

## REPORT OF STATIC LOAD TESTING

**PROJECT:**  
HDPE ADJUSTING RINGS  
STATIC LOAD TESTING

**REPORTED TO:**  
LADTECH, INC.  
6704 MEADOWLARK CT.  
LINO LAKES, MN 55038

**ATTN:** DWIGHT WIEDRICH

**AET PROJECT NO:** 05-04911

**DATE:** OCTOBER 11, 2010

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### INTRODUCTION

This report presents the results of testing performed on high-density polyethylene (HDPE) adjusting rings used in conjunction with concrete manhole structures. This scope of our work was limited to the following:

- Perform static load testing of three (3) sets of adjusting ring stacks
- Measure deflection of the ring stacks under load and observe ring performance
- Prepare a report detailing the results of the testing

Our work was requested and authorized by Mr. Dwight Wiedrich of LADTECH, Inc. on September 8, 2010 and performed in general accordance with AET Proposal No. 05-04911, dated August 31, 2010

### BACKGROUND INFORMATION

The adjusting rings are manufactured from 100% recycled plastic. Per LADTECH, the predominant source product for the raw plastic is curbside collected, post-consumer, blow-molded milk and detergent bottles. The bottles are initially manufactured from a high density polyethylene as identified by ASTM Standard D-1248. Following shredding and cleaning of the bottles, the rings are manufactured by injection molding techniques.

### TEST PROCEDURES

The static load testing was performed in the American Engineering Testing (AET) laboratory. The loading apparatus consisted of a 100,000 pound capacity load frame and a 20 ton Ram-Pac hydraulic ram with a Simplex hand pump. Deflection measurements were obtained with dial extensometers accurate to 0.001".

