Memorandum

To:    DEPUTY DISTRICT DIRECTORS, Construction
       DEPUTY DIVISION CHIEF, Structure Construction
       CONSTRUCTION MANAGERS
       SENIOR CONSTRUCTION ENGINEERS
       RESIDENT ENGINEERS

Date:  March 31, 2022

From:  TIM GREUTERT, Acting Chief
       Division of Construction

File:   Division of Construction
        CPD 22-6

Subject: USE OF MATURITY TO DETERMINE OPENING TO TRAFFIC CONCRETE STRENGTH

This directive provides information to Department resident engineers about revised Sections 40-1.03L, “Use of the Maturity to Determine Opening to Traffic Concrete Strength”; 40-1.03J, “Protecting Concrete Pavement”; and 40-1.03O, “Smoothness and Friction Correction,” of the Standard Specifications which became effective October 15, 2021.

The optional use of the maturity method under ASTM C1074, “Standard Practice for Estimating Concrete Strength by the Maturity Method,” estimates the flexural strength or equivalent compressive strength of concrete pavement as a function of time and temperature. Maturity monitors the real-time strength development in concrete pavement. Benefits include time and money savings through earlier traffic opening, and also reduced impacts to the traveling public. Refer to the Engineering Workbench website to find ASTM C1074:

https://ihsmarkit.com/products/engineering-workbench-platform.html

For projects advertised before October 15, 2021, or that do not include the revised specifications, the contractor may request use of the revisions for ongoing projects by submitting a no-cost change order request to the resident engineer. The change order must be approved before fabricating test specimens to develop the strength-maturity relationship.

Attached to this directive are a sample change order memorandum, sample change order, and revised Sections 40-1.03L, 40-1.03J, and 40-1.03O of the Standard Specifications. This directive serves as delegation of authority from the Division of Construction for change order approval, except when change order language is altered.

“Provide a safe and reliable transportation network that serves all people
and respects the environment”
If you have questions or comments regarding this directive, contact Deborah Yost, Division of Construction, at Deborah.Yost@dot.ca.gov or (916) 764-8011.

Attachments:

1. Sample Form CEM-4903, “Change Order Memorandum”
2. Sample Form CEM-4900, “Change Order”
3. Revised Sections 40-1.03L, “Use of the Maturity to Determine Opening to Traffic Concrete Strength”; 40-1.03J, “Protecting Concrete Pavement”; and 40-1.03O, “Smoothness and Friction Correction,” of the Standard Specifications