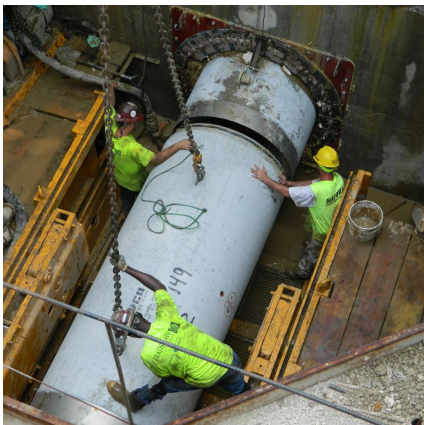


## Castleton Relief Sewer Project - Phase 1 Indianapolis, IN



### PROJECT OVERVIEW AND CHALLENGES

Bradshaw Construction installed 2,740' of 42" reinforced concrete pipe for a relief sanitary sewer by microtunneling through sand with cobbles and boulders below the groundwater table at an average depth of 20'. The microtunneling was accomplished in four drives, the longest of which was 810'. Six access shafts were constructed using steel ribs and liner plates (16' and 20' in diameter) and steel sheet piling (16' and 20' square). Six precast concrete manholes were installed up to 96" in diameter.



### PROJECT INFORMATION - 504

#### OWNER:

Citizens Energy Group (formerly Consolidated City of Indianapolis, DPW)  
Sandra Shafer, Project Manager  
317.327.4546  
sshafer@citizensenergygroup.com

#### ENGINEER:

Black and Veatch Inc.  
5750 Castle Creek Parkway  
Indianapolis, IN 46250  
James McKelvey, 317.570.8331

#### CONTRACTOR:

Bradshaw Construction Corporation

#### CONTRACT VALUE:

\$5,988,200

#### COMPLETION DATE:

6/30/2012

#### GEOLOGY:

Sand, Gravel, Boulders, Glacial Till

#### EXCAVATION METHOD:

Herrenknecht MTBM 53" Ø

#### MINING DIMENSIONS:

2,740' x 53" Ø

#### FINAL LINING:

One Pass Pipe Jacked  
RCP 42" Ø

#### FOR MORE INFORMATION:

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Refer to Project 504