State DOT: Colorado

State Report Questions on NDT Testing

1. What NDT testing methods for concrete materials, concrete pavements, and overlays are you trying?

    a. Maturity meters are used to test PCCP and Structural concrete.
        i. PCCP –May be used to determine strength for opening to traffic and in low temperature conditions.
        ii. Structural – May be Used to determine in-place strength for opening to structures, removing form and false work and continuing to the next phase of construction.

    b. Testing for dowel bar placement in PCCP – Utilize the MIT-Scan2-BT (Magnetic Imaging Technology) to test and verify placement of dowel bars. (Microcover meter has been utilized in the recent past.) Evaluating the use of the MIT-Scan2-BT for testing tie bar locations.

    c. FWD – equipment is utilized to determine subgrade strength for pavement design.

    d. Ground Penetrating Radar (GPR) – being evaluated currently. Has been used in limited cases to verify existing subgrade & pavement thicknesses (and cross-verified with field cores).

2. In your experience, how does the reliability of NDT testing methods compare to traditional testing methods?

    a. The NDT methods are anticipated to give better results in most instances. As new technology emerges, the reliability of NDT testing methods continues to improve.
    b. Maturity meters have been proven to be more accurate than coring and field cured cylinders.
    c. The MIT Scan's accuracy has been proven by destructive testing on a project. It is far superior to a cover meter.
    d. When the MIT Scan has the proper calibration for the tie bar used, it will be just as accurate for tie bars
    e. Unknown reliability since results vary with the season and no reliable lab test to compare result.
    f. Unknown. Currently evaluating.