

Sandbag Guide
Flooding Mitigation

Emergency Management
Simcoe County

When significant rainfall or snow melt occurs, water levels can rapidly rise potentially posing a flood threat to your community. Sandbags are a simple, yet effective way to prevent or reduce the effects of flooding on a community by creating a near watertight barrier when properly installed.

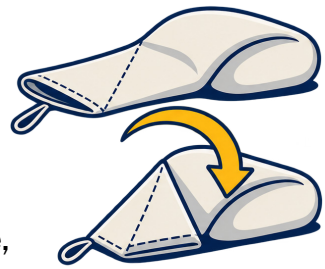
Proper Sandbag Filling



1. **Hold the bag in front of you with widespread feet and arms extended**
2. **Fold the top of bag back onto itself to make a collar**
3. **Fill bags no more than 2/3 full**
4. **Use a clean dense heavy dirt or sandy soil**

Sandbag Placement

1. **Remove any debris where the sandbags will be placed**
2. **Fold the open end over itself diagonally creating a triangle on the unfilled section of the sandbag and place the next sandbag beside, resting on the fold**



4. **Place filled sandbags flat, lengthwise and parallel to the water**
5. **Keep the folded end of the sandbag facing against the flow of water**
6. **Place additional sandbags in a row, with additional layers on top offset by half (1/2) of a bag**
7. **Compress the sandbag into position by applying pressure through your feet, knees, or by sitting on them to interlock**

Important Considerations

- When filling sandbags, one person holds the bag while the other fills
- Work clothing and gloves are recommended
- Sandbags typically weigh around 18.1 kilograms (40 lbs) when filled
- Lift with your legs and maintain proper posture and form to avoid injury
- Sand and heavy bodied soils should be debris-free to avoid puncturing bags
- Not stacking sandbags properly can cause failure to stop water or risk of injury
- Always properly dispose of sandbags following their use per munipality and landfill regulations

Flaps tuck under



Water flow

Stacking Sandbags

- Sandbag barriers should be built by a group of people distributing work and reducing overall workload
- Each sandbag should be 36-46 cm (14-18”) wide and 76-91 cm (30-36”) deep
- Build sandbag barriers 1 metre away from buildings. If placed against walls, the added pressure risks collapsing the wall (which could cause damage and destruction to the property).
- Sandbags can be placed three layers high without needing supports such as the pyramid method when building taller
- For locations that require sandbags to be over three layers tall, use the pyramid placement method

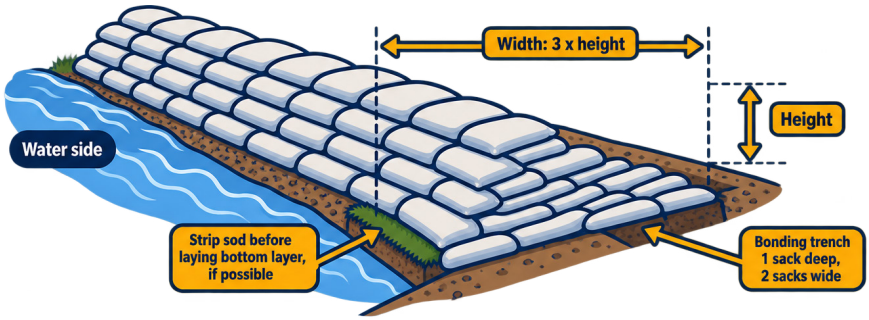
Single Rows

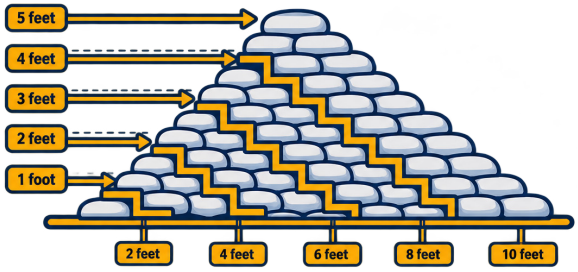
- Maximum of three sandbags high
- Building a 10-metre long sandbag barrier (3 rows tall) requires 12 sandbags per row (36 sandbags total)
- Total fill material required: 652 kg (1,440 lbs)



Pyramid Stacking Method

- Building a 10-metre sandbag barrier (4 rows tall) requires 10 rows of sandbags (120 sandbags total) with four rows on the bottom, followed by three rows, two rows, and one row on the top
- Total sandbag fill material required: 2,172 kg (4,800 lbs)





- The pyramid stacking method is used to create sandbag barriers at an unlimited height while maintaining structural stability
- Basic pyramid method requires sanbag barriers having equal height and width

Tips for Success

- Fill bags half-way to avoid making them too heavy or large
- Remove debris from surface before placing sandbbags
- Don’t use gravel, loose dirt, or soil that contains debris to fill sandbags
- Tuck loose bag ends underneath and avoid leaving gaps between bags
- Inspect barriers continously throughout flood
- Build barriers on stable ground and avoid building them too high
- Don’t use slippery plastic garbage bags
- Don’t wait until floodwaters arrive before preparing
- Do not deploy barriers against strutures/ buildings

Information Sourced From: U.S. Army Corps of Engineers & PreparedBC (The Province of British Columbia)