

Exhibit No.: _____
Issue: Flexible Piping for Service
Lines on Big Island

Witness: James T. Crowder
Sponsoring Party: Folsom Ridge LLC and Big
Island Homeowners Water
and Sewer Association, Inc.

Case No.: Case No. WO-2007-0277
**Joined for hearing with
Case No. WC-2006-0082**

FOLSOM RIDGE LLC
AND BIG ISLAND HOMEOWNERS WATER AND SEWER ASSOCIATION, INC.

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DIRECT TESTIMONY

OF

JAMES T. CROWDER

Longmont, Colorado
March, 2007

DIRECT TESTIMONY OF JAMES T. CROWDER

Q. What is your name and business address?

A. My name is James T. Crowder. My business address 2602 Clover Basin Drive, Suite B,
P.O. Box 54, Longmont, CO 80502.

Q. What is your position of employment?

A. I am employed by Diamond G Enterprises, Longmont, Colorado as a property and
construction manager.

Q. Please describe your education and experience.

A. After graduation from high school I began work as an entry level laborer and carpenter in
residential and commercial construction in eastern Colorado. In 1960 I joined the United
States Air Force and trained as a cryogenic engineer in connection with the making of
liquid oxygen for Air Force requirements. After my discharge in 1964 I returned to the
construction contracting business with my father and worked primarily in residential
construction until 1969. In that year, I started work with a builder in Boulder, Colorado
continuing work in residential development and construction. As part of my duties I
oversaw the installation of streets and sidewalks and various utilities including water and
sewer mains. In 1985, I joined a Colorado commercial building contractor and
performed the same duties. I retired from that job in 1998. My retirement was brief and
was hired in 1998 by Diamond G Enterprises, Mr. Golden's firm, and have worked for
that business ever since.

1 Q. **Will you explain your association with Folsom Ridge LLC or Big Island**
2 **Homeowners Water and Sewer Association, Inc.?**

3 A. Folsom Ridge LLC hired me to act as the construction manager for the replacement of a
4 water line pursuant to a Settlement Agreement Folsom Ridge reached with the
5 Department of Natural Resources. On a daily basis I monitored and inspected the work
6 done by the contractor, Kenny Carroll Excavating, Inc., which was also responsible for
7 installing new water system service lines for each residence along the course of that
8 replacement line. I was also responsible for approving and sometimes purchasing the
9 materials the contractor used on the water main replacement project.

10
11 Q. **What is the purpose of your testimony?**

12 A. I will provide the Commission with a description of the flexible piping used for the
13 service line connections that were installed, the type of joints used on the service lines
14 and the kind of fill used to cover those service lines.

15
16 Q. **Mr. Crowder, have you reviewed a series of photographs which have been marked**
17 **as Exhibit 63 in this case.**

18 A. Yes, I have.

19
20 Q. **Let me direct you to a photograph in the upper part of a page of that exhibit**
21 **depicting a blue flexible line. The photo is dated June 14, 2005. Do you recognize**
22 **the pipe in that photograph.**

1 A. Yes, I do. This is an example of the pipe installed for purposes of reconnecting service
2 lines to the new replacement water main.

3
4 Q. **Would you please identify the manufacturer and describe the specifications for this**
5 **line for the Commission.**

6 A. This flexible piping is called CenCore HDPE (high density polyethylene) and is a product
7 manufactured by Centennial Plastics LLC. The pipe was acquired from a local supplier,
8 Jack's Hardware in Camdenon. The specifications for this pipe are found on the
9 manufacturer's specifications sheet which I have attached as Crowder Direct Schedule 1.
10 This product is available in variable pressure ratings. The pipe installed for service lines
11 on the Big Island replacement water line is 1 inch in diameter, rated at 200 psi and has a
12 Standard Dimension Ratio (SDR) of 9 CTS. It has an ASTM rating of D2737.

13
14 Q. **How is the pipe joined to the main and the service line.**

15 A. The line is joined at the main by means of a compression joint or fitting. The line is
16 joined at the service line from the residence in the same way. This is an industry standard
17 means of compression coupling at the joints.

18
19 Q. **Please compare this type of joint with others that might have been used.**

20 A. The compression joint was developed to prevent leakage or seepage from the line. It is
21 the tightest plumbing joint that can be fitted for this kind of pipe.

22

1 Q. **Is the pressure rating you are referring to also considered the “burst” rating for the**
2 **line.**

3 A. No. That is a different rating. The line is burst rated at 1,600 psi.
4

5 Q. **Is this pipe warranted by the manufacturer?**

6 A. Yes, it is under a 50 year limited warranty. The terms of the warranty are found on
7 Centennial Plastics’ web site. I have attached as Crowder Direct Schedule 2 a copy of
8 the web page where the limited warranty is found.
9

10 Q. **Is this type of pipe recommended by municipalities in the Lake of the Ozarks area.**

11 A. Yes, it is. I am aware that the City of Osage Beach design specifications for water meter
12 service lines and city service lines of two inches or less must be flexible piping like that
13 installed on Big Island.
14

15 Q. **This same page of the exhibit also mentions that there is no protective sleeving on**
16 **the line. Is a protective sleeve needed for this installation?**

17 A. No protective sleeve is required for this service line. The line itself is a high density
18 product which is designed for endurance in this application.
19

20 Q. **Also in Exhibit 63, there is a full page photograph which appears to be a larger view**
21 **of the service line we have been discussing. Drawing your attention to that page of**
22 **the exhibit, can you describe for the Commission the fill that was used to cover this**
23 **line upon completion of installation.**

1 A. The fill used is called limestone dust. It is a fine, rather than coarse, aggregate for
2 backfill. Although the density of the flexible piping protects it from puncture caused by
3 most fill material, using the limestone dust provides good compaction around the service
4 line and poses no risk of puncturing the flexible pipe.

5

6 Q. **Have there been any reports of breakage or leaks from these lines.**

7 A. We have had no reports.

8

9 Q. **Does this conclude your direct testimony?**

10 A. Yes.