Federal Aviation Administration – William J. Hughes Technical Center

National Airport Pavement Test Facility (NAPTF)

Contract No: 692M15-20-D-00004

ARA TO 005 Structural Airport Pavement NDT and Evaluation

5.1.1.2 CC9 NDT Data Collection (Task 4.1.1.2)

CC9 NDT Survey Notes

Device: GPR – Cart

Survey: Nontrafficking 20220214

Date: 2/15/2022, 2/16/2022

Operators: Douglas Evans

Folder Name: 20220215 GPR Cart CC9 Nontraffic Raw Data

File Format: DZT

**General Notes**

* Transverse data collected along the ten (10) Standard Transverse Test Lines.
  + Cart is aligned with white transverse line and direction of travel is from Offset -26.66 ft. to +26.66 ft. (North to South).
  + Survey starts and stops with the antenna centered on the yellow longitudinal edge of test area lines.
* Longitudinal data collected along center of North and South wander patters at Offsets -15.00 ft. and +15.00 ft., respectively.
  + Direction of travel is from West to East.
  + Survey starts and stops with the antenna centered on the transverse lines marking Stations 0+00 and 3+00.
* Data collected with 900 MHz and 2.6 GHz ground-coupled antennas.
* Calibration of DMI performed before data collection with each antenna and value recorded.

**Settings**

Parameter 900 MHz Antenna 2.6 GHz Antenna

Transmit Rate 100 KHz 100 KHz

Samples/Scan 512 512

Bits/Sample 16 16

Range 15 ns 8 ns

Dielectric 4.00 (default) 4.00 (default)

Rate (Scans/Second) 100 (default) 100 (default)

Scans/Unit 30 scans/ft. 90 scans/ft.

Gain Points 3 2

Vertical Low Pass – LPIIR 2500 MHz 0

Vertical High Pass – HPIIR 225 MHz 10 MHz

Vertical Low Pass – LPFIR 0 5000 MHz

Vertical High Pass – HPFIR 0 400 MHz

Stacking Filter 5 5

**DMI Calibration**

Distance 900 MHz Antenna 2.6 GHz Antenna

10.00 ft. -494.90 -494.00

**Data Collection File Numbers**

Transverse Survey Lines

Location 900 MHz Antenna 2.6 GHz Antenna

Station 0+15 043, 044, 046, 048 031

Station 0+30 045, 047, 049 032

Station 0+75 051 033

Station 0+90 051 034

Station 1+35 052 035

Station 1+50 053 036

Station 1+95 054 037

Station 2+10 055 038

Station 2+55 056 039

Station 2+70 057, 058, 059 040

Longitudinal Survey Lines

Location 900 MHz Antenna 2.6 GHz Antenna

Offset -15.00 (North) 041

Offset +15.00 (South) 042

**Survey Notes**

* Dataset 20220214 includes 0 days of trafficking over 11 weeks (11/30/2021 – 2/14/2022).
* File 043 has strange “spikes” in the data. Redid pass. File 044 showed the same thing.
  + File 045 also showed the same. Rebooted and unplugged/re-plugged everything.
  + This temporarily fixed it, but the problem came back on files 046 and 047.
* Later, took files 48 – 51 which looked good. Next file has spikes again, so I did not save it and stopped for the day.
* Returning on 2/16/2022, completed remaining passes. File 052 had no spikes, file 053 had 1 spike, and files 54 – 55 became progressively worse. Files 56 – 59 all had a high amount of spikes in the data.
* File 058 is a rerun at 2+70 where the first half (North side) of the run was done as a slow speed and the second half (South side) was at a normal speed. File 059 is the opposite with the first half done normally and the second half done slowly.
  + On initial observations, going slower reduces the density and intensity of the spikes, but does not cause them to stop occurring.