**MFS Overview Video Script**

**YouTube Information:**

Title: Virtual Hydraulics Lab Tour – Multifunctional Flume System

Description: An introduction to the Multifunctional Flume System (MFS) used in the TFHRC’s Hydraulics Laboratory to conduct physical experiments.

**Script:**

This is the Multifunctional Flume System, also known as the MFS, where physical experiments are conducted to calibrate computer and CFD models. The tiltable MFS is equipped with adjustable channel elements mounted on the flume platform. If needed, channel elements can be removed to conduct drainage or culvert hydraulics experiments. Different flow conditions are generated to study the hydraulic response of the 3D-printed, scaled models. Movable bed experiments allow the investigation of scour around scaled bridge foundations and are used to validate the CFD scour research.

**508 Caption Description:**

The video begins with the camera panning up the stairs to reach the catwalk level of the flume, first focusing on the inlet tank and then slowly rotating around to view the entire channel section. The main video shrinks and a second video appears showing an experiment in the main channel. A 3D-printed bridge deck with a single pier is mounted in a dry channel, before water enters the channel creating flow effects from the pier’s shape. A new experiment appears, showing a different 3D-printed bridge and pier model mounted in sandy bed material. A final video shows a robot arm sculpting an angled embankment out of sand along the channel.