**Video: HDL-VLT\_7-3-Mobile Robot.mp4**

**YouTube Information:**

Title: Virtual Hydraulics Lab Tour – Mobile Robot

Description: A brief introduction to the autonomous mobile robot, which is being programmed to conduct soil erosion testing in the Hydraulics Laboratory.

Video: mp4

Captions: attached

Thumbnail file: attached

Public Listing Type: Unlisted (we only want people to discover this video through our website and the virtual tour.)

**Permissions, copyright, licensing:**

Video: The entire video is FHWA-owned.

Music: Time to Move by VESHZA. Licensed from Artlist. See attached PDF: TimetoMove\_License\_719099 - 2020-2021.pdf

**Script:**

The autonomous robot is programmed to move between different devices while avoiding obstacles utilizing its sensors and digital mapping system. The goal is to have a soil testing facility in the future that automates the tedious process of soil erosion testing, therefore increasing the capacity to provide soil erosion values for design.

**508 Caption Description:**

The video shows an overhead camera angle, simulating security camera footage, of the lab floor between the ex-situ soil testing device and the soil compaction station. The mobile robot starts on the left side of the screen, rotates and then drives completely autonomously across the lab floor between the safety strips on the floor. When it gets even with the compaction station, it pauses then begins moving towards the station while gradually turning. When it arrives at the station the robot arm scans each Shelby tube mount on the mobile platform to count the samples, then scans the top of the samples to see if they’re full of soil. The arm then turns and scans the three pistons at the soil compaction station to see if they are open. The arm swivels back to grab a sample on the mobile platform and places it in an open slot on the soil compaction station. While the arm is scanning the soil samples, a secondary video appears in the lower right corner to give a closer view of the procedure.