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APPLICATION OF PIPE REAMING FOR TRENCHLESS PIPE REHABILITATION IN THE CITY OF MODESTO, CALIFORNIA

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ABSTRACT: The City of Modesto, California retained Brown and Caldwell, Sacramento, California, to design a sewer pipe replacement project along Celeste Drive, Rose Avenue, and Scenic Drive, in order to address capacity deficiencies caused by a nearby hospital expansion. The project replaced 10,000 linear feet of 10-inch, 15-inch, and 18-inch vitrified clay pipe and 21-inch reinforced concrete pipe with new pipe upsized roughly two diameters. The City was open to trenchless alternatives to conventional trenching, and pipe bursting was initially identified as a potentially suitable technology. After examining the site, Brown and Caldwell presented pipe reaming as an alternative due to the many existing utilities adjacent to the alignment, and the possibility of damage from soil heave resulting from pipe bursting. The City accepted the pipe reaming option and the project was bid in January 2006 using a bid alternate system to allow contractors to select either open-trench replacement (VCP used in replacement) or pipe reaming (HDPE pipe used in replacement). The project was awarded to California Trenchless, Inc., Hayward, California, who bid the project under the pipe reaming option with a bid price roughly twenty-eight percent below the engineer's estimate. Completion of project construction is expected in November 2006. This paper will present a case study examining the issues that lead to the selection of the pipe reaming process, and design and construction challenges faced by the project team, including working in busy city streets, residential areas, bypass pumping, and reaming reinforced concrete pipe.