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Members of Rapid City Council:

RE: TID #54 Costs of Professional Services

The TID#54 Northridge water infrastructure consisted of a water reservoir, water lines and grading over the water lines, and a booster station. This memo addresses the costs of professional services for the above listed items excluding the water reservoir. The designs of all listed items are interrelated.

The design of water lines, grading, and booster station was substantially completed in 2008-2009. This design included several reviews by the City. However, in December 2009 the City required a redesign of the road alignment. The road realignment necessitated changes to the water line design. In addition, the City required the road width to increase from 12 feet to 20 feet. The additional cost of the redesign is estimated to be approximately $75,000.

Minimal costs were anticipated in the 2005 Project Plan for stormwater drainage. The Developer had already constructed drainage features in 2004 when Bunker, Alma and Gladys Streets were constructed. In 2007, the City adopted a new Stormwater Quality Manual. The requirements of the new manual necessitated adding a detention pond, modifying the existing detention pond, and constructing a storm sewer in order to construct the water lines.

The 2005 Project Plan envisioned a basic pumphouse type structure for the booster station. Requirements imposed by the City during the design resulted in a 53' x 21' structure being constructed with a bathroom that met ADA requirements. In addition, the City required additional driveway width for a van accessible handicap driveway. Critical comments from the neighbors necessitated the hiring of architectural services for design of the structure. The wider driveway necessitated redesign of the outflow from the detention pond located behind the booster station. This structure was sized larger than other booster stations recently constructed within the City to accommodate future pumping capacity.

The complexity of the pressure zones within the water infrastructure was not envisioned in the initial Project Plan. The final design plan includes three pressure zones requiring multiple pressure reducing values and multiple water lines extending from the booster station. The process of final design of the water lines and booster station required coordination with engineers designing the water reservoir and City staff. Professional design fees of the electrical/mechanical to support the complex workings of the booster station exceeded $23,000.

Overall the initial Project Plan costs for professional services were underestimated. For example, the costs of construction management for the booster station of $84,660 which was reimbursed to the City by the developer exceeded the $60,000 for booster station professional services included in the Project Plan. The budget for professional services of $65,000 for the water main and grading in the Project Plan was inadequate for the design costs even before the redesign of the road alignment which was mandated by the City.

The professional fees represent about 29% of the construction costs. The proportion is less than 24% when the extra costs for the road/water line realignment are excluded from professional services.

	Construction	Professional Services
Booster Station	$648,785	$227,538
Water Main	$600,467	$180,268
Grading	$270,000	$30,000
TOTAL	$1,519,252	$437,806

Note: Construction of the Booster Station was a City project. The bid amount was $648,785. Actual costs may have been greater.

We appreciate your consideration of this matter. If you are interested in additional information please contact us at the phone numbers below. We are available for a face-to-face meeting.

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