



# CITY OF RAPID CITY

## Engineering Services

300 Sixth Street

Rapid City, SD 57701-2724

Telephone: 605-394-4154 Fax: 605-394-6636

Direct Phone: (605) 394-5377 Ext. 221

stacey.titus@rcgov.org

July 11, 2005



Mr. Doyle Estes  
3220 West Main Street  
Rapid City, SD 57702

RE: Understanding of proposed phased water system improvements and funding for the, "North Deadwood High High Level" water service area

Dear Doyle,

Gary Shepard and I met with you on Thursday 6/30/05 regarding water system improvements for the proposed, "North Deadwood High High Level" water service area along the eastern slope of the Dakota Hogback. These improvements are necessary for development above elevation 3450 msl to proceed. The existing North Rapid High Level cannot provide water service above elevation 3450 msl.

We discussed the issue that water supply for the North Rapid system is not currently adequate for continued growth in the North Rapid area. Refer to the, "North Rapid High Level and North Deadwood Avenue Water System Expansion Study Rapid City, South Dakota" report dated May 18, 2005 by Ferber Engineering Company, Inc.

Our discussions centered on providing a phased approach for water improvements identified for the proposed, "North Deadwood High High Level" without having to construct the entire system as proposed in the Ferber report. During our meeting, a conceptual plan was developed that would allow for phased development of the area while complying with the intent of the Ferber report. This phased approach allows for development along the eastern slope of the Dakota Hogback and benefits the City in that it ultimately provides for redundancy with water storage (two reservoirs instead of one) and provides for water supply on the eastern slope of the Dakota Hogback (this is positive in that most of the City's water supply is west of the Dakota Hogback).

You indicated that you would like to proceed in investigating the feasibility of developing a TIFD to fund the utility improvements and to also fund public park improvements. The information below is intended to aid in developing a TIFD for



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the utilities and to outline the basic understanding as to how the utilities would be designed, cash flowed, and funded.

The water system improvements consist of a proposed 1.5 MG ground level water reservoir with an overflow elevation of 3895 msl (the reservoir would be approximately 35-45 feet above the ground), a new Madison well, a raw water line, a combination well house and water booster station (similar to the proposed Stoney Creek Well and Booster Station), and water transmission mains. Refer to the attached drawing for proposed water system improvements and TIFD boundaries.

### WATER SYSTEM IMPROVEMENT PROBABLE COSTS:

Item	Item Description	Developer Funded	City Funded:
1.	RESERVIOR:		
a.	1.5 MG Reservoir	\$1,000,000	
b.	Foundation	\$250,000	
c.	Site	\$200,000	
d.	Controls	\$50,000	
e.	Engineering		\$200,000
	<b>Sub total</b>	<b>\$1,500,000</b>	<b>\$200,000</b>
2.	Madison Well and Raw Water Line:		
a.	Drill and Develop Madison Well	\$350,000	
b.	Raw Water Line	\$100,000	
c.	Engineering	\$10,000	\$25,000
	<b>Sub total</b>	<b>\$460,000</b>	<b>\$25,000</b>
3.	Combination Madison Well and Booster Station:		
a.	Use the Stoney Creek facility estimated costs (includes installation of well pump and controls)	\$540,000	\$600,000
b.	Engineering		\$275,000
	<b>Sub total</b>	<b>\$540,000</b>	<b>\$875,000</b>
4.	Water Transmission Mains:		
a.	20" – 1,000 feet	\$275,000	
b.	16" – 3,900 feet	\$525,000	
c.	14" – 1,350 feet	\$150,000	
d.	Engineering	\$50,000	
	<b>Sub total</b>	<b>\$1,000,000</b>	
5.	Contingency;		\$100,000
	<b>Total</b>	<b>\$3,500,000</b>	<b>\$1,200,000</b>

**Water System probable cost = \$4,700,000.**

Propose \$3,500,000 funded by Developer (Doyle) and \$1,200,000 by the City. It is proposed that Doyle and the City would recover costs through the proposed TIFD. The Developer and the City would recover costs annually in the same proportion as expended.

Because water supply is the critical component of the proposed phased water project, designing and drilling the Madison well needs to be initiated early on so that the other facilities can be designed based on the success of the well. If the Madison well is not successful, then other options will need to be investigated in order for the development and other TIFD improvements to proceed. Coordination with USGS regarding placing the proposed Madison well approximately 2,500 feet north of existing well #8 will need to be discussed. Typically, City Madison wells are placed approximately one mile apart.

Because taxpayers are funding the improvements, the water reservoir, Madison well, and combination well house and booster station should be designed, bid, and constructed by City Public Works. The well raw water line and water transmission mains should be designed, bid and constructed by the Developer. The City and Developer shall concur with the selection of the design consultants and in the award of the construction contracts. Consultant selection for the water reservoir, Madison well, and combination well house and booster station shall be in accordance with the approved City Consultant Selection Policy.

After reviewing the attached document and contents of this letter, please contact me to schedule a meeting with Marcia Elkins and Dirk Jablonski regarding developing a Memorandum of Understanding (MOU) outlining the scope of the project, timelines, and responsibilities of the City and Developer. This document could be submitted to council for consideration prior to preparing the TIFD document or concurrently.

If you have questions or to schedule a meeting, please call me at 394 – 4154.

Sincerely,

CITY OF RAPID CITY

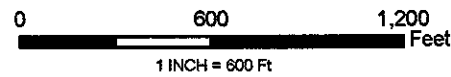


Stacey Titus, P.E.  
Project Manager

Enclosure:

cc: Hani Shafai, Dream Design; Dirk Jablonski, Public Works Director; John Wagner, Water Superintendent; Marcia Elkins, Growth Management Director; and Gary Shepard, Fire Department Chief  
File

# Proposed Phased "North Deadwood Ave High-High Level" Service Area Water System Improvements And Proposed TIFD Boundary



## Legend

- EL 3895
- EL 3795 Upper Service For North Deadwood High-High Level
- - - EL 3450 Zone Separation Between North Deadwood High-High Level and North Rapid High Level
- Proposed Booster Station, TIFD Funded
- Proposed Madison Well, TIFD Funded
- Proposed Reservoir, TIFD Funded
- - - TIFD Funded Raw Water Line
- TIFD Funded Water Main
- Proposed Water Main
- - - Existing Water Main
- Existing Reservoir
- Existing Well #8
- - - Proposed TIFD Boundary
- - - Alternative TIFD Boundary
- Parcels
- RC Elevation Contours**
- FeatureType**
- Index
- Intermediate

