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Water and Sediment Control Basins

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Developed by the ASAE Conservation Systems Committee; approved by the ASAE Soil and Water Division Standards Committee; adopted by ASAE October 1986; reconfirmed December 1991; revised editorially and reaffirmed December 1992; reaffirmed December 1997, February 2003, February 2008; revised January 2012; revised February 2017.

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1 Purpose and scope

1.1 This Standard is intended to guide engineers and technicians in the planning, design, layout, construction and maintenance of water and sediment control basins (WASCOBs). These basins consist of an earth embankment with a level top section constructed across a watercourse or gulley to form a sediment trap and a water detention basin.

1.2 This Standard applies where gully erosion is a problem or there is a need to manage runoff leaving a site. The soils and site conditions must be suitable to build an earth embankment and the topography must provide adequate detention storage. The site must provide an adequate outlet either through an underground outlet (UGO) or by infiltration into the soil.

1.3 Water and sediment control basins differ from terraces in that they are not intended to control sheet and rill erosion. Used in combination with terraces, diversions, contouring, conservation cropping systems, conservation tillage, crop residue management, and/or permanent vegetation, they can be part of a resource management system to protect the soil and water resource base.

2 Normative references

2.1 The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies unless noted. For undated references, the latest approved edition of the referenced document (including any amendments) applies.

ASAE S268, Terrace Systems

ASAE EP425, Underground Outlets for Conservation Practices

ASABE EP592, Diversions

3 Terminology

3.1 WASCOBs are classified according to the embankment cross section (refer to figure 1 for WASCOB nomenclature).

h:v = horizontal distance : vertical height (e.g. 5h:1v = 5 units horizontal for every 1 unit vertical)

3.1.1 Broad base: The WASCOB embankment and excavated slopes are 5h:1v or flatter. The entire WASCOB cross-section is farmed. Select slopes widths fit machinery widths.

3.1.2 Steep backed: The back slope (the downstream slope of the embankment) is steep, usually 2h:1v, and planted to permanent vegetation. All of the other embankment and excavated slopes are 5h:1v or flatter and are

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