

**Road Doctor Memo No. 26****To:** Metro District**Cc:** Dave Van Deusen, Ben Nixa

Data collected by: Eyoab Zegeye and Thomas Calhoon

Data prepared by: Thomas Calhoon

Report prepared by: Eyoab Zegeye and Thomas Calhoon

**From:** MnDOT Office of Materials & Research (OMRR) – Road Doctor Survey Unit**Date:****Subject: GPR Detection of Bituminous Asphalt Thickness for I35W (SP 1981-140)  
from Southcross Dr to Cliff Rd**

This technical memorandum presents the results from the Road Doctor Survey Van (RDSV) 3D-GPR testing of a road section in I35W from the north end of the Southcross Dr bridge to the northern end of the Cliff Rd interchange in the city of Burnsville, MN. The tested section runs from RP 0+00.07 to 3+00.73 in the NB direction and from 0+00.39 to 3+00.56 in the SB direction. The tested section consists of a multi-lane divided highway. The GPR survey was conducted on the innermost three lanes of each direction (including the auxiliary lane in the SB). The testing aimed to measure the thickness of the top bituminous asphalt layer. Testing was conducted on April 19, 2022, using the Geoscope 3D-GPR radar unit. Data processing was accomplished using the Road Doctor software. Our office requested and obtained core data from GPR-informed locations. The core depth data was employed for calibration and verification of the GPR thicknesses. The GPR thickness results are provided in the attached Excel spreadsheets. The main takeaways of the excel report can be summarized as follow:

- From Southcross Dr to TH13
  - In the decreasing (SB) directions, all the lanes exhibited ~ 5" of a bituminous layer. The only exception was:
    - The auxiliary lane from CR42 to ~3000' North of CR42 yielded ~14" of bituminous.
  - In the increasing (NB) directions, we estimated ~ 5" of a bituminous layer in the middle and outside lane. The inside lane (MnPASS) exhibited 14" of a bituminous layer.
- From TH13 to Cliff Road
  - We estimate ~ 5" of bituminous layer on all the lanes except for the outside lane in the NB, measuring ~14 of a bituminous layer.
- From Cliff Road to the end of the project
  - We estimated ~ 8" of bituminous layer on all the lanes.

Please contact us for any additional information. Thank you again for the opportunity to assist you in this project and please

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