry waste per day in a Grama Panchayat. The unit dimensions are as follows:
2. Width: 30ft, Length: 40ft, Side walls: 12ft height, Center height: 15ft
3. The side walls of the unit should be constructed using bricks for a height of 9ft, while the remaining 3ft can be covered with grill for proper airflow. It is advisable to have windows installed for improved ventilation.
4. Additionally, a 100 sqft office space is required within the unit to maintain records and store belongings related to the solid waste management (SWM) unit. It is recommended not to have partitions inside the SWM unit to maximize the storage capacity.
5. For better ventilation and to create a warm environment inside the unit, turbo ventilators can be installed on the roof if necessary.
6. When providing the electricity connection, it is important to ensure that the cable system should limit to the entrance of the unit and office area. This precautionary measure helps to avoid potential short-circuit fire accidents.

Dry waste collection and processing center



Office room inside the dry waste storage and processing center



Composting unit (NADEP Preferred) if needed

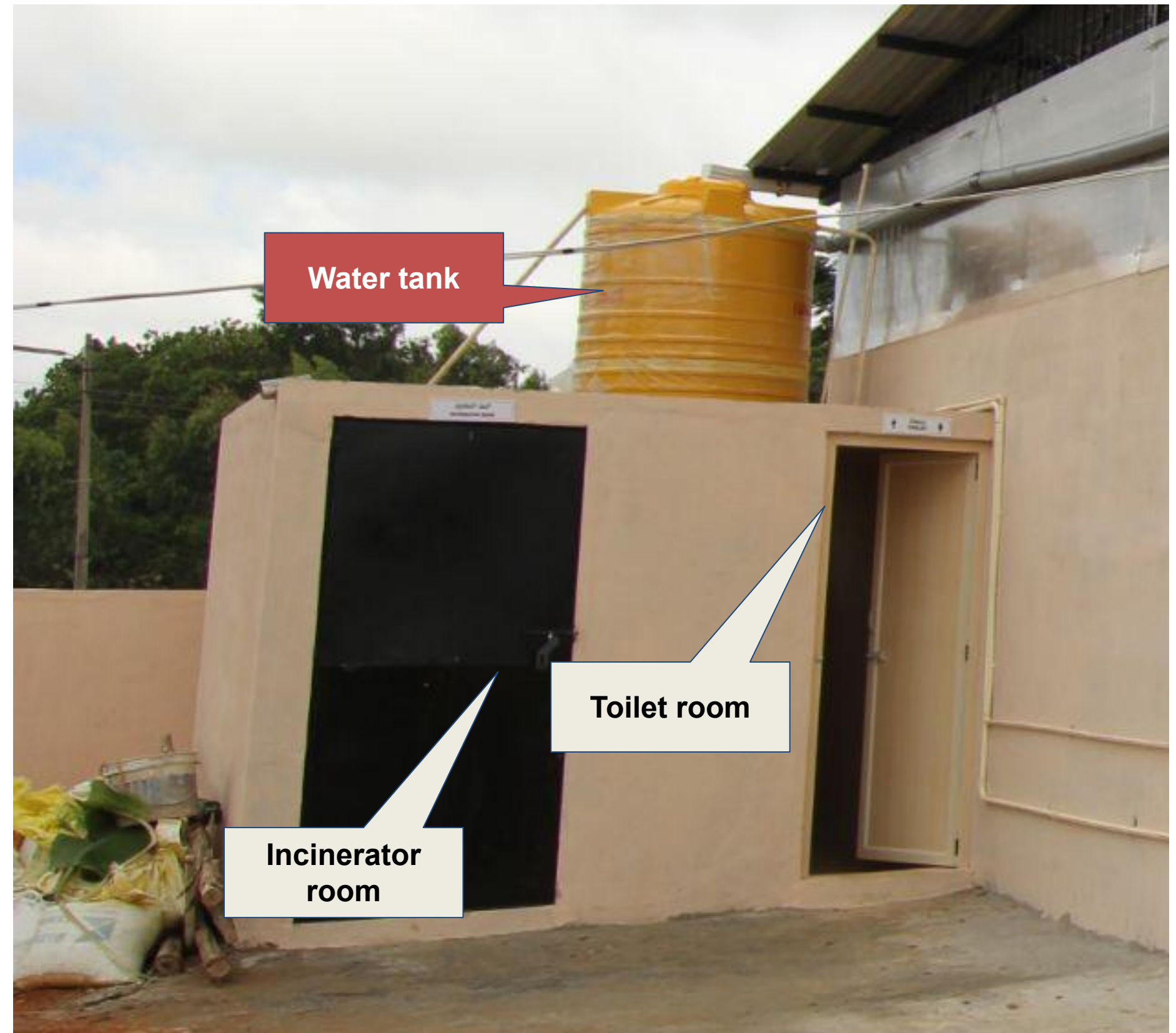
1. In order to effectively manage the wet waste collected from households, it is necessary to construct a composting facility at the Solid Waste Management (SWM) center. While there are several methods available to manage wet waste, the NADEP method is preferred due to its low monitoring requirements and natural composting mechanism.
2. **To determine the required size of compost tanks based on the generated wet waste at GP level, a tool has been developed and is attached to this document for reference.**
3. Each compost tank can have dimensions of 10 ft in length, 5 ft in width, and 4 ft in height. To minimize construction costs, it is suggested to construct two tanks together.
4. During the composting process, leachate or drain will be generated. To effectively manage this leachate, a separate chamber tank is necessary.
5. To protect the composting tanks from rain, it is recommended to construct a shelter or covering over the tanks.

Composting unit (NADEP Preferred) if needed



Toilets and incinerator processing and storage room

1. Toilets are an essential necessity for humans, and it is mandatory to provide toilet facilities at the Solid Waste Management (SWM) unit. The toilets should be designed with twin pits, as it is currently promoted by the state. Additionally, a water connection should be established to ensure proper sanitation and hygiene within the facility.
2. In many Grama Panchayats, incinerators are commonly used to burn sanitary pads. However, it is not aesthetically pleasing to store this waste in the dry waste center. It would be more appropriate and effective to process and store it in separate room.



Other basics



Other basics



The Solid Waste Management (SWM) unit should have a first aid kit readily available for emergency and injury-related medical treatment purposes.



To accurately measure the quantity of dry and wet waste collected, it is necessary to have a weighing scale available.



Due to the highly flammable nature of dry waste and the potential risk of fire accidents, it is essential to have fire extinguishers installed in the Solid Waste Management (SWM) unit to prevent such incidents.

Dry waste sorting table



1. The inclusion of a dry waste sorting table can significantly enhance the efficiency of the sorting staff, enabling them to handle a larger quantity of dry waste per day.
2. The sorting table should have dimensions of 4 ft in width, 4 ft in height, and 6 ft in length.
3. Hooks should be installed at the corners to provide a convenient location for hanging bags and facilitating the disposal of sorted item..

Rainwater harvesting system (Optional)



To effectively collect rainwater during the rainy season, it is necessary to establish a rainwater harvesting system that includes a water storage sump. This will ensure the proper collection and storage of rainwater for future use.

Protection gate to the SWM unit (If compound wall constructed)





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Thank you