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

July 17, 2013

RE: MEDINA COUNTY
VILLAGE OF SPENCER
SPENCER WWTP CEI
(NPDES No. 3PA00018)

Mayor Tommy Raney and Council
Village of Spencer
PO Box 336
109 North Main Street
Spencer, OH 44275

Dear Mayor Raney and Council:

On July 1, 2013, a meeting was held at the Village of Spencer wastewater treatment plant (WWTP), with Mr. Jim Ramsey, Spencer WWTP Superintendent; Mr. Gary Daugherty, Professional Engineer from Engineering Associates; and Mr. Dean Stoll and this writer, of the Ohio EPA.

The purpose of the meeting was to discuss a potential problem which exists in the berm between the aerated sludge holding basin, and the Parkson Biolac Process aeration basin. The basins are used for treatment of wastewater received at the WWTP.

Both the Parkson Biolac Process aeration basin, and the aerated sludge holding basin, are dug earthen basins with clay liners. Additionally, the aerated sludge basin is lined with a synthetic liner, while the aeration basin has no synthetic liner.

Both basins have the exposed inner embankment lined with rip-rap (rock). The aeration basin does have a material placed under the rip-rap, and is used to control vegetative growth on the embankment.

It was recently observed by Messrs. Ramsey and Daugherty, that the earthen berm between the two basins was exhibiting signs of embankment slippage of the rip-rap, and some of the soil. Further investigation of the earthen berm area by Messrs. Ramsey and Daugherty, found the soil to be excessively moist and loose within the berm, creating an immediate concern of a potential failure of the berm, and subsequently a potential loss of wastewater treatment ability should the berm fail.

Alternatives for solutions to avert the potential berm failure and subsequent treatment process failure, were discussed among those present. Due to the fact that treatment of wastewater must continue during any proposed repair, and the fact that the cause of the water seepage is not known, it was decided the safest, most reliable alternative repair would be the installation of a concrete aeration tank, replacing the existing earthen basin. Installation of the new concrete aeration tank, and piping to the existing concrete settling tanks, could be conducted prior to taking the existing aeration basin out of service, thus minimizing downtime of the treatment process and any potential NPDES permit violations.

In addition, due to the pass-through of floating paper/plastic debris which collects on the surface of the settling tank contents (Item 4 immediately below), some type of influent pretreatment shall also be installed as part of the WWTP aeration basin replacement / upgrade. Installation of a rotary drum screen at the WWTP headworks is one recommended alternative.

During the meeting, a Compliance Evaluation Inspection (CEI) was also conducted on the Spencer WWTP. The CEI was conducted to evaluate the operation and maintenance conditions at the WWTP, and to evaluate the facility's compliance with the terms and conditions of its NPDES permit. The last CEI conducted at the Spencer WWTP was on April 19, 2011.

The July 1st inspection of the WWTP resulted in the following observations:

1) Influent is pumped into the WWTP via two influent pumps, which are operated one at a time during periods of low flow. When flow rates approach approximately 200 gpm (0.288 MGD), the second pump becomes operational.

   During the night prior to the meeting, a high volume precipitation event occurred, and the 2nd pump failed to activate, resulting in a raw sewage overflow from the raw influent pump station. Upon its discovery when arriving at work on the morning of the meeting, Mr. Ramsey notified the Ohio EPA Spill Hotline and reported the incident. The overflow was stopped by re-setting the tripped breaker for the 2nd raw sewage influent pump.

2) The only preliminary treatment for the WWTP consists of a manually raked bar screen. Manually raked screenings are deposited in a dumpster, and disposed of at a solid waste landfill. A comminutor / raw sewage grinder was installed and operational at one time, but broke and has been out of service for several years.

3) The Parkson Biolac System aeration basin contents were medium brown in color, and were being well aerated. Suspended solids concentrations in the aeration basin appeared to be in a normal operating range.

4) The final settling tank/clarifier was in use, and exhibited a large amount of floating scum and paper/plastic debris on the surface of the contents. A manual skimmer is used every couple of days to remove scum and floating debris from the clarifier content surface. The effluent trough appeared to be free of solids, and the discharge was clear.

5) Sludge from the clarifier is manually returned to either the aeration basin, or the solids basin.

6) The polishing basin is not used, as quality of the water discharged from the basin is usually worse than the water entering it.

7) Treated wastewater is disinfected utilizing an UV disinfection system, which was in use at the time of the inspection. The UV system contains 12 UV lamps, which are manually cleaned.

8) Treated effluent was being post aerated prior to discharge to the receiving stream, and it appeared clear, and free of solids or foam.

A review of the electronic Discharge Monitoring Reports (eDMRs) submitted for the Village of Spencer WWTP, indicated there have been no numeric effluent, reporting frequency, or reporting code violations since the last inspection:

Various items also discussed with Mr. Ramsey during the July 1st inspection include the following:

1) Mr. Ramsey is the only full time person at the WWTP, although there is a part time person who works at the plant half days on the weekends, and parts of some weekdays. Weekday hours are 7 a.m. to 3 p.m., Monday through Friday.

2) The Spencer WWTP has no auto dialers or SCADA warning system, in case of operational problems or equipment malfunction at the WWTP. Any emergencies experienced at the plant while unstaffed would be found upon return of the operator the next morning, or possibly by passing police patrol car.

3) Spencer WWTP sludge is currently being hauled to the Lodi WWTP for treatment and disposal. Approximately 60,000 gallons of sludge is hauled every 2 years by Agri-Sludge.

4) The Spencer WWTP accepts no hauled septage for disposal.

5) Fecal coliform and ammonia analyses are conducted by the Lodi WWTP lab, and sludge heavy metal analyses are done by a private lab (Masi Labs of Columbus, OH). All other required parameters (color, odor, turbidity, temperature, pH, dissolved oxygen, suspended solids, and $CBOD_5$) are tested at the Spencer WWTP lab.

6) Use of a chain of custody form needs to be implemented for all samples collected, analyzed, and sent elsewhere for analysis.

7) The Spencer WWTP receives flow from one industrial user (Spencer Forge). Spencer Forge is currently under NPDES permit with the Ohio EPA.

8) The sanitary sewer collection system contains one pump station, which has an alarm in case of failure/high water level. There has been no pump station failure during the time since the last inspection.

9) There is a backup generator at the WWTP. The generator is capable of running the entire WWTP in case of electrical outage, and the generator is auto tested every Monday.

10) An auto sampler is used for collecting composite samples at the WWTP effluent outfall. However, the samples are collected on a time basis (1x/hour), not flow proportionally. The NPDES permit requires composite samples be collected flow proportionately, not on a time basis.

    An alternative to the auto sampler would be to manually collect at least three grab samples, proportionate in volume to the sewage flow rate at the time of sampling, at intervals of at least 30 minutes but not more than 2 hours, during the period that the plant is staffed. The samples shall be collected at such times and

locations, and in such fashion, as to be representative of the facility's overall performance.

11) The composite sampler was also not being kept at 4 degrees C, as approved sample collection and preservation techniques require. There was no thermometer present in the auto sampler refrigerator enclosure to record the actual temperature within the enclosure.

12) According to Mr. Ramsey, the flow meter at the WWTP has not been calibrated in several years. Please be advised that the flow meter needs to be calibrated as soon as possible, and is to be calibrated annually thereafter.

Submittal of detail plans for the discussed WWTP improvements should be made as soon as possible, in order to prevent a potential failure of the treatment scheme process, and subsequent NPDES permit effluent violations. Other items discussed above (proper composite sample collection, flow meter calibration, collected sample preservation, use of chain of custody forms), shall be addressed immediately and reported in writing when completed.

The Village of Spencer should continue with all efforts that will enable the WWTP to consistently meet its NPDES Permit limits. Should you have any questions or comments regarding the inspection report or this letter, please contact me at this office, or call (330) 963-1110.

Respectfully,

Charles E. Allen
Environmental Engineer
Division of Surface Water

CEA/cs