

JOYCE EMERGENCY SHELTER

Toilet Scenarios and Procedures



Expected Situation

- The Joyce Emergency Shelter faces an uncertain future in the event of a Cascadia earthquake. The existing plumbing and septic system may be damaged, and there may be delays in getting both the supplies and skilled workers there to replace it. If regional plumbing and septic systems fail, there is a considerable risk of the spread of communicable diseases from contaminated water and a lack of sanitation and hygiene.
- Having a flexible approach to toilet systems will allow the emergency shelter volunteers to implement the most appropriate sanitation facilities to meet the health and safety needs of the shelter residents in an emergency. Porta-Potties can be modified in different ways to meet both immediate and long-term shelter sanitation needs and will improve hygiene at the emergency shelter.

Rationale

- This is a flexible solution for human waste disposal, and it will help to stop the spread of communicable diseases in case the existing septic system is destroyed. To assist various sanitation and waste disposal issues at the Joyce Emergency Shelter is an appropriate solution to the challenges of responding to our community.
- Having flexible plans and effective procedures will help assist, trained volunteers to use the emergency sanitation supplies and equipment to create appropriate sanitation facilities, increase community resiliency and support public health in an emergency.
- Volunteers can be trained and equipped to effectively respond to changing health and sanitation needs at the emergency shelter by implementing a multi-faceted sanitation plan, with policies and procedures that support the rapid deployment of sanitation facilities.
- The shelter will have a structural assessment after the earthquake and aftershocks to assess for safety and functioning of the plumbing and septic systems. This assessment will determine sanitation needs at the shelter.
- Modifying Porta-Potties will help the Joyce Emergency Shelter efficiently handle waste and prevent the spread of disease. One Porta-Potty will not be modified prior to opening the shelter, to allow for immediate use in the first few critical hours after an earthquake.

Toilet Supplies in Storage

The equipment and supplies for all scenarios will be stored in the Conex 2 or the emergency equipment storage shelter located behind the Joyce Bible Church Gym.

- Three Portable Toilets
- Toilet Paper
- Pee and Poop Buckets
- Black Trash Bags
- Commode Seats

Scenarios and Recommendations

Scenarios	Toilets	Plumbing	Septic System	Recommendations
1	Usable	Functional	Functional	Recommendation 1 Usual restroom set up
2	Not usable	Not Functional	Not Functional	Recommendation 2 (for use in first days) Portable Toilet (only for volunteers)
3	Not usable	Not Functional	Functional	Recommendation 3 (for use in first days) Portable toilet over a septic lid (only for volunteers)
4	Not Usable	Not Functional	Functional	Recommendation 4 Pee and Poop Buckets (for use in first days till latrines are built)
5	Not usable	Not Functional	Not Functional	Recommendation 5 Trench Latrines

Recommendation 1- Usual Restroom Set-up

Situation:

Toilets and plumbing are in normal working conditions.

Supplies and Equipment

- Toilet paper- each person will be provided with a roll of toilet paper each week
- Hygiene signs- see appendix
- Soap – bar soap
- Alcohol gel

Set-Up

- The restroom will be set up and maintained in a normal fashion if everything is working correctly.
- The set up will include hanging all the safety signs as supplied in the sanitation crew's bin.
- Since each client will manage their personal supply of toilet paper and soap, this will not be placed in the restrooms.
- Alcohol gel bottles will be set up near the sinks,

Procedure for Cleaning Toilets and Urinals

As you know, toilets and urinals can be tough and unpleasant to clean. By applying the proper disinfectant to the bowls ahead of time, your job will be less troublesome with cleaner results.

Part 1

- First, flush each unit. This is done to ensure that the unit is free of contamination and determine if it's working properly. Report any damage or malfunctioning units to your supervisor.
- For urinals, remove debris with your gloves on and place the urinal screen on a paper towel while you clean.
- Apply a disinfectant solution, to the interior and exterior surfaces of all urinals and toilets.
- Let it stand and move on to "dry cleaning."

Part 2

Now that the disinfectant has had ample contact time, you can continue cleaning the toilets and urinals.

- Clean the inside of the toilet with the bowl mop paying close attention to the underside of the flush rim. This prevents the accumulation of bacteria that can spread disease and create unpleasant odors.
- Flush toilet to rinse the bowl. Use the clean water to rinse your bowl mop.
- Flush toilet again.
- Wipe down the exterior surfaces of the fixture with a clean cloth.
- Damp wipe all the flush handles and all other chrome. Allow the disinfectant to air dry.
- For urinals, use a bowl mop and wash the pre-sprayed disinfectant from the top to the bottom.
- Replace the urinal screens.

Recommendation 2- Portable Toilet for Volunteers

Situation:

- The toilets and plumbing are not working and the septic system is functional.
- The Shelter is not yet open
- A portable Ttoilet will allow volunteers to have a toilet facility while work begins.
- This set up means the portable toilet will need to be emptied.

Location of Portable Toilet

- The portable toilet need to be located near the septic tank opening.

Supplies and Equipment

- One portable toilet with bottom intact that is stored behind JBC and marked for 1st days.
- flagging tape
- caution signs

Set-Up

- Set up of one portable toilet with bottom intact near a septic lid for easy disposal of wastes.
- The tanks are normally pumped out. So, you will have to find a way to empty these if they get too full.

Procedure for Cleaning Portable Toilets

- ◆ The Supplies You Will Need
 - Soapy Water
 - Sanitizing Spray
 - Toilet chemical replacement fluid
 - Replacement consumables (paper, hand sanitizer)
 - PPE Equipment
- ◆ Portable Toilet Cleaning Process
 - Pump- Use your vacuum pump to remove the waste inside the tank of the portable toilet. To prevent any debris from being sucked up make sure you put your hose all the way to the bottom and slightly to one side. Once the waste is at a low-level check if you have to remove any debris from inside the tank. You will then need to transport this waste to an authorized sanitation cleaning facility. Here the waste will be treated safely and sanitarilly.
 - Clean- Cleaning the inside of the portable toilet is very important. and needs to be done to prevent mold accumulating and stop bacteria or germs from developing. Spray the inside of the toilet with your soapy water and give it a good rinse.

- Sanitize- Once your toilet is fresh and clean the next step is to ensure any smell and bacteria are well and truly taken care of by use sanitizing solution. Spray all surfaces and let air dry.
- Drop in the tank: Liquid: 100ML of liquid deodorizer for 10 to 12L of water

Recommendation 3- Portable Toilet on Septic Cover for Volunteers

Situation:

First of all, this is a dangerous set up. It should only be used in the very beginning days and by adults only. It is placed over an open septic tank because the plumbing for the flush toilets is not working. It must be safely supported on a strong support system.

- The toilets and plumbing are not working and the septic system is functional.
- The Shelter is not yet open.
- A Portable Toilet will allow volunteers to have a toilet facility while work begins.
- This set up means the portable toilet will be placed over a septic lid to eliminate pumping out.

Location of Portable Toilet

- The portable toilet need to be located over the septic tank opening.
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Supplies and Equipment

- One portable toilet with bottom cut out. It is stored behind JBC and marked for bottom removed.
- flagging tape
- caution signs
- Support lumber

Set-Up

- Open the septic lid.
- Build a lumber support system around the opening, leaving a hole big enough for the waste to drop through.
- Place the portable toilet on top of the support system and secure it in place.

Procedure for Cleaning Portable Toilets

- ◆ The Supplies You Will Need
 - Soapy Water
 - Sanitizing Spray
 - Toilet chemical replacement fluid
 - Replacement consumables (paper, hand sanitizer)
 - PPE Equipment
- ◆ Portable Toilet Cleaning Process
 - Clean- Cleaning the inside of the portable toilet is very important. and needs to be done to prevent mold accumulating and stop bacteria or germs developing. Spray the inside of the toilet with your soapy water and give it a good rinse.
 - Sanitize- Once your toilet is fresh and clean the next step is to ensure any smell and bacteria are well and truly taken care of by use sanitizing solution. Spray all surfaces and let air dry.
 - Drop in the tank: Liquid: 100ML of liquid deodorizer for 10 to 12L of water

Recommendation 4- Pee and Poop Buckets

Scenario for Use

- ◆ The toilets or plumbing systems are not working.
- ◆ Water supply is damaged.
- ◆ Early in the disaster before latrines are functional.
- ◆ Remember that in an emergency, people are vulnerable and scared. Folks will appreciate the comfort, hygiene, and safety that come with this simple twin toilet.

Equipment and Supplies (All supplies are in Conex 2)

- ◆ 2 plastic buckets
- ◆ Lids for buckets
- ◆ Commode Seats
- ◆ Garbage bags (13 gallon)
- ◆ Gloves and hand sanitizer and toilet paper
- ◆ Carbon material in plastic bags of sawdust, shredded paper, pulverized dry leaves.

Setting up the toilet

- ◆ Set up in a private space; possibly the restroom stalls or in a tent outside.
- ◆ Mark the twin buckets “pee” and “poo” (or #1 and #2 or urine and feces, or yellow and brown, etc).
- ◆ Place trash bags in the buckets.
- ◆ Put the commode chair over the bucket.

How to use the pee/poop bucket system

- ◆ Try not to pee in the poo bucket. This is really important but it is understandable that this isn't always possible. The pee is the component that produces the bad smell in toilets that mix.
- ◆ After using the pee bucket remove the seat and cover with a lid that closes well.
- ◆ After using the poo bucket, sprinkle about a half cup of the carbon material so that it completely covers the surface of the poo. This will eliminate odors and ensure flies don't make themselves at home.
- ◆ Toilet paper is just fine for the poo bucket but not for the pee bucket.
- ◆ Put the toilet seat back down ensuring it's not airtight. Give your poo some air and it will dry out and reduce in volume.

What do you do when buckets fill up?

- ◆ The shelter manager will work with Incident Command to find a place to dispose of the pee and poop.
- ◆ The separated pee and poo, is easier to handle and almost completely eliminates odor. A day's worth of pee has almost 10 times the volume of poo. So the pee bucket will fill up a lot faster
- ◆ The poo bucket contains most of the pathogens, but doesn't take up much space. Left to dry in a bucket with some carbon material, poo simply decomposes into compost.
- ◆ The Sanitation Manager will monitor when to empty the buckets. When the latrines are built, this bucket system will only be used at night or for those who can not make the trip to the latrines.



Procedure for Cleaning Pee and Poop Buckets

- ◆ The Supplies You Will Need
 - Soapy Water
 - Sanitizing Spray
 - Toilet chemical replacement fluid
 - Replacement consumables (paper, hand sanitizer)
 - PPE Equipment
- ◆ **Pee** Bucket Cleaning Process
 - Remove the commode seat.
 - Take the bucket to the removal area. Tie the garbage bag closed securely. Lift carefully into the removal bin marked “Pee”.
 - Clean- Take the bucket and commode seat to the sanitizing tent. Clean the bucket inside and out with soapy water. Give it a good rinse.
 - Sanitize- Once the bucket is clean the next step is to ensure any smell and bacteria are well and truly taken care of by use sanitizing solution. Spray all surfaces and let air dry.
- ◆ **Poo** Bucket Cleaning Process
 - Remove the commode seat.
 - Take the bucket to the removal area. Tie the garbage bag closed securely. Lift carefully into the removal bin marked “Poo”.
 - Clean- Take the bucket and commode seat to the sanitizing tent. Clean the bucket inside and out with soapy water. Give it a good rinse.
 - Sanitize- Once the bucket is clean the next step is to ensure any smell and bacteria are well and truly taken care of by use sanitizing solution. Spray all surfaces and let air dry.
- ◆ Return buckets and commode seats to toileting area
 - Set up the buckets with double lining of heavy duty garbage bags
 - Place the commode seat over the bucket.

Recommendation 5- Trench Latrines

Situation:

- The toilets and plumbing are not working and the septic system is damaged or not functional.
- Modified Porta-Potties will allow shelter residents to effectively manage human waste and prevent the spread of water contamination and diseases from feces.

Location of Latrines

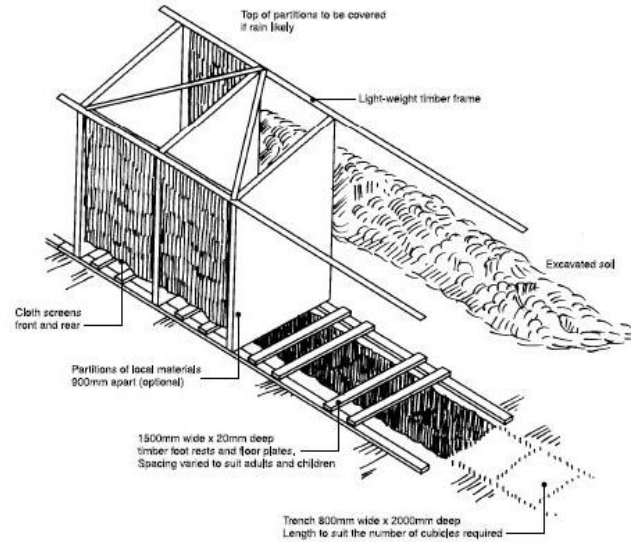
- The latrine trenches need to be located 30 feet away from the shelter and 30 feet away from water sources.

Supplies and Equipment

- Porta-Potties
- flagging tape
- caution signs
- fasteners to connect the framing
- treated or cedar dimensional wood or poles,
- Appropriate tools for construction and modifying the Porta-Potties (screwdriver, hammer, hacksaw or reciprocating saw, shovels) when needed.
- an excavator to dig the latrine trench

Set-Up

- A trench latrine is a rectangular hole in the ground. The hole should be dug about 4 Ft deep. It may be of any convenient length, usually between 15 Ft and 20 Ft, and between 36 inches and 55 inches wide.
- The trench is spanned by sturdy wooden boards on which the portable toilets will be placed.
- Make sure there is a gap between the boards through which the waste can fall. Make sure there are enough support boards to securely support the portable toilets.
- Position the support boards safely under the portable toilets and secure to the frame.
- Erect a safety barricade with T-posts and flagger tape. A drainage ditch should be built to divert surface water and prevent the trench from filling up with rainwater



Cleaning Procedure and Maintenance

- Clean all debris from floor.
- Wash all surfaces with soapy water, rinse and let air dry.
- Spray all surfaces with sanitizing solution and let air dry.

Maintenance

- Maintenance- Each week the contents of the trench are covered by 4 to 6 inch deep layer of soil. This will reduce the smell and prevent flies from breeding in the trench. When the bottom of the trench has risen to within 1 foot from the surface, the trench is filled in and the latrine is closed.