DRY FLOODPROOFING: GLASS BLOCK BASEMENT WINDOWS

An alternative to a raised window well is to remove the glass from the window and replaced it with glass blocks. When installed properly, glass blocks can withstand the pressure of shallow ponding floodwaters. The glass blocks will reduce the occurrence of seepage through a lower level window.

DESIGN CONSIDERATIONS

Replacing a window with glass blocks will render the window inoperable, but the glass will still allow natural light into the area. If the window is serving as an emergency exit, it cannot be replaced with glass blocks. Glass block should not be used if floodwaters are known to carry debris, floodwaters flow at high velocities, floodwaters remain high for over 24 hours or in structures with frame and masonry veneer walls. Local zoning and building codes may also restrict the use of glass block in buildings that require emergency exits.

CONSTRUCTION AND COSTS

Cost for construction will vary based on accessibility, block chosen, size of window and condition of existing window openings.

MAINTENANCE

The components of glass block basement windows must be inspected and preserved to maintain the flood protection. The glass blocks and the seal around the window should be checked annually for cracks and potential leaks.

ADVANTAGES	DISADVANTAGES
• Reduces the flood risk to the structure and contents if the design flood level is not exceeded, • May be less costly than other retrofitting measures, • Does not require the extra land, • Reduces the physical, financial, and emotional strains that accompany flood events, and • Retains the structure in its present environment.	• Does not satisfy the NFIP requirement for bringing Substantially Damaged or Improved residential structures into compliance, • Requires ongoing maintenance, • Does not reduce flood insurance premiums for residential structures, • May not provide protection if measures fail or the flood event exceeds the design parameters, • May result in more damage than flooding if design loads are exceeded, walls collapse, floors buckle, or the building floats, • Does not eliminate the need to evacuate during floods, May • adversely affect the appearance of the building, May lead to • damage of the building and its contents if the glass blocks leak, and • Does not minimize the potential for damage from high-velocity flood flow.

FLOOD REDUCTION

If the low opening to the structure is a lower level window and overland flow is getting into the structure through the window, installing glass blocks can reduce the occurrence of structural flooding. However, the level of flood protection is limited based on the sealant and strength of the glass blocks.