

Orlando Utilities Commission - Turkey Lake Road Watermain

The project consisted of preliminary design, design, permitting, bidding and construction management of a 6,482 ft., 36-inch diameter water transmission main. The main connected OUC's new Southwest Water Treatment Plant to the International Drive/Sand Lake Road area and Universal Studios. Design of the transmission main was completed concurrently to the design of a 5,257 ft., 30-inch diameter water transmission main completed by another consultant. The partnered approach during design, bidding and construction allowed the two critical water transmission mains to be placed into service prior to the completion of the plant.

The preliminary engineering phase of the project included a route evaluation, a geotechnical evaluation, a corrosion control evaluation, identification of areas where trenchless installation was required and a pipe material evaluation. The route evaluation was critical to the success of the project since required easements were identified for each potential route. Selection of the route at this time allowed sufficient time to obtain the three required easements. An economic evaluation of the various classes of ductile iron pipe resulted in a substantial cost savings by using Pressure Class 150 instead of the Client's Standard (Class 51).

The final design included two 120 ft., 12 ft. deep bore and jack crossings; one crossing was across Turkey Lake Road, and one crossing was across Sand Lake Road. The Sand Lake Road crossing, using a 54-inch casing pipe, was within FDOT limited access right-of-way which required a utility right-of-way utilization permit.

The Turkey Lake Road Crossing utilized a 54-inch casing pipe, but the casing spacers were modified to allow the installation of four 4-inch electric conduits on the outside of the transmission main (carrier pipe).

NOTABLE FEATURES

- Partnering approach used to accelerate schedule.
- Routing evaluation/critical easement negotiations.
- Combined waste line and electrical conduit use of bore and jack casing pipe.

Mr. Keith Rice, P.E.

Orlando Utilities Commission

500 S. Orange Avenue

P.O. Box 3193

Orlando, Florida 32802

(407) 239-9643

Design Fee: \$99,675

Design Completion Date: May, 1996

Construction Costs: \$1,181,309.91

Construction Completion Date: May, 1997