



State of Ohio Environmental Protection Agency

**Northwest District Office**

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Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director

Re: Henry County  
Deshler WWTP  
NPDES Permit

March 17, 2010

Mayor and Council  
Village of Deshler  
101 East Main Street  
Deshler, Ohio 43516

Dear Mayor and Council:

On May 13, 2009, and February 25, 2010, inspections were made of the Village of Deshler wastewater treatment facilities. Mr. Mike Spurgeon was present and provided information concerning operation and maintenance of these facilities. During the May 13, inspection, Mr. Dan Gill, Mr. Ryan Gierhart and Ms. Dana Martin-Hayden were present. During the recent inspection, Ms. Dana Martin-Hayden represented the Ohio EPA.

During both inspections, all major treatment units were in operation. The final effluent on May 13, 2009, was a light green brown color and had a septic odor. The final effluent on February 25, 2010, was a light green brown color with some suspended solids present and no odor.

During both inspections the final sluice gate was leaking. The concrete around the sluice gate has disintegrated and the concrete structure housing the sluice gate needs to be replaced.

The agency initiated permit modifications, which were recently proposed were discussed. Please do not sign and return the modification letter at this time. From our review of the proposed changes, it is clear that the following additional changes need to be made:

On Page 2 – “.0” - should also be added to all the TSS values – page 2 (table-Final Outfall – 001 – Final)

On Page 9 – “All sanitary sewer overflows are prohibited” - should appear at the bottom of page 9 (Table SSO Monitoring – 300 – Final).

On Page 13 – Part I, C – Schedule of Compliance – 1.a-d. language should remain as shown in the original permit. This work has not been done yet.

Also, on Page 13 – only Part I, C. 2. a has been completed and should be labeled as done. Part I, C. 2. b and c language should remain as shown in the original permit. Another letter regarding the permit modification will be sent in the near future. Please follow the instructions on that letter.

The Village is in violation of Part I, C. 1. a, b, c, and d of the NPDES permit for failure to upgrade/replace the final sluice gate which is currently leaking. In addition the Village is in violation of Part 1, C. 2. b of the NPDES permit for failure to remove CSO 2PC00002011. The Village is also in violation of Part I, C. 2. c of the NPDES permit for failure to complete monitoring and an evaluation of CSO 2PC00002002, which is located at the main pump station. Finally, the Village is in violation of Part 1, C. 2. d for failure to submit written status reports to the Ohio EPA every 6 months beginning on the effective date of the permit.

We understand that all remaining CSOs ( 009, 011 & 012) will be removed this spring and then the monitoring and evaluation of CSO 2PC00002002 will take place. We were informed that CSOs 003, 010 and 016 have been removed. We expect to see written status reports sent to our office regarding progress to meet these goals in compliance with Part 1, C 2.d of the NPDES permit. Failure to comply with the NPDES permit may be cause for escalated enforcement action by our Agency.

Mr. Spurgeon stated during the recent inspection, that since check valves have been placed on the two lines from the pump house to the stream a significant decrease in river intrusion has been experienced by the final pump station. The CSO located at Maple was also identified as suffering from river intrusion, which elevates the importance of removal since river intrusion into the collection system may overload the treatment system with clean water.

During our recent inspection the Village's use of biological treatment to reduce the amount of solids in the treatment lagoons was discussed. To evaluate the effectiveness of this treatment we reviewed reports on the sludge thickness in the lagoons over the past several years. Attached are three separate summary tables. It appears that over the last 10 years the Village has seen an increase of approximately six (6) inches in the sludge blanket height.

The Village currently has very high limits for suspended solids. Meeting the current limits could become very difficult if the lagoons are allowed to fill with biosolids.

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The Village has several options for removing the biosolids in the lagoon and we strongly recommend that you evaluate and pursue the most cost effective option for the Village as soon as possible.

Option 1 - Contact Andy Gall, at (419) 373-3003, to begin establishing a biosolids land application program that would allow periodic removal of biosolids from the wastewater treatment lagoons and improve their treatment efficiency.

Option 2 – Investigate options for the addition of aeration to the wastewater treatment lagoons. Since electrical service is not available at the lagoons, Mr. Spurgeon referenced installation of wind mills, similar to the Village of Hamler. If the Village decides to pursue this option a Permit to Install, which will include detail plans must be submitted prior to construction. Engineering calculations that show the increase in Oxygen provided by the aeration must be included.

Option 3 – Begin to budget for the costs associated with removing and disposing the biosolids in one concentrated effort that may require additional temporary wastewater treatment.

The inspection report for the May 13, 2009, inspection is attached. If you have any questions, please contact Dana Martin-Hayden at (419) 373-3067.

Yours truly



Elizabeth A. Wick  
Unit Supervisor  
Division of Surface Water

/llr

ec: Andy Gall, DSW, NWDO  
Dan Gill, DSW, CO  
Patty Smith, DSW, CO

pc: Henry County Health Department  
DSW, NWDO Files  
Mike Spurgeon, Village of Deshler

**OPERATION AND MAINTENANCE INSPECTION**  
0.025 to 1.0 MGD

Facility Name Deshler WWTP Application No. OH0023471  
 Facility Address East of CR 4, Deshler, Ohio Ohio Permit No. 2PC00002  
 City Deshler Spurgeon County Henry Date 5/13/09 Time 10:36am  
 Name and Address of Owner Village of Deshler WWTP Township Bartlow  
101 East Main Street, Deshler, Ohio 43516 Phone 419-  
 Person Contacted Mike Spurgeon, Superintendent Phone 419-278-2055  
 Flow: Design 0.57 MGD GPD Present 0.274 MGD GPD (metered - estimated)  
 Trib. Pop. ~1800 (actual-estimated) Weather at time of inspection Cloudy 60's  
 OEPA Personnel Dana Martin-Hayden, Dan Gill, Ryan Gierhart District SUNDO

STORET I.D. No. 39

NOTATIONS BY EVALUATOR							
1. OPERATION AND MAINTENANCE PROBLEMS DEFICIENCIES							
CHECK EACH OF THE FOLLOWING ITEMS IN TERMS OF THEIR ESTIMATED ADVERSE EFFECTS ON THE PERFORMANCE OF THE PLANT							
ITEM	MAJOR	MINOR	NONE	ITEM	MAJOR	MINOR	NONE
STAFF COMPLEMENT			✓	OVERLOADS (type)			
PERSONNEL TRAINING			✓	HYDRAULIC			
OPERATOR BUDGET		✓	✓	PERIODIC		✓	
LABORATORY CONTROL			✓	CONTINUOUS			
INSTRUMENTATION			✓	ORGANIC			✓
INDUSTRIAL WASTE				PERIODIC			
PLANT OBSOLESCENCE	✓			CONTINUOUS			
EQUIPMENT FAILURE:	✓			OVERLOAD CAUSES:			
TREATMENT PROCESSES		✓		INFILTRATION			
SLUDGE HANDLING AND PROCESSING	✓			COMBINED SEWERS		✓	
EQUIPMENT MAINTENANCE	✓			INDUSTRIAL GROWTH			
SPARE PARTS INVENTORY				RAPID POPULATION GROWTH			
POWER FAILURE				INCREASED SERVICE AREA			
				OTHER:			
				OTHER:			

2. PLANT PERSONNEL INVENTORY								
PERSONNEL CLASSIFICATION  (a.)	EMPLOYMENT  (b.)				CERTIFICATION  (c.)		TRAINING REQUIRED NEXT 12 MONTHS  (d.)	
	ACTUAL		NUMBER BUDGETED	NO. RE-COMMENDED	VOLUNTARY		NEW HIRES	UPGRADE (Promotion or skill improvement)
	MANHOURS PER WEEK	NUMBER			MANDATORY	ACTUAL NO. CERTIFIED		
1. MANAGEMENT SUPERVISOR								
2. OPERATOR								
3. LABORATORY								
4. MAINTENANCE								
5. OTHER PLANT WORKERS								
6. OTHER OFFICE WORKERS								
7. TOTAL								

3. PURPOSE OF INSPECTION				4. GENERAL RATING			
___ GRANT COMPLIANCE		___ FOLLOW-UP		ACCEPTABLE			
___ PERMIT COMPLIANCE		___ OTHER:		CONDITIONAL ACCEPTANCE			
				UNACCEPTABLE			
EVALUATION PERFORMED BY		TITLE		ORGANIZATION		DATE	
<u>Dana Martin-Hayden</u>							
<u>Ryan Gierhart &amp; Dan Gill</u>							
INFORMATION FURNISHED BY		TITLE		ORGANIZATION		DATE	

GUIDE - VISUAL OBSERVATION - UNIT PROCESS

RATING CODES: S = Satisfactory; U = Unsatisfactory; M = Marginal; IN = In Operation; OUT = Out of Operation.

CONDITION OR APPEARANCE		RATING	COMMENTS
GENERAL	GROUNDS		
	BUILDINGS		
	POTABLE WATER SUPPLY PROTECTION		
	SAFETY FEATURES		
	BYPASSES		
	STORMWATER OVERFLOWS		
PRELIMINARY	MAINTENANCE OF COLLECTION SYSTEMS		
	PUMP STATION		Main Lift Station at North & Oak St. gate valve @ CSO recently installed to bypass pump station
	VENTILATION		
	BAR SCREEN		
	DISPOSAL OF SCREENINGS		
	COMMINUTOR		
	GRIT CHAMBER		
	DISPOSAL OF GRIT		
PRIMARY	SETTLING TANKS		
	SCUM REMOVAL		
	SLUDGE REMOVAL		
	EFFLUENT		
SLUDGE DISPOSAL	DIGESTERS		
	TEMPERATURE AND PH		
	GAS PRODUCTION		
	HEATING EQUIPMENT		
	SLUDGE PUMPS		
	DRYING BEDS		
	VACUUM FILTER		
	INCINERATION		
DISPOSAL OF SLUDGE			
OTHER	FLOW METER AND RECORDER		
	RECORDS		Need to Record S/Ds on table 300 not S/Ds on CSO table
	LAB CONTROLS		
SECONDARY-TERTIARY (LIST ITEMS AS REQUIRED)	2 celled lagoons	U	2 animal bone holes - light brownish/greenish water,
CHLORINE	EFFLUENT		greenish brownish light color / septic odor Final sluice gate leaking - discharging w/ sampling
	CHLORINATORS		
	EFFECTIVE DOSAGE		
	CONTACT TIME		
	CONTACT TANK		
Stream condition			

ANNUAL BUDGET FOR MAINTAINING AND OPERATING PLANT

SALARIES & WAGES	ELECTRICITY	CHEMICALS	MAINTENANCE	STAFFING & TRAINING	OTHER	TOTAL

5. Periodic sampling and analysis of the sludge, including microscopic examination.
6. Periodic analysis of the lagoon water to ensure that proper nutrients are available for the bacteria.
7. The addition of nutrients to support bacterial growth.

### PRIMARY LAGOON SLUDGE READINGS

During the program period, the Primary Lagoon was surveyed to determine initial, mid point and ending sludge levels. The results of the surveys are listed below.

Location	Sludge depth (inches)		
	4/23/09	6/18/09	9/18/09
P-1	6	12	16
P-2	8	13	13
P-3	6	12	13
P-4	6	14	16
P-5	6	12	14
P-6	8	13	12
P-7	5	7	10
P-8	11	12	8
P-9	5	9	12
P-10	5	6	6
P-11	5	10	12
P-12	4	9	12
Average	6	11	12

**Average sludge depth for the year is 9.67 inches, a 3.03 inch decrease from 2008; approximately 18 % of the capacity of the primary lagoon is occupied by sludge.**

### VOLATILE ORGANIC CONTENT OF PRIMARY LAGOON

The organics in the sludge are a viable food source for the bacteria. To ensure that the sludge has adequate amounts of organics, we analyzed the sludge for volatile organics during the program period. The percent solids were calculated to help figure the amount of dry tons of sludge that is in each lagoon. This calculation will help the Village with future references to lagoon content. The results of this testing is listed below.

	4/23/09	6/18/09	9/18/09
% Volatile Solids	19.1%	75.2%	29.3%
% Solids	6.93%	7.72%	5.93%

5. Periodic sampling and analysis of the sludge, including microscopic examination.
6. Periodic analysis of the lagoon water to ensure that proper nutrients are available for the bacteria.
7. The addition of nutrients to support bacterial growth.

### PRIMARY LAGOON SLUDGE READINGS

During the program period, the Primary Lagoon was surveyed to determine initial, mid point and ending sludge levels. The results of the surveys are listed below.

Sludge depth (inches)			
Location	5/1/08	7/8/08	9/15/08
P-1	16	18	17
P-2	13	14	12
P-3	14	10	12
P-4	8	18	9
P-5	12	12	15
P-6	24	10	14
P-7	6	8	11
P-8	12	8	12
P-9	10	10	11
P-10	12	6	19
P-11	12	12	13
P-12	11	13	16
Average	13	12	13

**NO INCREASE**

### VOLATILE ORGANIC CONTENT OF PRIMARY LAGOON

The organics in the sludge are a viable food source for the bacteria. To ensure that the sludge has adequate amounts of organics, we analyzed the sludge for volatile organics during the program period. The percent solids were calculated to help figure the amount of dry tons of sludge that is in each lagoon. This calculation will help the Village with future references to lagoon content. The results of this testing is listed below.

	5/1/08	7/8/08	9/15/08
% Volatile Solids	15.7%	32.6%	18.5%
% Solids	11.8%	5.4%	13.4%

5. Periodic sampling and analysis of the sludge, including microscopic examination.
6. Periodic analysis of the lagoon water to ensure that proper nutrients are available for the bacteria.
7. The addition of nutrients to support bacterial growth.

### PRIMARY LAGOON SLUDGE READINGS

During the program period, the Primary Lagoon was surveyed to determine initial, mid point and ending sludge levels. The results of the surveys are listed below.

<b>Sludge depth (inches)</b>			
<b>Location</b>	<b>5/14/07</b>	<b>8/17/07</b>	<b>10/25/07</b>
P-1	16	15	13
P-2	14	12	10
P-3	24	12	8
P-4	14	14	13
P-5	10	13	10
P-6	13	14	11
P-7	5	6	6
P-8	17	9	6
P-9	10	11	6
P-10	8	6	6
P-11	9	11	4
P-12	11	12	7
<b>Average</b>	<b>11</b>	<b>11</b>	<b>8</b>

### 3" Reduction

### VOLATILE ORGANIC CONTENT OF PRIMARY LAGOON

The organics in the sludge are a viable food source for the bacteria. To ensure that the sludge has adequate amounts of organics, we analyzed the sludge for volatile organics during the program period. The percent solids were calculated to help figure the amount of dry tons of sludge that is in each lagoon. This calculation will help the Village with future references to lagoon content. The results of this testing is listed below.

	<b>5/14/07</b>	<b>8/17/07</b>	<b>10/26/07</b>
% Volatile Solids	20.2%	22.2%	76.4%
% Solids	12.7%	10.9%	7.30%