

University Street Underground Transit Station

Seattle, Washington

Owner: King County METRO

Description: INCA Engineers, Inc., A Tetra Tech Company (INCA) provided structural engineering services as part of the design team for the University Street Underground Transit Station. INCA also provided technical assistance for cost estimating and quantity take-offs. This station is located approximately 70 feet below the ground and includes ancillary structures such as station entrances, vent structures, traction power substation, and underpinning of existing buildings. INCA's design included removal of temporary dual transit way tunnels, support of excavation walls that are part of the permanent station structure, station box or vault structure, all equipment rooms, and all surface structural penetrations for each station.

INCA prepared the preliminary and final plans for this underground station, approximately 573 feet in length, including cut-and-cover construction techniques and the removal of temporary dual transit-way tunnels, support of excavation walls that are part of the permanent station structures, design of equipment rooms, surface structural penetrations, and platform extension. In addition, INCA designed permanent tiebacks to support the excavation so that surcharge from a 28-story building, with shallow basement, would not be transferred to structures across the open excavation. INCA's design also included underpinning of an existing parking garage to make room for a station entrance.

INCA was also responsible for construction services that included providing clarifications for the contractor throughout construction as well as field engineering services. The field services included checking contractors submittals, resolving conflicts, designing new facilities due to field conditions, and assisting in change order negotiations.

This project received the Grand Award from the American Consulting Engineers Council and also received recognition for Excellence in Concrete Construction by the Washington Aggregates

