

# NVC UTILITIES MEETING

## MINUTES

May 13, 2016

**Present:** Chairman David Crofoot; Committee members: Denis Wang, Judy Metcalf by phone and Dick Brockway; William Paige, D.O., Paul Bartels, Dick McElhaney

Chairman Crofoot called the meeting to order at 2:30 PM.

### Minutes

Denis Wang moved to accept the minutes of the April meeting, seconded by Judy Metcalf – **Voted and all approved.**

### SUPERINTENDENT'S REPORT

#### NORTHPORT VILLAGE CORPORATION - UTILITIES DEPARTMENT

May 13, 2016

### Sewer Department

#### March 2016 Effluent Monitoring Data

The NVC Wastewater Treatment Plant (WTP) was in full compliance with its wastewater discharge license in March. There were no license exceedances.

March flow averaged 21,584 gpd compared to 5,823 gpd in 2015. Daily flow ranged from a low of 12,000 gpd to a high day of 73,500 gpd during the month. Precipitation for the month was 4.04" versus 1.29" in 2015.

TSS and BOD<sup>5</sup> averaged 2.0 lbs. /day (7.5 mg/l) and 5.4 lbs. /day (21 mg/l), respectively compared to 0.4lbs/day (14.3 mg/l) and 1.6lbs/day (71.5 mg/l) in March of 2015.

See performance table below for this month's comparisons, averages, year-to-date highs and lows, permit limits, and year-to-date (YTD) exceedances. Testing frequency is continuous for flow, weekly for TSS, BOD<sup>5</sup> and fecal coliform (May thru Sept), daily for pH and settleable solids (ss), and twice per day for total residual chlorine (May thru Sept).

Monthly Performance Table

Parameters	March	February	January	YTD Lo	YTD Hi	YTD Ave	2015 Ave	DEP Monthly Limit	Exceedances
Flow GPD	<b>21,584</b>	27,859	16,089	16089	27859	<b>21844</b>	<b>15407</b>	<b>&lt;63000</b>	0
Precip Inches	<b>4.04</b>	5.38	2.79	2.79	5.38	<b>4.07</b>	<b>3.84</b>	<b>n/a</b>	0
TSS lbs/day	<b>2.0</b>	3.0	1.3	1.3	3.0	<b>2.1</b>	<b>3.3</b>	<b>&lt;76</b>	0
TSS mg/l	<b>7.5</b>	13.1	17.0	7.5	17.0	<b>12.6</b>	<b>28.7</b>	<b>&lt;145</b>	0
BOD <sup>5</sup> lbs/day	<b>5.4</b>	8.7	3.9	3.9	8.7	<b>6.0</b>	<b>8.7</b>	<b>&lt;107</b>	0
BOD <sup>5</sup> mg/l	<b>21</b>	40.8	53.5	21.0	53.5	<b>38.5</b>	<b>104.6</b>	<b>&lt;203</b>	0

TSS% Removal	<b>97.4</b>	95.5	94	94	97.4	<b>95.7</b>	<b>89.2</b>	<b>&gt;50</b>	0
BOD% Removal	<b>92.8</b>	85.9	82	82	92.8	<b>86.9</b>	<b>63.9</b>	<b>&gt;30</b>	0
pH lo	<b>6.8</b>	6.8	6.8	6.8	6.8	<b>6.80</b>	<b>6.92</b>	<b>&gt;6.0</b>	0
pH Hi	<b>7.0</b>	7.2	7.1	7.0	7.2	<b>7.10</b>	<b>7.15</b>	<b>&lt;9.0</b>	0
S.S. ml/l	<b>&lt;0.1</b>	<0.1	<0.1	<0.1	<0.1	<0.1	<b>&lt;0.1</b>	<b>Report</b>	0
TRC mg/l	<b>na</b>	na	na	na	na	na	.02	<b>&lt;.052</b>	0
F Col/100 ml	<b>na</b>	na	na	na	na	na	<1.26	<b>&lt;15-ave</b>	0
F Col/100 ml	<b>na</b>	na	na	na	na	na	<1.58	<b>&lt;50-max</b>	0

**Note:** The last exceedance for flow was *120 months ago (2/2006)*. The last exceedance for fecal coliform was *41 months ago (8/2012)*. The last exceedance for BOD was *18 months ago (9/2014)*.

### April 2016 Snapshot

The NVC WTP is expected to be in full compliance with its license limits in April pending the DEP's completed review of the NVC's discharge monitoring report. Flow during the month averaged 16,716 gpd. The report for precipitation as measured by the Belfast Water District (BWD) at the Little River Station will be about 4 inches.

### Bay Street Sewer Main

The question of replacing or repairing a 200 foot clay section of 10 inch diameter Sewer Main on Bay Street was answered on April 21 after the line was inspected by Eastern Pipe Services and determined to be suitable for repair.

On May 11, with the able help of Carla Paige directing traffic, monitoring pump station alarms and conducting face to face customer notifications during what was a very long day, the re-lining of the existing clay pipe with a PVC liner was completed. The estimated cost to re-line the pipe will be about \$10K compared to the bid price from Farley and Sons of \$37K had it been necessary to dig up and replace the line using traditional excavation methods.

### Drinking Water

#### March 2016 Usage and Water Quality

Water consumption during March averaged 11,905 gpd compared to 18,636 gpd in 2015. No leaks were reported. The wide year over year discrepancy was due to a 290,000 gallon leak from a frozen service line on Shore Road.

The average weekly chlorine residual in the drinking water was .22 ppm/Cl<sup>2</sup> compared to the recommended goal of >.20 to <1.0 ppm/Cl<sup>2</sup>. The EPA MCL is 4.0 ppm. The monthly coliform water sample test result was negative.

### 2015 Water and Wastewater Flow Balance

For the year 2015 the NVC Utilities Department purchased a total of 6.98 million gallons of water from the Belfast Water District and discharged a total of 4.79 million gallons of treated effluent from the NVC Wastewater Treatment Plant into the Penobscot Bay.

## Water

Of the metered 6.98 million gallons of water purchased, 5.40 million gallons was metered and billed to the NVC's 321 water customers. The balance of the 1.58 million gallons of water (or the equivalent of 3 gpm during the course of the year) is water that leaked into the ground before reaching the customer. This number also includes the small amount of authorized, but unmetered water (<1%) used from the hydrant rentals and for fire protection if it was needed.

This lost water or "non-revenue water" represented 22.6%, or about 1 out every 5 gallons of water purchased by the NVC during the year. This compares to a 22% average for all utilities nationally. While the wholesale cost to the NVC of NRW is considerable enough at just under \$5,000 (or about \$15 per customer), the complexity and expense of locating underground leaks along the nearly 5.5 miles of piping could cost enormously more.

## Wastewater

Of the metered 4.79 million gallons of wastewater discharged, an estimated 3.24 million gallons is generated from the drains of the 241 NVC sewer customers. This 3.24 calculated amount also accounts for the 20% of water typically metered to households, but used for outdoor purposes that accordingly does not drain into the wastewater collection system.

The estimated balance of the 1.55 million gallons of wastewater discharged from the treatment plant (or about 1 out of every 3 gallons treated) is considered to be ground and/or storm water (infiltration and inflow) that leaks into the 2.83 miles of the wastewater collection system piping. This volume of I&I is the equivalent to about 190 gpd/inch-mile of piping and well below the 500 gpd/inch-mile marker professional engineers consider as acceptable for modern PVC pipe.

## **Discussions**

- Bill Paige reported on the progress of the Maple Street project: Ran into a problem with ledge or possibly a large bolder. They hammered it with the excavator to remove enough to get around it. Several unexpected sewer lines were uncovered near Lightner's house running every which way. All pipes have been identified and routed properly and have been documented.
- Water is now provided to all residents on Maple St.
- The relining of the Bay Street sewer main went without a hitch. The project was completed in one day. The relining will cost about \$10,000 as opposed to \$37,000 for digging it up and replacing it the traditional way.
- Bill reviewed the problem with the Shore Road pump station.
- The new chlorination system is ready to go.

## **Financials**

Reviewed the reports provided by Steve Kazilionis. Dick McElhaney pointed out that he could not compare expenses to budget with these reports. Will let Steve know.

Next Meeting date set for June 10, 2016 @ 2:30 PM

**Voted to adjourn at 3:00 PM**

**Respectfully submitted by,**

**Paul Bartels**