Allow our broad range of cost-effective customizable products to bring value to your next project.

At Forterra we take pride in our ability to bring our customers the affordable, quality construction materials they need. Providing pre-fabricated designs that save time and money while increasing safety is one of many ways we do just that.

Project Description

The Basset Creek Tunnel Realignment project was one of the first projects of an ongoing $1.5 billion dollar plan to extend the Blue Line of the Minnesota light rail system. On this site, the engineer laid out 420’ of 14x8 precast box culverts to replace and realign an old storm sewer tunnel underneath a high-traffic highway near where a light rail station would later be constructed on a separate project. The existing tunnel was considered to be structurally deficient. Some sections that were to be removed dated as far back as 1884.

The project was bid in July of 2017 and was awarded shortly after. Construction began just a few months later on October 30th. The contract documents limited the contractor to a maximum 12-day road closure window in which to tear down the old tunnel and install the new one. The contract also required that the contractor keep one lane open in each direction of this 6-lane highway throughout the entire construction. With the timely production and delivery of over 70 precast sections coupled with an efficiently coordinated installation, the contractor successfully completed the phased construction within the required window without any major issues.

Much of the credit also goes to the designer who utilized the extensively versatile capabilities of precast box culverts to reduce the amount of formwork and field pours needed to be completed on-site. The engineer’s layout employed the use of (3) 17 degree prefabricated bends, (1) 14’x8’ to 16’x8’ transition piece, (2) tie-in pieces (with exposed steel), as well as (5) precast openings for storm sewer connections and (2) openings for manhole access. These unique features required minimal extra effort by the contractor and allowed him to tackle site-specific challenges with precisely made, customized sections.

Because precast box sections are structurally guaranteed the moment they arrive on the jobsite, there was no need to wait around for the concrete to achieve a particular strength. Comparatively, a cast-in-place box would need extra crews, more equipment, and a significantly larger timeline to complete.

Customizable layouts, proven design, and time-saving efficiency are just a few ways that precast boxes continue to be the product of choice for owners and engineers alike.