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SANITARIANS MANUAL

STANDARD
OPERATING PROCEDURES
for Institutions and Agencies

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STATE OF NEW JERSEY

N. J. DEPARTMENT OF INSTITUTIONS AND AGENCIES,

" "

Division of
Mental Health and Hospitals.
Environmental Sanitation
Committee.

**STANDARD OPERATING PROCEDURES FOR
INSTITUTIONS AND AGENCIES :**

REFUSE DISPOSAL

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NJ/KA 8
IS/R3
1960

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STANDARD OPERATING PROCEDURES
FOR INSTITUTIONS AND AGENCIES SANITARIANS

December 19, 1960

REFUSE DISPOSAL

INTRODUCTION

The proper disposal of refuse at an institution is important in that it reduces odors and unsightly conditions, prevents the build-up of materials that provide food, breeding media, or harborage for insects and rodents, and eliminates accumulations of rubbish that would constitute fire and accident hazards.

DEFINITIONS

Refuse may be broken down into the following classifications:

1. Garbage - Wastes from the handling, storage, sale, preparation, and consumption of foods.
2. Rubbish - (a) Combustible materials such as paper, packaging material, yard trimmings, discarded wood products, furniture, etc.
(b) Non-combustibles such as metallic and ceramic wastes, glass, dirt, etc.
3. Pathological and infectious wastes - animal tissues, soiled bandages, etc.
4. Ashes - Residues from fires.

I. STORAGE OF REFUSE

Receptacles

Refuse should be stored in metal water-tight containers that are provided with tight-fitting covers. The container should be in good condition. Breaks, especially in or around the bottom of the can, permit the exit of pieces of refuse, the entrance of insects and rodents, and the loss of fluids that seep into the earth and subsequently produce odors and provide breeding media for insects. Breaks in a container may also cause an injury to handlers that could result in an infection with a loss of efficiency or times.

Tight-fitting covers keep out insects and rodents, and prevent papers from blowing around.

Size of Receptacles

The size of receptacles should vary according to the type of refuse stored. For garbage 10 or 12 gallon pails are usually adequate. Larger volumes will produce a weight that cannot be conveniently lifted and, with fluid garbage, may cause excessive spillage. Garbage weighs from 30 to 55 pounds per cubic foot. Miscellaneous refuse should be stored in medium sized cans of approximately 30 gallon capacity. Fifty-five gallon drums should be outlawed because they are so heavy that they constitute the primary disabling cause of injury (hernia) to handlers.

Locations of Receptacles

In those institutions where edible garbage is fed to hogs, it should be separated from other refuse and refrigerated until collection time. Separate garbage refrigerators should be maintained for this purpose.

Mixed refuse cans should be kept out of doors. The outdoor location reduces odor, dust, insects and rodents, and fire hazards. The location should be a convenient distance so that employees will not tend to store volumes of refuse in the building until one or more full-sized loads have accumulated. This location should not be under windows, or beside doors where odors may enter the building, or flies attracted by odors will be near an entrance.

Where garbage and rubbish are mixed, as from homes, the garbage should be placed in bags or wrapped in paper so as not to leak and leave residues that will adhere to the bottom of the can and soil or corrode it. Flies can breed in accumulations that contain garbage at the bottom of the can.

Preferably, all trash receptacles should be stored off the ground on low solid platforms made of cement or other solid material. By keeping the metal cans off the ground, rusting of the bottoms is reduced. A solid base prevents wastes from collecting under it and attracting vermin or providing harborage for rodents. "Garbage houses" are not recommended for too often they become infested with rodents.

Disposal of Soiled Sanitary Napkins

In women's cottages or wards heavy kraft paper bags should be available for soiled sanitary napkins. In high-grade patient cottages such bags may be located in the lavatory where the patients, themselves, may effect the disposal. In lower-grade patient cottages or wards, nursing personnel shall be responsible for proper disposal. Naked napkins should not be disposed of in trash cans.

II. FREQUENCY OF COLLECTION

The frequency of collection will depend upon type or volume of refuse produced. Edible garbage should be picked up every day. Buildings with considerable volumes of trash may require daily collection, while for homes or apartments thrice weekly service may suffice. In any location where there is some garbage included in the wastes, twice weekly collections is the minimum to be tolerated. With twice weekly collections equally spaced and under good supervision, relatively few fly larvae will complete their development to a stage where they can successfully migrate from the can to the ground for the purpose of pupating. If larval development is started before the garbage is placed in the can, and under favorable summer temperatures, larval migration may take place successfully within a 4-day period.

III. METHODS OF COLLECTION

Ideally, all trash should be collected in packer-type trucks. However, budgetary limitations will not permit most institutions to make such a purchase. Consequently, trucks that may be used for various purposes must be utilized for trash collection. Such trucks must have a tight-fitting canopy that will prevent papers from being blown out.

IV. CLEANING RECEPTACLES

All cans used for edible garbage should be steam cleaned after each use. A garbage can washer should be located near each garbage refrigerator. If wet garbage is wrapped when discarded, trash cans, theoretically, would not need to be cleaned. If cleaning is required, arrangements should be made by the foreman of the collection crew to temporarily replace the cans and remove the soiled ones for steam cleaning.

V. METHODS OF DISPOSAL

The disposal of refuse is practiced by one or more of the following methods: 1. Sanitary land fill; 2. Incineration; 3. Open dumping; 4. Grinding garbage with discharge into sewers; 5. Hog feeding of cooked garbage; 6. Reduction; 7. Dumping at sea; 8. Composting

Of the above eight methods open dumping, with or without subsequent burning, is unsatisfactory because of the number of rats and flies that breed in such dumpings and the odors, smoke, and other public health or aesthetically obnoxious conditions created. Grinding of garbage with discharge into the sewerage system may be satisfactory for small households but, where large volumes are concerned, such matter may produce overloading of sewage treatment plant. Reduction methods to produce greases and tannage is seldom economically feasible even on a large scale. Dumping at sea may cause a nuisance on shore. Composting requires exacting control, is costly, and is impractical for institutions.

Thus, incineration, burial in a sanitary landfill, and hog feeding or combinations of these are the preferred practice.

Incineration

Incineration is the burning of all combustible materials. It is usually accomplished at temperatures of 1200 to 1800°F. The building of an adequate structure and the development of such temperatures are not economical for most institutions. The common practice is to build a structure with an ash pit, a fire box, and a chimney of sufficient height to burn dry combustibles under self-generated temperatures. Small amounts of wet garbage may be destroyed in this manner but usually not moderate or large amounts. This self-generating type incinerator is common among the smaller institutions. The non-combustible materials included in the trash must be removed frequently and buried or otherwise disposed of.

Sanitary Land Fill

A sanitary land fill is the means of burying refuse either in an excavated trench or area, compacting the refuse, and covering it daily with 6" of dirt and finally with at least two feet of compacted earth. In most instances this will require an apparatus such as a bulldozer to make the excavation and to compact and cover the refuse. With the exception of brush, all types of refuse may be buried in a sanitary land fill. Because of its bulk and the awkwardness in handling it, brush should be piled to one side of the fill area and burned. A trench or cell of a sanitary land fill should be one and one-half times the width of the excavation equipment. This width is required to provide for maneuverability of the vehicle so as to compact the refuse by driving back and forth over it. When a section of the fill is completed there must be at least two feet of earth over the compacted refuse and two

feet of earth between rows of cells so as to discourage rats from burrowing into the refuse. All cells should be covered at the end of each day's collection for the purposes of controlling flies and rodents. However, under most institutional conditions, covering thrice weekly on alternate days is sufficient.

Hog Feeding

Hog feeding of garbage is an economy measure whereby edible waste foods are separated from non-edible garbage and steam cooked for one hour. Cooking is required as a control measure for hog diseases. Each installation feeding cooked garbage to hogs must be licensed by the State Department of Agriculture, and records must be kept on the time and temperature of each batch of garbage cooked.

VI. PATHOLOGICAL AND INFECTIOUS WASTES

Animal tissue, both pathological and non-pathological, and infectious wastes consisting of compresses and other contaminated materials from boils, lesions, nasal and throat discharges, etc., shall be collected in heavy kraft paper bags. The tops of these bags shall be folded over when they contain any infectious item. At the end of each shift the charge attendant shall see that the bag with the infectious wastes is clipped or tied and deposited in a specifically marked waste receptacle. Once each day the contents of these receptacles shall be collected and destroyed in a special destructor or incinerator of adequate design to completely and safely destroy the bags and their contents.

VII. ASHES

The disposal of ash wastes constitutes a minor problem to present-day institutions. Where coal is used for fuel, arrangements are readily made for the disposal of ashes. For minor volumes of ashes, they may be buried in the regular sanitary land fill or, if a sanitary land fill is not used by the institution, burial may be made in slit trenches constructed for this specific purpose. Where contract services are in effect, the ashes may be collected with the general refuse.

The sanitarian makes regular inspections, using the attached form, and makes reports to (?) relative to the 23 items included in the form.

He makes recommendations for corrections.

He should discuss matters of maintenance with (?) so that proper steps are taken to provide satisfactory conditions at all times.

Where recommendations involve methods, schedules, maintenance and purchase of new equipment, the sanitarian should discuss them with the other persons involved so that insofar as possible those affected will know of them and be in accord with them.

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CHECK LIST

REFUSE DISPOSAL	SATIS- FACTORY	UNSATIS- FACTORY
1. Containers in good condition, no holes		
2. Containers clean, no residue in bottom		
3. Tight fitting covers		
4. Size of cans satisfactory		
5. All wet garbage in cans wrapped		
6. Trash cans out of doors		
7. Cans away from doors and windows		
8. Convenient to building		
9. Cans elevated on solid platform		
10. Frequency of collection at least semi-weekly		
11. Equipment available for washing cans		
12. Infectious wastes placed in separate waste cans		
13. Collection truck equipped to prevent papers from blowing out		
14. If refuse is incinerated, is satisfactory incineration accomplished		
15. Ash pit cleaned out at least once a week		
16. If refuse is buried, is refuse adequately compacted		
17. Sanitary land fill covered at least every other day		
18. Absence of flies and rodents around the land fill		
19. At least two feet of compacted soil over refuse as final cover		
20. If hog feeding is practiced, is edible garbage kept under refrigeration		
21. Is establishment licensed for feeding garbage to hogs		
22. Are times and temperatures adequate for the cooking of the garbage		
23. Are records of times and temperatures properly kept		

If questions have unsatisfactory answers, describe deficiency below.