



John R. Kasich, Governor  
Randy Taylor, Lt. Governor  
Scott J. Nally, Director

April 12, 2013

Jonathan Bonness, Director of Camping Operations  
Boy Scouts of America - Simon Kenton Council  
4422 Columbus Pike  
Delaware, OH 43015

**Re: Simon Kenton Council - BSA - Camp Lazarus  
NPDES Permit 4PX00055/ OH0142409  
Reconnaissance Inspection  
Delaware County**

Dear Mr. Bonness:

On April 4, 2013, a Reconnaissance Inspection was conducted at the wastewater treatment facility serving the Camp Lazarus facility in Delaware County, Ohio. Present for the inspection were Phil Smith representing Camp Lazarus and myself of the Ohio EPA, Central District Office, Division of Surface Water.

The purpose of the inspection was to evaluate compliance with the terms and conditions of your NPDES permit and to evaluate the operation and maintenance of the plant. The inspection raised a number of concerns which must be addressed in the following areas:

**Significant Non-Compliance** - This facility is in Significant Non-Compliance (SNC) due to the frequency and magnitude of effluent violations for ammonia. Phil Smith, the plant operator, has agreed to work with Rick Smith in our Compliance Assistance Unit to improve treatment for ammonia.

**Outfall Signage** - A sign is required that identifies the location of the permitted outfall to the unnamed tributary to Camp Lazarus tributary. Please have this sign posted within the next 30 days and submit a photograph of the sign to this office following installation.

**Tertiary Sand Filters** - The tertiary sand filters were ponded and appeared to be clogged with leaves. The operator indicated that maintaining the filters in working order is a time consuming task given that the plant is surrounded by large trees. The operator has plans to replace the sand media this summer to improve flow through the filters. We also discussed the installation of filter fabric over the sand to facilitate cleaning and to reduce the solids loading on the filters.

Jonathan Bonness, Director of Camping Operations  
Boy Scouts of America - Simon Kenton Council  
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If you have any questions or comments concerning the enclosed inspection report, please contact me at (614) 728-3848 or e-mail at [mike.sapp@epa.state.oh.us](mailto:mike.sapp@epa.state.oh.us).

Sincerely,

A handwritten signature in black ink that reads "Michael E. Sapp". The signature is written in a cursive style with a large, sweeping initial "M".

Michael Sapp  
Compliance and Enforcement Unit  
Division of Surface Water  
Central District Office

ec: Michael Sapp

MS/hsm Camp Lazarus 13

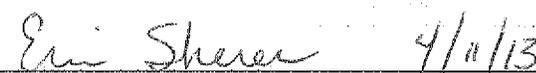
NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING				
Permit #	NPDES #	Inspection Type	Inspector	Facility Type
4PX00055	OH0142409	RI	S	Semi-Public
Inspection Date	Entry Time	Exit Time	Notice of Violation	Significant Non-Compliance
4/4/2013	9:30 AM	10:00 AM	No	Yes

SECTION B: FACILITY DATA	
Name and Location of Facility Inspected	Permit Effective Date
Simon Kenton Council - BSA - Camp Lazarus 4422 Columbus Pike Delaware, Ohio 43015	8/1/2010
	Permit Expiration Date
	7/31/2015
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Phil Smith – Camp Manager	(614) 260-6595
Name and Title of Responsible Official	Phone Number
Jonathan Bonness, Director of Camping	(614) 436-7200

SECTION C: AREAS EVALUATED DURING INSPECTION		
Key: S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated		
M	NPDES Compliance	Please install outfall signage as soon as possible.
M	Operations & Maintenance	Ponded and clogged sand filters due to leaves.
S	Facility Site Review	
S	Collection System	
S	Flow Measurement	
U	Receiving Waters	Significant Non-compliance due to ammonia violations
S	Laboratory	

Comments:

Signatures	
 4/11/13	 4/11/13
Michael Sapp, Inspector Date Compliance & Enforcement Division of Surface Water Central District Office	Erin Sherer, Reviewer Date Compliance & Enforcement Supervisor Division of Surface Water Central District Office

**Compliance Data for Simon Kenton Council - BSA - Camp Lazarus  
between 8/1/2011 to 3/1/2013**

**Summary**

Permit Effluent Limit Violations: 18  
 Permit Effluent Code Violations: 0  
 Permit Effluent Frequency Violations: \* 32  
 Compliance Schedule Violations: 6

Limit Violations						
Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
June 2012	001	Dissolved Oxygen	1D Conc	5.0	3.25	6/7/2012
August 2012	001	Total Suspended Solids	30D Conc	12	119.	8/1/2012
August 2012	001	Nitrogen, Ammonia (NH3)	30D Conc	1.0	3.19	8/1/2012
August 2012	001	Total Suspended Solids	7D Conc	18	119.	8/22/2012
August 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	1.5	3.19	8/22/2012
August 2012	001	Dissolved Oxygen	1D Conc	6.0	5.8	8/23/2012
August 2012	001	Dissolved Oxygen	1D Conc	6.0	4.29	8/28/2012
August 2012	001	Dissolved Oxygen	1D Conc	6.0	5.6	8/30/2012
September 2012	001	Nitrogen, Ammonia (NH3)	30D Conc	1.0	6.51	9/1/2012
September 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	1.5	6.51	9/22/2012
September 2012	001	Chlorine, Total Residu	1D Conc	0.038	2.75	9/25/2012
October 2012	001	Nitrogen, Ammonia (NH3)	30D Conc	1.0	2.7	10/1/2012
October 2012	001	E. coli	30D Conc	126	1200.	10/1/2012
January 2013	001	Dissolved Oxygen	1D Conc	6.0	5.5	1/10/2013
February 2013	001	Nitrogen, Ammonia (NH3)	30D Conc	3.0	12.1	2/1/2013
February 2013	001	CBOD 5 day	30D Conc	10	16.	2/1/2013
February 2013	001	Nitrogen, Ammonia (NH3)	7D Conc	4.5	12.1	2/22/2013
February 2013	001	CBOD 5 day	7D Conc	15	16.	2/22/2013

\*The facility has 1 missing data report.

Station	Required Report Period	DMR Received
001	August 2011	No

Flow Data for Simon Kenton Council - Camp Lazarus between 8/1/2011 and 3/1/2013

	Date	Flows (GPD)
Ten Highest Flows	3/10/2012	13500
	9/30/2012	13500
	9/29/2012	12000
	3/3/2012	11000
	5/31/2012	8203
	10/27/2012	4500
	12/18/2011	3850
	10/28/2012	3750
	1/28/2012	3600
	10/20/2012	3500
<b>Average Flow Rate</b>		980

**ADDITIONAL INFORMATION**  
**Camp Lazarus Wastewater Treatment Plant**  
**4PX00055 – OH0142409**

**General**

The Camp Lazarus WWTP has a design average treatment capacity of 7,000 gpd. Wet stream process provided at the facility include a trash trap, extended aeration, clarification, tertiary dosing tank (siphon box), tertiary sand filters, chlorination and dechlorination. The plant discharges to the Camp Lazarus Tributary which joins the Olentangy River north of Winter Road.

1. At the time of the inspection, the following general observations were made regarding the operation and maintenance of the plant:
  - The general appearance and condition of the plant has continued to improve since the NPDES permit was issued in August 2010.
  - Aeration blowers are operated continuously. The blowers are equipped with timers although they are no longer functional and need replaced.
  - MASI Labs is contracted to perform all of the lab tests with the exception of dissolved oxygen.
  - Wells Septic Service pumps out the trash trap every six months (September and April).
  - The plant is not equipped with the capability to equalize influent flows or waste solids from the plant.
  - Flow is estimated based on the number of campers and staff at the facility. Portable toilets are provided for large events such as the recently held Maple Syrup Festival.
  - The clarifier walls are scraped monthly and the skimmer is only utilized as needed.
  - The two siphon tubes from the tertiary dosing chamber continue to be somewhat problematic and require frequent attention.
  - The level of detail in the operator logbook was satisfactory.
  
2. The tertiary sand filters were ponded and appeared to be clogged with leaves. The operator indicated that maintaining the filters in working order is a time consuming task given that the plant is surrounded by large trees. The operator has plans to replace the sand media this summer to improve flow through the filters. We also discussed the installation of filter fabric over the sand to facilitate cleaning and to reduce the solids loading on the filters. The facility reported a

suspended solids concentration of 119 mg/L in August 2012. I've included information on the required sand depth and specifications as well as the name and number of two suppliers that I'm aware of in our district. The operator also indicated that he intends to excavate a trench around the perimeter of the filters to preclude surface drainage from entering the filters.

3. The plant reported a dissolved oxygen violation (5.5 mg/L) in January 2013. Dissolved oxygen violations are unusual during the winter months and this one might have been caused by the ponded water on the sand filters. We discussed the benefits of cleaning the filters and monitoring for dissolved oxygen at the end of the cascade aeration unit as opposed to the upper end of the unit where the other samples are collected.
4. Part II. M. of your effective NPDES permit requires a sign that identifies the location of the permitted outfall to the Camp Lazarus tributary to the Olentangy River. The installation of outfall signage was required on or before December 1, 2010 (see page 9 of your effective permit). Please have this sign posted within the next 30 days. The sign must comply with the following requirements:
  - The marker shall consist, at a minimum, of the name of the establishment to which the permit was issued, the Ohio EPA permit number, and the outfall number and a contact telephone number. The information shall be printed in letters not less than two inches in height.
  - The marker shall be a minimum of 2 feet by 2 feet and shall be a minimum of 3 feet above ground level. The sign shall not be obstructed such that persons in boats or persons swimming on the river or someone fishing or walking along the shore cannot read the sign. Vegetation shall be periodically removed to keep the sign visible.
5. This facility is in Significant Non-Compliance (SNC) due to the frequency and magnitude of effluent violations for ammonia. Please be advised that it will be necessary to maintain compliance with your ammonia limits for three successive months in order to be removed from the SNC list. Failure to resolve the ammonia violations and maintain compliance with NPDES permit limits may result in the initiation of formal enforcement action. Phil Smith has agreed to work with Rick Smith in our Compliance Assistance Unit to improve treatment for ammonia. I would recommend that the evaluation focus on whether or not sufficient alkalinity is present to oxidize the influent ammonia. If not, the timers on the aeration blowers should be replaced in order to recover alkalinity through on/off operation of the blowers or supplemental alkalinity could be added.

- F) The bottom of the beds shall be provided with an impervious liner with a maximum permeability rate of  $1.0 \times 10^{-7}$  cm/s; acceptable materials include concrete, synthetic liner, or clay.
- G) Filter walls shall be constructed of reinforced precast or reinforced poured-in-place concrete. Particular attention should be made to ensure water tightness at corners and joints. An 18-inch freeboard is required.
- H) To prevent short circuiting by the erosion of filter bed sand, concrete splash pads (typically 3' x 3') are required. Rip rap (rock protection) should be placed on and around the splash pad to break up velocity currents. Up-turned elbows with a weep hole at the discharge outlet from the distribution box may be considered.
- D) An emergency overflow notch or transfer pipe should be installed on the common wall between adjacent filters. This would prevent a clogged filter from overflowing to the ground and instead overflow to the standby filter.

#### 8.51 Filter Sand Specifications

- A) Filter sand shall be clean and washed. The sand should have an effective size between 0.4 and 1.0 mm and a uniformity coefficient not greater than 4.0. In addition, less than 4% should pass a #100 sieve.<sup>22</sup>

**Recommended Filter Sand**  
This sand specification is recommended for sand filters. However it may not be readily available in the State of Ohio. The selected sand should be as close to the recommended specification as feasibly possible. When selecting sand for sand filters, sand that is too coarse does not provide adequate filtration. Sand that is too fine washes away. Sand with excessive fines can pass through into the underdrains and diminish capacity. Unwashed sand can have particulates pass through into the effluent and show up as a total suspended solids violation.

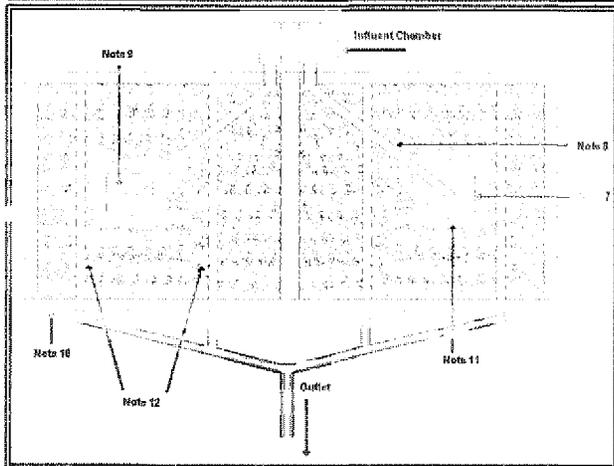
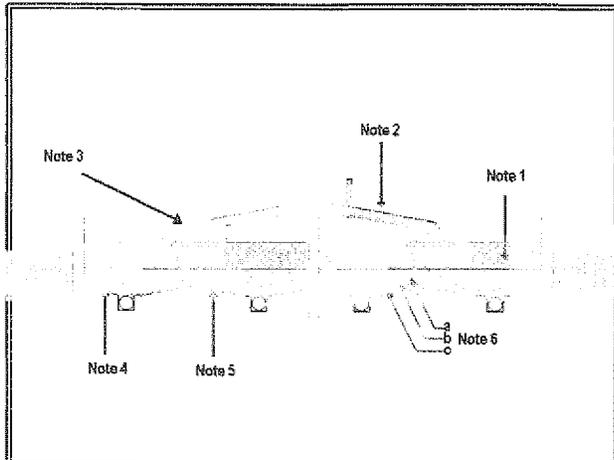
#### 8.6 High Rate Effluent Filtration

High rate sand filters are not common at small wastewater treatment plants. However many manufacturers can provide proprietary high rate sand filters for smaller treatment plants. Approval of these proprietary sand filters will be on a case by case basis. Important considerations for approval would be:

- A) Operational and maintenance complexity,
- B) Reliability,
- C) Hydraulic capacity; and
- D) Documentation that the sand filter can meet the applicable effluent limitations.

<sup>22</sup> See Washington Filter Sand Specification Study in the Reference Section

A.8 Surface Sand Filters



**Notes:**

- Note 1:  
18" filter sand
- Note 2:  
The elevation lines shall be independent & plotted.
- Note 3:  
Down named elbow suspended 1" above splash pad or serrated edge of down named elbow.
- Note 4:  
Impervious Liner
- Note 5:  
Slope 1: 1
- Note 6:  
a) 3" of 1/8" to 1/4" gravel  
b) 3" of 1/4" to 1/2" gravel  
c) 5" min of 1/2" gravel to 1.5" gravel
- Note 7:  
Splash Pad - 3' x 3'  
3' dimensions may be reduced for smaller plants
- Note 8:  
6" rigid pipe minimum
- Note 9:  
Concrete splash pad
- Note 10:  
Both sides waterproof
- Note 11:  
Stone Rip rap (around splash pad only)
- Note 12:  
4" field tile "Under Drain"  
Slope 1/8" to 1"

# Mechanicsburg Sand & Gravel

(937) 834-2606

*5734 State Route 4, Mechanicsburg, OH*

# Chesterville Sand & Gravel Co Inc

7250 St Rt 94 E, Chesterville, OH 43317 419-768-3369