Development of Standardized Details for UHPC Applications

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Components and Structures
Specifications

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Extended Abstract

Over the course of the last few years, the NYSDOT has strived to institutionalize the use of Ultra High Performance Concrete (UHPC). To ensure that the NYSDOT was receiving a consistent product, a non-proprietary UHPC mix design was developed.

Additionally, UHPC is an effective material for constructing durable and efficient closure pours between precast elements. Over the course of many years, NYSDOT has developed several innovative details for precast elements that exploit the enhanced properties of UHPC to connect these prefabricated elements. These elements include precast deck panels, NEXT beams, deck bulb-tees, and adjacent boxes. These details have been standardized in the official NYSDOT Bridge Detail (BD) sheets.

NYSDOT has also looked to develop, apply, and evaluate innovative uses for UHPC. Details for UHPC link slabs and joint headers have been included on several projects as a trial installation. Additionally, NYSDOT has been developing a testing program with FHWA to determine if UHPC can be used to rehabilitate steel girders with deficient top flange compressive capacity for installation on another project. Finally, NYSDOT is considering the use of UHPC as a full width overlay to rehabilitate a deteriorated concrete slab on an adjacent prestressed concrete box-beam

bridge. If these installations prove effective, then their details can be included in future standard details.