Sandbag Construction

US Army Corps of Engineers
BUILDING STRONG®
Emergency Construction
Sandbags

- Typical uses:
  - Where a low and relatively short barrier is required
  - Constricted areas where there is no room for earthfill levees
    - ex. back yards, buildings close to channel
  - Closures / temporary closures
    - ex. Roads, railroad tracks
Emergency Construction
Sandbags

- Design section:
  
  - 1:3 cross section (1 foot high for 3 foot width)
  
  - 5 foot maximum height
  
  - 3 foot or less height preferred
Filling Sandbags

- Fill sacks approximately ½ full
- Do not tie sacks
Placement of Sandbags

- Start upstream
- Where possible, strip sod / topsoil
- Where possible, excavate bonding trench 1 sack deep by 2 sacks wide
- Alternate direction of placement of bags with bottom layer parallel to flow
- Lap unfilled portion of sandbag under new sack
Overlap unfilled portion of sack with filled portion of next sack.
Placement of Sandbags (cont.)

- **Width**: 3 times height
- **Bonding trench**: 1 sack deep by 2 sacks wide
- **Water side**
- **Strip sod before laying bottom layer, if possible**
Placement of Sandbags (cont.)

Place poly on wet side of sandbag closure to prevent / reduce seepage
## Placement of Sandbags (cont.)

- Number of sandbags required per foot of closure vs. sandbag closure height

<table>
<thead>
<tr>
<th>Height in Feet</th>
<th>Bags Required</th>
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<tbody>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>36</td>
</tr>
<tr>
<td>5</td>
<td>55</td>
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</tbody>
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Sandbag placement exercise
Sandbag ring levee with poly on inside face to prevent seepage
Sandbag ring levee to contain seepage
Sandbags placed at apartment building
Seepage/Erosion Protection: Polyethylene Sheeting and Sandbags
Seepage/Erosion Protection: Polyethylene Sheeting and Sandbags

- Polyethylene (poly) Sheeting - ~6 mil thick
- Sandbags used to anchor poly in place
- Placement is fairly quick
- Materials inexpensive
- Place materials in the dry or in the wet
Seepage/Erosion Protection: Poly Sheeting and Sandbags (cont)

Placement of poly sheeting and sandbags in the dry
Seepage/Erosion Protection: Poly Sheeting and Sandbags (cont)

Placement of poly sheeting and sandbags in the dry
Seepage/Erosion Protection: Poly Sheeting and Sandbags (cont)

Placement of poly sheeting and sandbags in the wet
Placement of poly on riverward side of levee to prevent seepage / erosion. Poly weighted down with sandbags
Placement of poly on riverside of levee to prevent erosion / seepage