



VIA E-MAIL TO BITONDOM@MICHIGAN.GOV

October 17, 2014

Mike Bitondo
Permits Section, Water Resources Division
Michigan Department of Environmental Quality
P.O. Box 30458
Lansing, MI 48909

Re: Cass County – Ontwa Township Proposed Waste Water Treatment Plant Draft Discharge Permit & Antidegradation Demonstration; Permit No. MI0059289

Mr. Bitondo,

The Great Lakes Environmental Law Center (“GLELC”), Brookside Homeowners Association, Inc., Citizens for Change in Ontwa Township (PAC), Eagle Lake Improvement Association, Elkhart Conservation Club, and Save Cobus Creek, respectfully submit these comments for consideration regarding the proposed Draft Permit and Antidegradation Demonstration for the proposed Cass County – Ontwa Township Waste Water Treatment Plant to be constructed within Edwardsburg, Michigan.

The Commenters’ concerns regarding the proposed Draft Permit and Antidegradation Demonstration are fully set forth below. Written comments received by October 17, 2014, will be considered prior to final action. Accordingly, these comments are timely submitted.

“Protecting the world’s greatest freshwater resource and the communities that depend upon it”.

4444 2nd Avenue
Detroit, Michigan 48201
www.GLELC.org

I. INTRODUCTION

The Cass County Board of Public Works and Ontwa Township (“CCOT”) propose to construct and operate a wastewater treatment plant (“WWTP”), which will discharge treated municipal wastewater into Cobus Creek. Commenters have substantial concerns regarding the discharge of municipal wastewater into what is currently a high-quality, low-flow, predominantly cold-water creek, shared and enjoyed between the residents of Michigan and Indiana. Commenters’ concerns are predicated on CCOT’s substandard management in operating and controlling the substance of their current wastewater flows and the absence of a hydrological impact study. Accordingly, prior to the granting of a permit to discharge, the Commenters asks that the Michigan Department of Environmental Quality (“MDEQ”) request the completion of a hydrological impact study on Cobus Creek or to deny the application in the entirety.

COMMENTS

A. CCOT’s Prior Hydrogen Sulfide Violations and Current NREPA Violations Suggest an Inability to Operate a Large WWTP in a Manner that is Environmentally Protective.

As indicated by the Notice of Violation, attached hereto as **Exhibit A**, CCOT has repeatedly exceeded allowable levels of hydrogen sulfide within their 12” PVC forcemain line, which connects to the Elkhart Waste Water Treatment System. Excessive hydrogen sulfide, when left untreated, converts through a bacterial process into sulfuric acid, a highly corrosive substance. Due to the systematic failures by CCOT to control hydrogen sulfide levels, sulfuric acid formed and damaged an 18” concrete pipe and manhole located within the Elkhart System, causing it to collapse. Subsequent to this failure, CCOT admitted that, “...hydrogen sulfide levels still fluctuate above acceptable levels on occasion which can

continue to degrade the concrete pipe at the discharge point.”¹ While CCOT has attempted to address the issue through a proprietary substance referred to as “Bioxide,” their continued failure to properly control hydrogen sulfide levels clearly indicates an inability to manage their wastewater flows.

In addition, as indicated in an MDEQ Notice of Violation, VN No. VN-005917, (“NOV”) on August 25, 2014 and August 31, 2014, CCOT discharged raw or partially treated sewage from the Ontwa Township sewage system in violation of Part 31 and 41 of the NREPA. Further, CCOT failed to take samples from the affected body of water and failed to notify the general public of the hazardous discharge. CCOT’s violation, as indicated by the NOV, was due to poor maintenance of the sewer system. CCOT’s actions, or lack thereof, clearly demonstrate a disregard to the health and well-being of the residents and environment of Michigan and Indiana.

Accordingly, Commenters bring into question the CCOT’s ability to properly manage and control the effluent that would be released from their proposed WWTP into Cobus Creek, a high-quality water body. CCOT has demonstrated a clear inability to manage hydrogen sulfide and further, an inability to correct the situation once it has been brought to their attention, over multiple instances. Further, CCOT has demonstrated an inability to properly maintain their sewage system, causing a release of sewage, in violation of Part 31 and 41 of the NREPA. The responsibility in operating a wastewater treatment plant must rest with those who have demonstrated an ability to protect the environment, safety, and property of the community. Here, CCOT has exhibited risky behavior, which,

¹ (Ontwa Twp. Wastewater Treatment Sys. Improvements Project Env'tl Report 3:11-12:1, August, 2013.)

if CCOT were permitted to discharge wastewater, could ultimately result in significant degradation to Cobus Creek and the surrounding water basin.

B. The Commenters Request the Commencement and Consideration of a Hydrological Impact Study on Cobus Creek Prior to the Issuance of a Permit to Discharge or a Denial of the Application in the Entirety.

Many concerned residents of Michigan and Indiana have suggested a hydrological impact study be performed on Cobus Creek to evaluate the true impacts that may occur from the discharge of wastewater into Cobus Creek. Commenters strongly supports this suggestion and implore the MDEQ to request such study be performed prior to the issuance of a permit to discharge. Commenters anticipate that a hydrological impact study would reveal that the proposed WWTP would pose significant degradation risks to Cobus Creek for reasons set forth below. In the alternative, based upon the Commenters' forthcoming comments, the Commenters requests a denial of the Application in its entirety.

i. The Proposed Discharge Intensifies the Risk of Shoreline and Streambed Erosion as well as the Undercutting of Banks.

As indicated by multiple documents on the record, the proposed WWTP would release approximately 0.6 mgd of wastewater, with a plant capacity up to 2.7 mgd. Cobus Creek's flows range from a low of approximately 2.0 mgd in September to a high of approximately 7.0 mgd in April. As such, the proposed WWTP could increase Cobus Creek's daily flow by anywhere from 33% to 135% during low flow and 9% to 39% during high flow. However, these figures are very conservative where no hydrological impact study has yet been performed on Cobus Creek to determine the true impacts that could occur. Further, evidence on the record has shown that Cobus Creek experiences what are referred to as "stop gaps" during dry summer periods. These "stop gaps" are areas within Cobus Creek where no water flows are present. Consequently, the introduction of effluent

may significantly disrupt these natural periods of no flow and, additionally, increase the flow of the creek significantly beyond the conservative increase estimates.

CCOT alleges that the discharge of wastewater effluent will have no effect on the flows of Cobus Creek. However, the Commenters assert that CCOT is mistaken in this contention. The introduction of wastewater from the proposed WWTP will certainly increase the flows of Cobus Creek. The increase in flow rates will cause erosion to Cobus Creek shoreline and streambed, as well as the undercutting of banks. Erosion and undercutting will have pronounced negative effects on the ecosystem of Cobus Creek as a result of the increase in sediment transported within the creek. Increased sediment transport produces substantial effects, which include an increase in water temperature, disruption of habitat, and mortality of wildlife.

ii. Creek Temperature Will Likely Increase as a Result of the Discharge of Effluent.

CCOT states that the wastewater effluent discharged into Cobus Creek will either be the same as, or lower than, the temperature of the water in Cobus Creek at the point of discharge. However, while CCOT's statement is disputable, CCOT wholly neglects to take into consideration the effect that sediment transport has on the temperature of a waterway. The erosion of soil causes water clarity complications within a body of water. Consequently, a body of water, which contains higher levels of suspended particles, loses its ability to reflect sunlight, thereby absorbing the sun's rays, increasing the water temperature.

Thermal pollution through degradation of water clarity poses significant risks to the aquatic environment of Cobus Creek. As previously mentioned, Cobus Creek is predominantly a cold-water creek. As a cold-water creek, Cobus supports a substantial

population of trout. As the temperature of Cobus Creek increases, trout, which are a cold-water species, will be ill adapted to survive in the increasing temperatures. Even more alarming is the fact that the trout could be eventually replaced by invasive warm-water species, such as carp.

Pursuant to Rule 75 of the Michigan Administrative Code, MDEQ Water Quality Standards², CCOT's WWTP plant must abide by the following:

“Rivers, streams, and impoundments naturally capable of supporting cold-water fish shall not receive a heat load, which would do...the following: Increase the temperature of the receiving waters at the edge of the mixing zone more than 2 degrees Fahrenheit above the existing natural water temperature.”

Based upon the foregoing discussion, an elevated possibility exists that erosion at the point of discharge may increase the water by an amount greater than two degrees Fahrenheit. Accordingly, Commenters seek the ordering of a hydrological impact study prior to the issuing of a discharge permit to CCOTs to determine whether such result could occur.

iii. Disruption of Habitat and Wildlife Mortality can be Expected as a Result of Effluent Discharge into Cobus Creek.

In addition to thermal pollution's direct effect on aquatic life, there are numerous substantial indirect effects. Thermal pollution results in lowered levels of dissolved oxygen, since colder water has the ability to retain more dissolved oxygen. Lower dissolved oxygen levels will cause oxygen-sensitive species, such as trout, to die. In addition, photosynthesis and plant growth increase with high water temperatures, resulting in a surge in plant growth. When plants reach the end of their life, their decomposition consumes oxygen. This decomposition then could result in a further drop in dissolved

² Mich. Admin. Code R. 323.1075

oxygen levels within Cobus Creek. Further, eutrophication can result from the introduction of additional or artificial substances. A major harm from eutrophication is an increase in phytoplankton as a response to increased levels of nutrients. Again, an increase in phytoplankton causes a decrease in dissolved oxygen levels, causing more damage to the ecosystem of Cobus Creek. It is estimated that a body of water damaged by eutrophication will take thousands of years to recover. Cobus Creek is such a small body of water that the damage from eutrophication poses a significantly high risk.

The metabolic rate of fish and aquatic organisms also increases with rising temperatures, and naturally, additional oxygen is required for respiration. Life cycles of aquatic insects may increase in response to higher water temperatures. Wildlife which depend on fish and other aquatic organisms may be harmed, especially birds, which depend on a food source at specific times during their migratory flights.

The increase in suspended particles has considerable effects on fish and other organisms as well. An increase in particles may cause an increase in mortality as sediment obstructs the gills of aquatic organisms, thereby causing those organisms to suffocate. A decrease in clarity may make it more difficult for predators to locate fish within the creek, possibly causing an issue of overpopulation of a specific species.

In addition to the above comments, pursuant to the Michigan Department of Natural Resources Director's Order No. FO-224.13:

“Under the authority of sections 43509, 45501, 48702, 48705 and 48735 of 1994 PA 451, MCL 324.43509, 324.45501, 324.48702, 324.48705 and 324.48735, the Director of the Department of Natural Resources on October 11, 2012, ordered that for a period not to exceed five years it shall be unlawful to kill...any reptile or amphibian from the wild, or the eggs of any reptile or amphibian from the wild...”

Protected within the Director's Order is the Blandings Turtle (*Emydoidea blandingii*). This turtle species has been observed within Cobus Creek by a team of professionals located just south of the Michigan border in Indiana, see State Endangered and Threatened Wildlife, attached hereto as **Exhibit B**. Accordingly, a high probability exists that the Blandings Turtle is present within the jurisdiction of the State of Michigan and accordingly, the MiDNR. Based upon the preceding comments, a substantial risk exists that the effluent discharge may eventually kill a Blandings Turtle or the eggs, in violation of the DNR's Order. Accordingly, it is imperative that the MDEQ orders the commencement of a hydrological impact study prior to the issuance of a discharge permit or, based upon the foregoing, deny the Application in the entirety.

C. The Negative Hydrological Effects on Cobus Creek Outweigh any Social or Economic Benefits Which May Result From Construction of the WWTP.

CCOT had not provided a sufficient Antidegradation Demonstration pursuant to Rule 98(4) of the Michigan Administrative Code, MDEQ Water Quality Standards.³ Specifically, CCOT has not identified any social or economic benefit that outweighs the harm that would occur to Cobus Creek if the WWTP were permitted to discharge into the creek.

CCOT alleges that environmental benefits will occur as a result of the discharge of effluent. CCOT argues that since their WWTP will be held to "lower effluent limits, the loading from Ontwa Township and its service area to the St. Joseph watershed will improve as a result." Further, CCOT argues that the "water temperature will be equal to or lower than the temperature of the receiving water at the point of discharge during the summer

³ Mich. Admin. Code R. 323.1098

months.⁴ (*Emphasis Added*). Foremost, no environmental benefits will result from the discharge of effluent into Cobus Creek. Cobus Creek will likely suffer substantial harm as outlined in these comments, above. Further, any harm that occurs to Cobus Creek will likely have an adverse effect downstream in the St. Joseph River as well. Moreover, CCOT's statement signifies that they are aware that the temperature of their effluent will exceed the temperature of Cobus Creek at the point discharge during the fall, winter and spring months. The fact that the CCOT qualified their statement to read "during the summer months," supports the Commenters' argument and further strengthens the Commenters' concerns regarding an increase in creek temperature as discussed above. Thus, CCOT's Antidegradation Demonstration fails to sufficiently demonstrate any environmental benefits.

In continuing with their Antidegradation Demonstration, CCOT suggests that Ontwa Township will experience general economic benefits. These benefits include: (1) local control over rate structure; and (2) the ability to promote industrial growth through the removal of veto power by the City of Elkhart on future industrial growth. The Commenters' assert that both arguments fail to establish a true demonstration of Antidegradation.

Local control over rate structure does not necessarily suggest an ability to keep rates low. The City of Elkhart currently receives wastewater from a plethora of other municipalities. The wastewater from Ontwa Township only comprises approximately 6% of the total wastewater treated by Elkhart. With that in mind, it is obvious that Elkhart has

⁴ (Ontwa Township Item 6 – Rule 98 Antidegradation Demonstration, 1:5-6:1, date unknown)

favorable economies of scale, thereby helping Elkhart to keep rates low and controllable. Further, and more importantly, lower rates do not protect the environment and ecosystem of Cobus Creek. The possibility of lower rates is not an acceptable reason for risking the health of Cobus Creek.

CCOT's second argument asserts that a WWTP facility will facilitate their ability to increase industrial growth. However, CCOT does not offer any evidence to support that they have industrial customers interested in developing within their jurisdiction, arguing only that temporary and permanent employment will increase through construction contracts, and two permanent jobs will be created through construction of the WWTP. Furthermore, CCOT has not demonstrated how these debatable "benefits" outweigh the substantial environmental harms to Cobus Creek as a result of the wastewater discharge from the proposed WWTP. Indeed, the location of additional industrial customers within the Cobus Creek watershed only increases the risk that Cobus Creek will suffer substantial environmental harm. Accordingly, CCOT has failed to make a sufficient Antidegradation Demonstration as required under Rule 98. For these reasons, Commenters respectfully requests the denial of the Application to Discharge.

II. CONCLUSION

For all the above reasons, Commenters respectfully requests, at the very minimum, an order for a hydrological impact study. However, the Commenters believe that the ideal resolution to this matter is the denial of the Application to Discharge, in the entirety. The Commenters have offered substantive concerns that must be addressed by the MDEQ. The strategic goals of the MDEQ, namely to improve the quality of air, land, and water

resources, are best met by the denial of the Application to Discharge into Cobus Creek.

The Commenters thank the MDEQ for their time and consideration of our comments.

Respectfully submitted,



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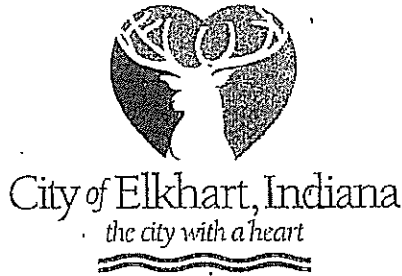
David Douglas
President
Elkhart Conservation Club

Kimberly Haas & Cynthia Herms
Co-Presidents
Save Cobus Creek

Exhibit A

ATTACHMENT I

Dick Moore
Mayor
Laura Kolo
Environmental Resources
Michael C. Machlan, P.E.
Engineering Services
Margaret M. Jones
Utility Staff Attorney



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Elkhart, Indiana 46516

CONFIRMATION DELIVERY 9202 1901 0661 5400 0015 4310 75

May 21, 2013

Mr. John Brielmaier
Ontwa Township Supervisor
Ontwa Township Sewer District
26296 US 12 East
Edwardsburg, MI 49112

Mr. Louis Csokasy
Cass County Administrator
120 N. Broadway
Cassopolis, MI 49031

RE: Ontwa Township Sewer District

Dear Mr. Brielmaier and Mr. Csokasy:

This is a NOTICE OF VIOLATION WITH COMPLIANCE ORDER (NOV) for the following Non-Compliant Event(s):

Date(s) of Occurance:	2/7-11/2013, 2/25/13-3/1/13, 4/2-3/13, 4/9-11/13, 4/25/13-5/1/13 (Attachment I)
Type of Non-Compliance:	Wastewater Utility Use Ordinance, No 5285, Section 5.2.2 (f), (n) (Attachment II)
Enforcement Action(s):	Notice of Violation with Compliance Order
Penalty Amount:	To be determined by the Board of Public Works pursuant to the Enforcement Response Plan Penalty Matrix.
Response:	To prevent escalation of the Enforcement Process you must respond to this NOV in writing within 15 calendar days of receipt to the following:

Lynn Brabec, Environmental Compliance
Elkhart Public Works and Utilities
1201 S. Nappanee Street
Elkhart, IN 46516

All responses to this NOV shall include the Certification Statement (enclosed) which must be signed by the Authorized Representative of your company.

Due Date: Within 15 calendar days of receipt.

Let this NOV serve as your Order to comply with the provisions of Ordinance No. 5285. This matter will be brought before the Board of Public Works at the June 18, 2013 Board of Public Works meeting held in the Council Chambers located at 229 S. Second Street, Elkhart, IN. At that time the Board will determine the penalty and any other appropriate actions that need to be taken. You will have an opportunity to reach a Consent Order. As long as you abide by the stipulations of the Consent Order, including paying the penalty, the enforcement action will conclude. If you do not agree with the facts as stated in this NOV, please include an explanation of the dispute in your response, and request a full hearing before the Board.

Board of Works Agenda meetings are held at 9:00 am the Friday before the Board meeting (June 14, 2013) in the Board of Works Conference Room on the third floor of the City Building, 229 S. Second Street, Elkhart, IN. You are invited to attend this meeting to present any information you would want the Board to consider prior to the Board meeting. Please understand that no formal actions take place at these meetings.

Please contact me if you have any questions or require clarification regarding this Notice of Violation with Compliance Order.



Lynn Brabec
Environmental Compliance
Elkhart Public Works and Utilities

Exhibit B

State Endangered and Threatened Wildlife

Cobus Creek in Elkhart County is home to a wide variety of flora and fauna in the areas where habitat has been left to flourish. Two public facilities that have a mission of protecting this habitat include Cobus Creek County Park and the Elkhart Conservation Club. Other habitat lies on private property and is maintained and enjoyed by private land owners.

There are several species listed on the Indiana State Endangered and Threatened Wildlife list that utilize the Cobus Creek watershed for habitat. According to the IDNR Heritage Data Center a Sedge Wren (*Cistothorus platensis*) was documented just south of the state line near Cobus Creek in 2000. This wren is a wetland/riparian species and listed as a State Endangered species.

Several rare species of turtles also have been documented in Cobus Creek. In 1998, an aquatic biologist observed a Spotted Turtle (*Clemmys guttata*) while sampling fish species. Spotted Turtles are a state endangered species. In addition, the IDNR Heritage Data Center has a report of a Blanding's Turtle (*Emydoidea blandingii*) at the Elkhart County Conservation Club that was documented in 1994.

Various private landowners have witnessed Blanding's turtles on their private property as well.

Eastern Box Turtles, a protected species in the state of Indiana have also been found at both Cobus Creek County Park and the Elkhart Conservation Club.

Summary of State Endangered/Threatened Species Observed/Documented in Cobus Creek watershed			
Species	Sited	Year	Observed/Documented
Blandings Turtle, <i>Emydoidea blandingii</i>	Elkhart Conservation Club/Cobus Creek	1994	Indiana DNR Heritage Data
Sedge Wren, <i>Cistothorus platensis</i>	Cobus Creek watershed/1/2 mile south of state line	2000	Indiana DNR Heritage Data
Spotted Turtle, <i>Clemmys guttata</i>	Cobus Creek – just downstream of CR 2	1998	Indiana DNR Heritage Data
Eastern Box Turtle, <i>Terrapene carolina</i>	Cobus Creek County Park	2007	Elkhart County Park Naturalist-C. Franke
Eastern Box Turtle, <i>Terrapene carolina</i>	Elkhart Conservation Club	Various years	Observed often by Club manager-D. Douglas

One other species deserve research in the Cobus Creek habitats. Over the past decade residents have reported Eastern Massausaga rattlesnakes on the east side of Boot Lake Nature Preserve as well as in the Christianna Creek watershed to Elkhart County Park naturalist staff. Boot Lake is located 2.9 miles to the east of Cobus Creek, and Christianne Creek is 3.5 miles east of Cobus Creek. Eastern Massaugas were once reported often at the Elkhart Conservation Club, but have not been sighted in over two decades. The Eastern Massausaga is a state endangered species in Indiana .

Various mussels and mollusks live in Cobus, but they have not been identified by an expert as of yet.