

AMENDMENT ONE
to the
FACILITY PLAN FOR THE WATER SYSTEM
in
MITCHELL, SOUTH DAKOTA

PROJECT #14433

SEPTEMBER 2020



& Associates

ENGINEERS-PLANNERS- SURVEYORS

2100 NORTH SANBORN BLVD, P.O. BOX 398
MITCHELL, SOUTH DAKOTA 57301

PHONE 605-996-7761

FAX 605-996-0015

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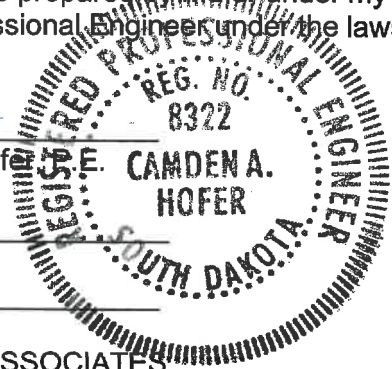
I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota.

By Camden A. Hofer

Camden A. Hofer

Registration No. SD #8322

Date 9-22-20



SCHMUCKER, PAUL, NOHR & ASSOCIATES
CONSULTING ENGINEERS - SURVEYORS
2100 NORTH SANBORN BLVD., PO BOX 398
MITCHELL, SOUTH DAKOTA 57301

INTRODUCTION

This Amendment One provides updated information about the west water tower in Mitchell. This Amendment is intended to revise the *August 2016 Facility Plan for the Water System in Mitchell, South Dakota*. The following sections are to be revised or added as noted.

3.5.1 Structure Evaluation

This paragraph shall be added following the first paragraph of Section 3.5.1.

The west water tower interior was sandblasted and recoated in 2004. The coatings were inspected in 2016 and found to be in good condition. The exterior coatings were inspected in 2018 and found to be adhering well but have a faded appearance. An overcoat is recommended to continue the life of the coatings. There are a few failed coating locations in the dry portion of the water tower that should be prepared and recoated. The valve vault next to the west water tower is in poor condition with rusted pipe and valves that have been in service for well beyond their typical life span. A new environmentally controlled valve vault is recommended. The water system branches off from the valve vault in multiple directions. The valves that isolate the pipes in different directions do not work properly making it difficult to isolate portions of the water distribution system. It is recommended that the valves be replaced which are adjacent to the valve vault. Refer to Figure 3.21b for views of the valve vault.



Figure 3.21b: West Water Tower Valve Vault Photographs

Section 5.6.4 shall be deleted and replaced with the following.

5.6.4 Water Storage Option 5: West Water Tower Improvements

This option considers the recommended improvements associated with the west water tower.

The exterior surfaces would be cleaned and overcoated to provide many more years of life to the coatings. A new logo for the City of Mitchell is proposed along with repairs of the coatings inside the dry portions of the water tower. A tank mixing system is recommended to improve the water quality inside the water tower. Replacement of valves and the valve vault is proposed to improve the operation of the water distribution system.

Table 4.5-1: Estimated Costs of West Lift Station

Item	Description	Quantity	Unit Price	Total Cost
1	Mobilization	1 LS	\$84,000.00	\$84,000.00
2	Power Wash and Two Coat System on Exterior	1 LS	\$400,000.00	\$400,000.00
3	Tank-Logos and Lettering	1 LS	\$50,000.00	\$50,000.00
4	Prepare Surfaces and Apply Coatings Repair in Interior Dry Areas	300 SF	\$40.00	\$12,000.00
5	Tank Mixing System	1 LS	\$35,000.00	\$35,000.00
6	Remove and Dispose of Valve Vault and Related Items	1 EA	\$5,000.00	\$5,000.00
7	Remove and Dispose of Water Valve	11 EA	\$800.00	\$8,800.00
8	12" PVC Water Main	30 EA	\$80.00	\$2,400.00
9	20" PVC Water Main	100 EA	\$160.00	\$16,000.00
10	24" PVC Water Main	5 EA	\$200.00	\$1,000.00
11	30" PVC Water Main	5 EA	\$300.00	\$1,500.00
12	20" x 12" Tee	2 EA	\$4,000.00	\$8,000.00
13	12" 90° Bend	2 EA	\$1,000.00	\$2,000.00
14	12" Tee	1 EA	\$1,500.00	\$1,500.00
15	12" Gate Valve	2 EA	\$4,500.00	\$9,000.00
16	20" Gate Valve	4 EA	\$10,000.00	\$40,000.00
17	Furnish Valve Vault with Altitude Control Valve Climate Control and Related Items	1 LS	\$170,000.00	\$170,000.00
18	Install Valve Vault	1 LS	\$40,000.00	\$40,000.00
19	Connect to 12" Water Main	1 EA	\$2,000.00	\$2,000.00
20	Connect to 20" Water Main	3 EA	\$3,500.00	\$10,500.00
21	Incidental Construction Items	1 LS	\$25,000.00	\$25,000.00
Subtotal				\$923,700.00
Contingencies				\$92,400.00
Total Construction Cost				\$1,016,100.00
Legal and Administration Cost				\$20,300.00
Design Engineering				\$60,800.00
Bidding Phase Engineering				\$3,500.00
Construction Engineering				\$73,000.00
Total Project Cost				\$1,173,700.00