Water System Reliability Study –

Executive Summary

Crockery Township WSSN #MI001664

Prepared for
Crockery Township
Ottawa County, Michigan

January 2022

2200399

Prein&Newhof

A combined Water System Reliability Study report was completed for Crockery Township and the Northwest Ottawa Water System (NOWS) Customer Communities. This document summarizes the conclusions and recommendations relevant to Crockery Township.

Northwest Ottawa Water System (NOWS) Water Treatment Plant

- Existing maximum day demands are projected to reach 80-percent of the existing supply capacity by 2026 and are projected to exceed 90-percent of the supply capacity in Year 2041. When maximum day demands reach 80% of the firm supply capacity, capital improvements at the Water Treatment Plant will be necessary. To delay the need for expanding supply capacity at the Water Treatment Plant, demand management and water conservation methods are being considered to address the need to either lower peak demands or increase supply capacity.

- Fishbeck completed a Reliability Study Update for the Northwest Ottawa Water System Water Treatment Plant (2021). Fishbeck conducted an assessment of the Water Treatment Plant (WTP) and Low Service Pumping Station (LSPS) and developed recommended improvements. The recommended improvements include an expansion of the capacity of the WTP to address increasing projected system demands. The following table provides a high-level summary of the estimated cost associated with the improvements identified in the Fishbeck report.

NOWS WTP Cost Estimates (Provided by Fishbeck)

Time Frame	Location	Estimated Cost
5-Year Improvements	LSPS	$ 13,322,000
	WTP	$ 830,000
20-Year Improvements	LSPS	$ 26,000
	WTP	$ 15,581,000

Crockery Township

- The transmission and distribution system are adequate at present to provide adequate water supply for normal (non-emergency) system conditions and meets emergency supply goals.
    - Additional transmission main is recommended to provide a redundancy.
- Crockery Township intends to provide fire protection to all customers.

    - Crockery Township provides storage up to 2,000 gpm for 2 hours for customers (limited due to funding constraints during construction).

- Unbilled water for Crockery Township is 7-percent of the volume purchased, which is considered reasonable given that not all known, unbilled water loss is tracked.

- The Township provides high water quality to customer communities. PFAS samples have met regulatory requirements. The Township has changed its tank operation to manage chlorine residuals due to high water age, especially in the extremities of the distribution system. Additional water age simulations were performed to ensure the current water quality is maintained with recommended improvements.

Recommended Projects

Recommended projects are shown in the General Plan map (see attached). Cost estimates for each recommended project are provided in the attached table.

Crockery Township Distribution System Cost Estimates

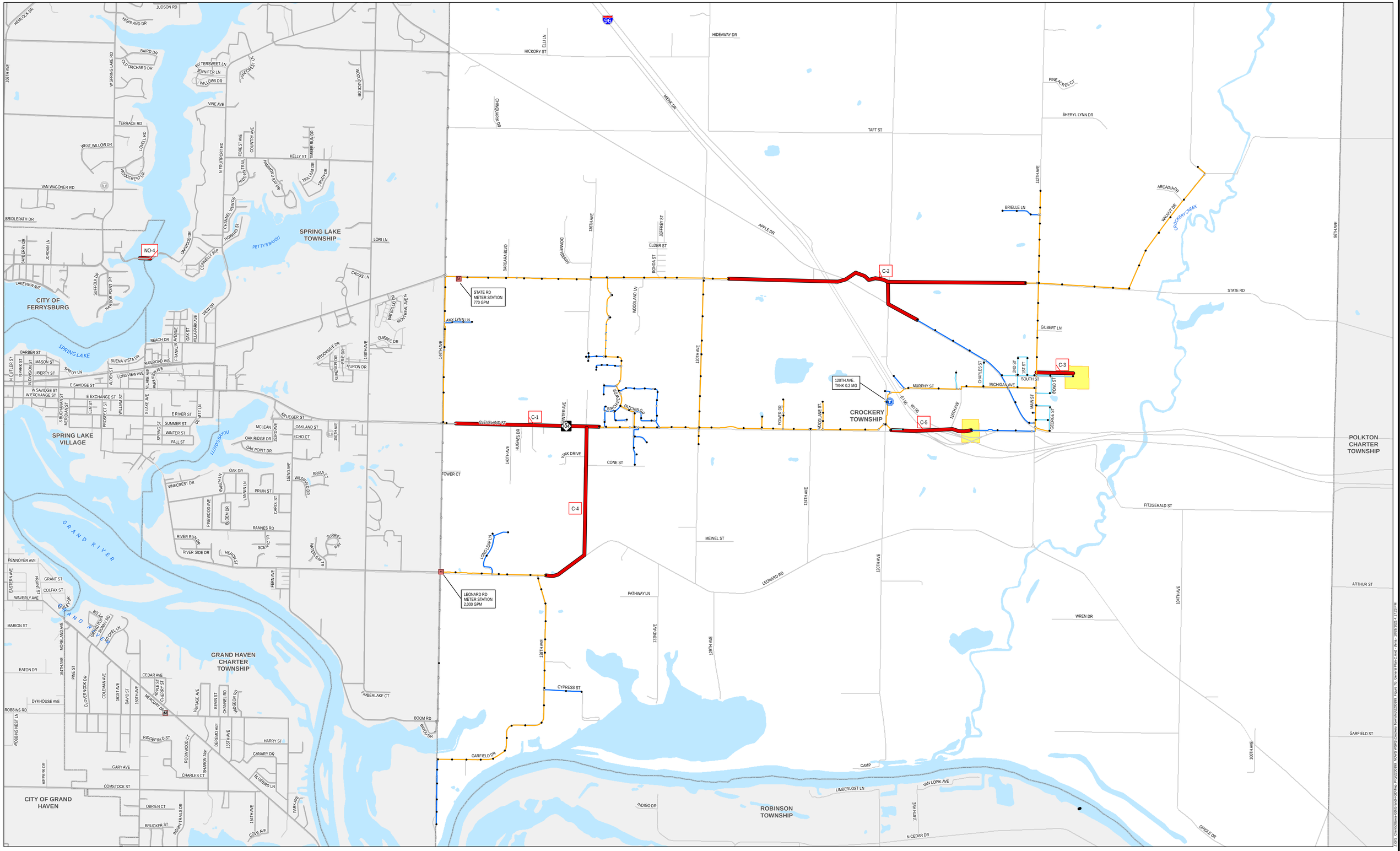
Time Frame	Estimated Cost
5-Year Improvements	$1,742,500
20-Year Improvements	$3,894,000

NOWS
WATER SYSTEM RELIABILITY STUDY

Cost Opinions for Recommended Projects

Improvement Project		Project Cost	Est. Year
NO-4	Inspect 20-inch Main Crossing Spring Lake	$12,500[6]	2022
C-4	Construct new meter station and construct 6,130' of 12” main on 136th Ave., Cleveland St. south to Leonard Rd. and on Leonard Rd., 136th Ave. to 138th Ave.	$1,530,000 (Water Main) $200,000 (Meter Station)	2025
C-2	Construct 11,500' of 12" main on State Rd., from dead end east of 130th Ave. to dead end west of 112th Ave. Also construct 1,800' of 8” main on Apple Dr., State Rd. south to existing main.	$2,290,000	2030
C-3	Replace 1,310' of 6" with 8" main on South St., Main St. east to dead end.	$195,000	2035
C-1	Construct 5,100' of 12” main on Cleveland St. (M-104), 144th Ave. to 12” main east of 136th Ave.	$895,000	2041
C-5	Construct 2,160' of 8" main from the Cleveland St. dead end west to connect to 12" main at 120th Ave.	$514,000	2041
	Total	**$5,636,500**	
	Short-Term Total (2021-2026)	$1,742,500	
	Long-Term Total (2027-2041)	$3,894,000	

Notes:
1. Opinion of Cost are Project Costs and include 35 percent allowance for legal and administrative costs, engineering, and contingencies.
2. The Opinion of Cost is based on current dollars.
3. Does not include water service replacements, extensive restoration or additional costs related to wetland or critical dune activities.
4. For bayou crossing projects, it is recommended that a price be solicited from reputable marine contractors.
5. Village/Township share to be negotiated. “NO-“ indicates a project type related to multiple North Ottawa Water System communities.
6. It is recommended that a price be solicited from reputable marine contractors. Cost share to be negotiated.



NORTHWEST OTTAWA WATER SYSTEM
OTTAWA COUNTY, MI
WATER SYSTEM RELIABILITY STUDY
OCTOBER 2021

FIGURE 7G: GENERAL PLAN - CROCKERY TOWNSHIP

Prein&Newhof
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