



Bridges

Reference Details:

Owner City of Chicago, Chicago, IL, USA +++
Program Management and Oversight Earth Tech, Chicago, IL, USA +++
Bridge Design Consultants J.Muller International; McDonough Associates; Alfred Benesch, Teng, all Chicago, IL, USA +++
Prime Contractor Walsh Construction Company, Chicago, IL, USA

DSI Services Supply of 1,220 t of post-tensioning material: prestressing strand, sizes 4-0.6" for transverse tendons and 5, 9, and 12-0.6" MA for longitudinal tendons and accessories (plastic ducts); All stressing and grouting equipment used on the project and on-site technical assistance.



Wacker Drive Viaduct Reconstruction with DYWIDAG Post-Tensioning System, Chicago, USA

Contracts A, B and C of Wacker Drive Viaduct Reconstruction in Chicago, IL, USA

Ten city blocks of the 2-level, 4-lane to 8-lane urban viaduct along the Chicago River in the heart of Chicago's financial district is in the midst of a two-year major reconstruction effort. Estimated average daily traffic of nearly 39,000 and 32,000 vehicles make use of the upper and lower levels respectively. The project also incorporates the City's river walk, accommodating 60,000 pedestrians per day.

A cast-in-place post tensioned concrete design was chosen to provide an accelerated construction schedule and to keep the superstructure section as shallow as possible or overhead clearance on the lower level. Split into three separate contracts, total post-tensioning materials weigh in excess of 1,220 t. Almost 1 million linear meters of 0.6" prestressing strand will be required to complete all three phases. Tendon sizes used are the 4-0.6" flat system for transverse tendons and 5, 9 and 12-0.6" MA system for longitudinal tendons. To help insure durability, all tendons on this project are required to use plastic ducts.

The site is bounded by the Chicago River along one full side, city skyscrapers, and several bascule bridges to be restored and crossed by two elevated rail transit lines. Construction at 10 separate cross-street intersections is coordinated to minimize disruption to the approximately 125,000 vehicles per day that cross Wacker Drive. This requirement further complicates the intensive construction schedule and staging of materials and activities. To assist the contractor DSI is prefabricating all tendons in its North Central Division warehousing facility located in Bolingbrook, IL, just outside Chicago and delivered them to the project site ready for installation into the structure. The anticipated completion date for contracts A, B and C was November 2002.