

Facilities Management

Once a facility has been fully selected and its operations begin, agencies will need to continue to maintain, or ensure that the third-party associated with running the facility maintains the physical structure, supporting equipment, and immediate grounds around the facility.

Site Grounds

The grounds around any storage facility should be kept open and free from objects as much as possible; debris, rubble, trash and weeds should be cleared out to avoid damage to vehicles and structures. Exposed wires or pipes should be properly buried or sealed; pipes or electrical equipment that cannot be buried should be well marked, painted red and/or have a secure or caged structure built around them. Drainage ditches should be clean and in working order at all times. Clogged or blocked drainage must be fixed to prevent flooding, and inadequate drainage must be dug if not already available.

Trucks must be able to enter, park, load/offload and depart the facility without difficulty, and ideally, more than one truck should be able to perform work at the same time. There should be adequate room for trucks to turn around in the allocated parking area; even if space is available, equipment or piles of scraps may hinder movement, possibly leading to delays or accidents. The grounds around truck parking and turning areas may need to be graded, paved or gravel/loam laid down to even the surface. An unimproved truck parking and turning space may lead to large grooves or divots in the ground, causing water to pool, mud to form, and vehicles becoming stuck or even damaging their undercarriages. Depending on weather patterns, truck turning and loading/offloading spaces may require continual maintenance seasonally or throughout the year.

Physical Structures

For storage locations of all sizes, there are a number of considerations to be had.

Electricity will be required to operate office equipment, lights and communications equipment. If electricity is not available on site, generators must be installed if possible. Any installed generator will need to be specified to appropriately meet the anticipated power load of the warehouse; and under powered generator will cause equipment failures and require constant maintenance, while an overpowered generator will end up costing more in fuel and maintenance. If a generator is used, agencies must develop a plan for supporting a generator, including having a supply of fuel and spare parts, and identifying how the generator will be maintained and serviced.

If no bathroom facility is available on site, either one will have to be constructed or access to a restroom nearby defined. If the site has no running water, either a water distribution system will need to be installed and water tankered in, or some other form of water will need to be provided for washing. Drinking water should be made available to warehouse workers, and if no tap or purified water is immediately available, bottled water may need to be provided.

There should be space for office work to occur. Any office space should ideally be separated from the main warehouse floor, and have locking doors and drawers. Office spaces should be provided with basic tools, such as a printer, stationary, desks and chairs, electrical sockets, filing cabinets and internet access wherever possible. Smaller facilities may lack the ability to keep office equipment on site, and as such basic supplies can kept in a locker, or carried with warehouse crews as needed.

Warehouses may require additional ventilation, based on the weather conditions outside and the types of commodities store inside. Many larger warehouses have soffit vents to enable hot air to escape as it rises towards the ceiling. Smaller storage spaces may not have the proper structures to support permanent ventilation, and may need doors open during working hours.

For Mobile Storage Units (MSUs):

MSUs must be properly installed and maintained. Installation of MSUs must be facilitated by someone with experience in the process. Beyond just knowing how to assemble an MSU, MSUs must:

- Be built with either the front or back facing prevailing winds to minimise wind pressure.
- Should not be constructed in a low point, or in a location prone to flooding.
- (Ideally) MSUs Should be built on free standing slabs to elevate the MSU above waters caused by rains or flooding.
- MSUs must be properly secured, lockable from the outside and difficult for anyone to climb under the outer apron.

Damage to physical MSUs such as warping of beams or tearing of vinyl siding must be assessed, and repairs conducted by a knowledgeable person. Cracks or damage to MSU foundations must be repaired quickly to prevent further compromising the structure.

For Built-up Hard Sided Structures:

Damage to physical structure should be addressed and repaired. Cracks or holes in ceilings and walls should be addressed as soon as they are identified. Storage facilities should have solid, locking doors and windows. Windows that are low enough to be easily reached and accessed by an adult human should be covered with bars or grating of some kind.

Storage structures should have adequate inside lighting:

- If ambient lighting isn't sufficient for daytime usage, agencies should consider installing additional lights for daytime use.
- Light should be sufficient for operating at night time. Larger facilities may need extensive lighting installations.

Vector Management

Vectors are defined as rodents, insects, or anything that may spoil or damage stock on hand. Proactive vector control is important; rats and insects don't just impact food – they can also damage anything woven from organic material such as blankets or clothing, and can completely destroy stocks of medical grade consumables. An untreated infestation of can lead to large problems down the road, any identified infestation or pest must be dealt with immediately. Warehouses will need enact some form vector control depending on the nature of the stock, including:

- Fumigation – external companies may be able to be contracted to provide fumigation services.
- Rat traps/glue – placing pre-made traps around the warehouse to capture rodents.
- Keeping warehouse floor clean at all times.
- Removing spoiled/rotten items from the general stock and disposing as soon as possible.

In the event an infestation is identified, records should be taken of the date and type of treatment used. Records can help schedule routine fumigation or product inspection, but also may indicate seasonal problems as well.

Fumigation

The overall need for pest and infestation control depends on the duration, storage conditions and type of commodities stored. Food in particular is sensitive to attracting pests, and agencies specializing in food may have special fumigation schedules. A general best practice is to enact fumigation once every six months, however ideally stock should rotate quickly enough to avoid the need for fumigation. In other instances, fumigation may be required every 3-4 months, or as soon as an infestation is discovered. As a general rule most insect pests under humid tropical conditions can be expected to multiply about 50 every six weeks, meaning an untreated infestation can become a large problem very quickly.

Fumigation can be for an entire warehouse or storage site, or for just one portion of stock, however it is strongly advised to fumigate all perishable SKUs at the same time. Fumigation in storage contexts is usually done using what are called "fumigation sheets" or "gas tight sheets" - large impermeable tarps that cover stored items. When using these fumigation sheets, chemicals specifically used for fumigation are pumped under the edge of the tarp, while the edges of the tarps are weighed down to prevent air movement. Use of these tarps concentrates fumigation efforts into specific areas and maximizes impact.



When undergoing fumigation, workers and managers should always consider the following:

- Fumigation should only be carried out by a trained professional, or a specially licensed company. Agencies requiring fumigation services should enquire with their procurement team about what may be available on the market. At no point should an agency attempt to fumigate themselves without special training!
- Even if fumigation is done under tarps, workers should vacate the storage space until they can safely return, as indicated by a trained professional.
- Proper safety equipment should be used by all persons working with or around fumigation.
- Fumigated items will need to be properly aired out before handling or distribution.

After fumigation, continual inspection may be required. If infestations persist, there may be a need to alter storage or delivery methods. The use of additional liquid based pesticides may be required to spray around the exterior or floor of storage spaces.

Physical Warehouse Maintenance Schedule

Below is a suggested periodic maintenance schedule for warehouse management.

	Clean	Check
Daily	<ul style="list-style-type: none">Floors	<ul style="list-style-type: none">Signs of infestationLocks
Weekly	<ul style="list-style-type: none">WallsSides of racks, shelves, fridges	<ul style="list-style-type: none">In-depth check for pestStability of racks, shelvesExterior lighting systemsPerimeter walls/fences
Monthly	<ul style="list-style-type: none">Stored ItemsRoofGutterTruck parking areasFacility grounds	<ul style="list-style-type: none">Wall cracksWater leakagesFire Extinguishers/Sand BucketsCondition of handling equipment

Warehouse Equipment Maintenance Schedule

All equipment in warehouse facilities - including racking and shelving - will require periodic maintenance. This may include replacing parts, applying lubricants, checking batteries, conducting daily charging or cleaning, or just conducting ongoing inspection to ensure that service equipment and physical holding structures are not displaying signs of damage and distress. Generally, the service schedule for different equipment items will be provided by the manufacturer, however the overall need to conduct daily or weekly inspections may also depend on the size of the warehouse and the overall daily handling requirements. The larger the facility, the more pieces of equipment will likely require maintenance. Additionally, warehouses with high degrees of throughput may also require more regular maintenance. Warehouse managers should develop a [maintenance schedule for warehouse equipment](#) breaking down daily, weekly and monthly/yearly service needs, and should also maintain separate [logbooks for key pieces of equipment](#), such as forklifts. Proper tracking of maintenance will increase the lifespan of expensive items, and will increase overall safety of the warehouse environment.