



The Delta Advantage

Design Topics for Precasters

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PRE-PURCHASING PRECAST CONCRETE PRODUCTS

By Ralph Verrastro, P.E.

The pre-purchasing of precast concrete products by a project owner is a procurement method that should be considered more often on construction projects. In most instances, there are many advantages to all of the project participants – owner, engineer, contractor and precast manufacturer.

The Pre-Purchasing Process

To incorporate the pre-purchase of concrete products during the construction of a new facility, the following list provides a proposed sequence of events.

1. Early during the preliminary design phase, the engineer/architect (E/A) considers which project components should be precast concrete.
2. The E/A consults with representatives of the precast industry relative to feasibility of the proposed application.
3. The E/A recommends to the Owner which precast elements should be pre-purchased.
4. The E/A prepares a set of precast concrete product procurement bid documents.
5. The E/A or owner solicits bids from the qualified precasters that includes price and guaranteed delivery dates. In some cases, erection of products may be included in the bid.
6. The Owner awards a contract to the precaster.
7. The precaster submits design calculations and erection drawings to the E/A for review and approval.
8. The E/A finalizes the remainder of the construction documents.
9. The Owner bids and awards the overall construction contract.
10. The precaster manufactures and delivers them to the project site for erection.

To Pre-Purchase or Not?

The primary factors to be reviewed when considering whether or not to pre-purchase precast products include the big three – cost, schedule and quality.

Some of the advantages of pre-purchasing include:

1. Allows competition between various precast systems prior to the development of detailed design documents.
2. The final design documents can be developed by the E/A in more detail because the precast elements' sizes and geometry are known.
3. The overall cost of the precast products will be less because there is not a contractor mark-up included in the price to the owner.
4. The preparation of the final design and shop drawings for the precast products is completed outside of the project critical path. This reduces cost and the overall length of the construction schedule. ■

MCX 2001 – February 9-11

Ron Thornton and Ralph Verrastro of Delta Engineers were on hand again at this year's trade show in Charlotte, NC proudly exhibiting their precast engineering specialty services. Sharing their booth was plant automation consulting partner Christian Prilhofer of Germany.

There is a great deal of interest among precasters in the services offered by Delta as evidenced by the number of people stopping by our booth. This came as no surprise as this was our fourth year as the only consulting engineering firm in attendance exhibiting structural design and drafting services specific to the precast industry. ■

Prepared by: Ronald E. Thornton, PE
Delta Engineers, P.C.
164 Court Street
Binghamton, New York 13901

Ph. (607) 231-6612
Fax(607) 231-6650
E-mail: rthornton@deltaengineers.com
Web: www.deltaengineers.com





DELTA ENGINEERS, P.C.

164 COURT STREET, BINGHAMTON, NY 13901
TEL: (607) 231-6612 FAX: (607) 231-6650
E-MAIL: rthornton@deltaengineers.com
Internet: www.deltaengineers.com

Delta Engineers, P.C. provides specialized services to the precast/prestressed concrete industry including:

- *Structural design and analysis*
 - *Erection plans*
 - *Detailed shop drawings*
 - *Plant automation consulting*
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Featured Project

Norfolk International Airport Tug Tunnel
Produced by: Rotondo Precast Fredericksburg, VA
Structural Design: Delta Engineers, P.C.

This project consisted of 33 "U" channels 29'-8" span by various height and 51 monotwin box sections 14'-6" span x 9'-0" rise set along a 124' radius. Sidewalks were cast monolithically with the precast elements and the center wall of the monotwin units were notched creating a lightwall affect inside the tunnel.



View showing transition from open channel to tug tunnel

Please send us your project photos to be featured here

Delta Engineers, P.C.
164 Court Street
Binghamton, New York 13901

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