

Monthly Operating Report
June, 2013
Concord Wastewater Treatment Facility
Operated by Woodard & Curran

Date: July 12, 2013

To: Alan Cathcart, Concord Water & Sewer Superintendent
cc: Chris Whelan, Town Manager
Richard Reine, Director Concord Public Works

From: John Parkhurst and Staff

Key Activities This Month/Capital Program:

During June all treatment processes were either operational or in ready standby. Flow through the facility in June averaged 1.74 million gallons per day (MGD) and the permit critical 12-month average flow increase to 1.14 MGD. This is the 1st month that the 12-month average flow moved towards the 1.20 MGD limit for 12-month average flow.



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Health and Safety Activities or Training:

During June, all plant staff participated in a 30 minute on site safety meetings on “Walking/ Working Surfaces”.

Maintenance Management

The following is a brief list of a portion of maintenance items completed in June:

June 6th, 2013: Plant staff installed a new pulley on the aerated sludge blower to reduce energy consumption. The blower was tested and is working well.

June 12th, 2013: Staff power washed the inside of the secondary tank weirs.

June 13th, 2013: Staff began draining primary #1 for annual inspection and service. Also, W&C engineering was scheduled to be onsite for a corrosion inspection of the launders, weirs, and channel.

June 16th, 2013: SCADA had a temporary interruption in communication and was restored after resetting the PLC and SCADA computer.

June 19th, 2013: Staff cleaned the influent channel and tested the high level float.

June 24th, 2013: Staff cleaned and calibrated all the inline pH meters.

June 25th, 2013: Staff began installing a new sump pump in the RDT wet well.

June 27th, 2013: Staff finished installing sump pump in the RDT wet well. Also, a pressure transducer was installed in the wet well.



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Environmental Compliance

Parameter	Monthly Avg.	Permit Limit	Notes
Flow, MGD	1.14 MGD (12-month avg.)	1.2 MGD	June avg. = 1.74MGD Max. Daily Flow = 2.91 MG on Sun 06/09
BOD5 (mg/l)	4 mg/l	30 mg/l	97% average BOD removal in June
TSS (mg/l)	9 mg/l	30 mg/l	96% average TSS removal in June
Coliform, Geo.Mean #/100ml	3 cfu*/100ml	200 cfu/100ml	6 f-coliform counts daily max on Thu. 06/13
Phosphorus	0.1 mg/l	0.2 mg/l Apr '13– Oct '13	0.4 mg/l daily max. occurred on Wed. 06/12
Total Ammonia Nitrogen	0.35 mg/l	Report Only	0.40 mg/l daily max. on Mon. 06/10

*cfu = coliform forming unit or colony.

During June, the Concord WWTP performed continuous two-stage total phosphorus (TP) removal using aluminum sulfate. First stage chemical TP treatment occurred in the secondary clarifiers and second stage TP treatment took place within the CoMag® advanced treatment process. The monthly average effluent TP concentration in June is 0.1mg/l, thereby meeting the CWWTP's summer permit limit not to exceed 0.2 mg/l TP as a monthly average.

Over the week of June 9th, the Concord WWTF conducted the 2013, second-quarter Whole Effluent Toxicity (WET) sampling event. The 48-hour LC50, a.k.a. acute toxicity test, for *Ceriodaphnia* was >100% and permit complying. The 7-day NOEC, a.k.a. chronic toxicity test, was 100%. Monitoring of chronic toxicity is a permit requirement; however, there are currently no chronic toxicity limitations. A copy of the complete WET test report prepared by our contracted lab is enclosed for your review.

Additionally, during June all effluent disinfection was performed using ultra violet light.

Alarm Activity

This section provides the Town information on events that activate the facility's alarm response system. The events occur while the plant is unmanned and while both the plant's SCADA system and The *Lexington Alarm* are monitoring the facility's alarm system. This report identifies alarm activity from the start of the calendar year to the present.

Concord WWTF Off-Hours Alarm Log

Date	Time	Alarm Source	Observations/Corrective Action/Comments
Jun. 17, '12	8:30 PM	Numerous	Plant water alarm came in. Plant staff cleaned intake screens and reset system. (All OK)
Jul. 28, '12	8:00 AM	Numerous	A very brief loss of utility power lead to a number of motor faults that required reset by an onsite operator who was performing weekend (Sat.) rounds.
Aug. 5, '12	8:00 AM	Numerous	Corridor motion detectors triggered nuisance alarms. Staff reset alarm - so far so good.
Sept. 9, '12	8:00 AM	Numerous	Intrusion alarm clarifier room south motion sensor- no apparent reason other than windy outside.
Oct. 29, '12	5:45 PM	Numerous	A loss of utility power lead to a number of motor faults that required reset by an onsite operator who was performing Hurricane Sandy coverage.
Nov. '12	NA	NA	No off hours alarms in November.
Dec. '12	NA	NA	No off hours alarms in December.
Jan. 30, '13	6:56 PM	Numerous	Plant water alarm due to break in the plant water feed line in the brick building by the effluent parshall flume.
Feb. 17, '13	7:00PM	Numerous	A loss of utility power lead to a number of motor faults that require to be reset by an on-call operator.
Mar. 03, '13	12:00PM	Numerous	A loss of utility power lead to a number of motor faults that require to be reset by an on-call operator.

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Apr. '13	NA	NA	No off hours alarms in April.
May 2, '13	5:00AM	Numerous	A loss of utility power lead to a number of motor faults that require to be reset by an on-call operator.
June 16, '13	7:00AM	Numerous	SCADA had a temporary interruption in communication and was restored after resetting the PLC and SCADA computer.

Septage Receiving

The Concord WWTF receives septage only from in-Town sources. A total of 136,750 gallons of septage received at the Concord WWTF in June.

WWTF Septage Receipts in gallons:

	2013	2012	2011
January	27,500	56,000	44,050
February	35,700	34,000	31,750
March	50,000	83,000	102,950
April	157,350	111,500	139,750
May	173,300	110,250	113,500
June	136,750	112,750	130,000
July		137,750	73,750
August		71,000	69,500
September		84,250	98,750
October		124,150	82,250
November		111,700	90,250
December		93,500	117,250
Annual Totals:	582,400	1,129,850	1,093,500

Sludge Production

During June, 53,450 gallons of liquid sludge, equivalent to 13.54 dry tons, transported to Upper Blackstone Water Pollution Abatement District (UBWPAD) in Millbury, Massachusetts.

	WWTF Sludge Production in gallons /dry tons		
	2013	2012	2011
January	109,811/22.44	112,896/17.12	98,309/16.78
February	82,650/17.31	62,183/11.1	72,916/13.5
March	79,918/18.48	99,452/13.71	72,617/13.89
April	103,882/23.03	97,796/11.75	81,000/14.90
May	93,570/23.16	107,500/16.66	108,000/27.85
June	53,450/13.54	116,530/18.53	108,000/19.67
July		116,141/22.36	106,060/17.69
August		113,340/18.71	135,224/18.83
September		104,302/18.64	108,008/15.10
October		123,425/20.70	141,003/23.05
November		80,786/14.44	114,905/20.28
December		80,804/16.58	105,573/18.56
Annual Totals:	523,281/117.96	1,214,155/200.34	1,251,615/205.18