

Watershed Adaptive Management Request

Form 3200-139 (1/12)

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Notice: Pursuant to s. NR 217.18, Wis. Adm. Code, this form must be completed and submitted to the Department at the time of the reissuance of an existing WPDES (Wisconsin pollutant discharge elimination system) permit to request adaptive management for phosphorus water quality based effluent limits (WQBEL). Failure to provide all requested information may result in denial of your request. Personal information collected will be used for administrative purposes and may be provided to requestors to the extent required by Wisconsin Open Records law [ss. 19.31-19.39, Wis. Stats.].

Type of Request:

- ☐ This is the formal adaptive management request as required in s. NR 217.18(2)
☒ This is a preliminary adaptive management request (to be submitted as part of facility planning.)

Facility and Permit Information

Facility Name Village of Oregon Wastewater Treatment Facility		WPDES Permit No. WI - 0020681-08-0	
Facility Address 101 North Perry Parkway	City Oregon	State WI	ZIP Code 53576
Receiving Water Oregon Branch discharging to Badfish Creek and eventually to the Yahara River.			

Owner Contact Information

Last Name Rau	First Name Jeff	MI	Phone No. (incl. area code) (608) 835-6290
Street Address 117 Spring Street			FAX Number (608) 835-6503
City Oregon	State WI	ZIP Code 53575	Email address jrau@vil.oregon.wi.us

Facility Information

Provide listed information for each lagoon or pond basin

Required for AM Request	Wis. Administrative Code Reference	Conclusion	Evidence/Source of information (attach as needed)
1. NPS contribute at least 50% of total P contribution	s. NR 217.18(2)(b)	☒ NPS contributes at least 50% ☐ NPS DOES NOT contribute at least 50%	Rock River TMDL
2. WQBEL Requires Filtration	s. NR 217.18(2)(c)	☒ Filtration required ☐ Filtration NOT required	See current facility operation below.
3. AM Plan	s. NR 217.18(2)(d)	☒ Plan is Included – Page 3 ☐ Plan is NOT Included <i>For a preliminary adaptive management request, AM plan not required</i>	Preliminary plan for Yahara Watershed submitted to DNR by Madison Metropolitan Sewerage District

Facility Operation and Performance

1. **Current P removal capability** – If the facility is currently required by a WPDES permit to monitor effluent phosphorus (P) provide a summary of the influent and effluent annual average P concentrations for each of the past three (3) years. If permit required P data is not available, the applicant should provide any other P data that may be applicable and available. If no data is available, the Department may estimate the P effluent concentration by based on data from other similar facilities.

The Oregon WWTF currently employs a combination of biological and chemical phosphorus removal to meet their 1.1 mg/L total phosphorus limit. Phosphorus treatment optimization at the WWTP has been achieved through a combination of in-plant process testing, modification to the controls of the biological phosphorus removal system, and changes to the configuration of the biological phosphorus removal system. The combination of these items has allowed the WWTP to decrease their chemical use while maintaining or increasing their phosphorus removal efficiency. Data from the end of 2015 (past three years attached) shows the decreasing trend of effluent phosphorus concentration and loading. At the same time chemical additions have been significantly decreased. This trend has been observed on a short term basis. The hope is that the trend will continue long term, however the reliability of the process is not known.

While significant improvements to the phosphorus removal efficiency have been observed, it is not anticipated that the WWTF will be able to achieve the 0.075 mg/L limit without major facility upgrades.

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2. **Facility Operation** – Provide a summary description of overall facility operation. If not a continuously discharging facility, describe storage procedures and the time periods when effluent discharge occurs.

The WWTP includes an influent pump station, preliminary treatment with influent fine screening, vortex grit removal and grit washing, flow metering, and sampling, activated sludge with biological phosphorus removal, final clarification, effluent flow metering and sampling, and effluent re-oxygenation. Waste activated sludge is fed into the auto-thermal aerobic digestion system, thickened using a gravity belt thickener, and stored for 180 days. Class B liquid sludge is land applied on local fields in the spring and fall.

The facility also includes a hauled waste receiving station for receiving septic and holding tank wastes.

3. **Previous Studies** – Reference or attach any facility planning or evaluation study that evaluated facility performance capabilities (Note – Only include studies that are recent, within 5 years, or otherwise applicable for the evaluation of the existing facility and current conditions).

None.

Adaptive Management Plan (s. NR 217.18(d))

This section should summarize the Adaptive Management Plan for internal and external review. A complete Adaptive Management Plan should be attached. Note: If this is a preliminary adaptive management request, this section is not required.

Watershed

Yahara River

Percent Contribution of Applicant Discharge

Action Area (include map)

The action area for this plan is the entire Yahara Watershed. See Attachment A.

Watershed Characteristics and Timeline Justification

The Yahara Watershed is located in south-central Wisconsin. The watershed is home to a mix of dairy operations, cash crops and intensive urban use. Long-term urban and agricultural development has led to accumulated legacy phosphorus which is anticipated to take several years to reduce.

Key Proposed Actions

There will be a suite of runoff-reducing practices implemented as part of this plan, as well as outreach/education efforts and water quality monitoring activities, all of which are identified and discussed in the preliminary adaptive management plan.

Key Goals and Measures for Determining Effectiveness

The primary goal of the plan is to meet the TMDL allocations for all participating partners. A combination of modeling, effluent and water quality monitoring will be used to determine the effectiveness of the project.

Partner(s)

See attached.

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Funding Sources

Intergovernmental Agreement participants, County, State and Federal (e.g. Regional Conservation Partnership Program, Clean Lakes Alliance, Madison Gas & Electric, USGS, and others).

Adaptive Management Request and Certification

Based on the information provided, I am requesting the Watershed Adaptive Management option to achieve compliance with phosphorus water quality standards in accordance with s. NR 217.19, Wis. Adm. Code. I certify that the information provided with this request is true, accurate and complete to the best of my knowledge.

Print or type name of person submitting request*

Jeff Rau, P.E.

Title

Director of Public Works

Signature of Official

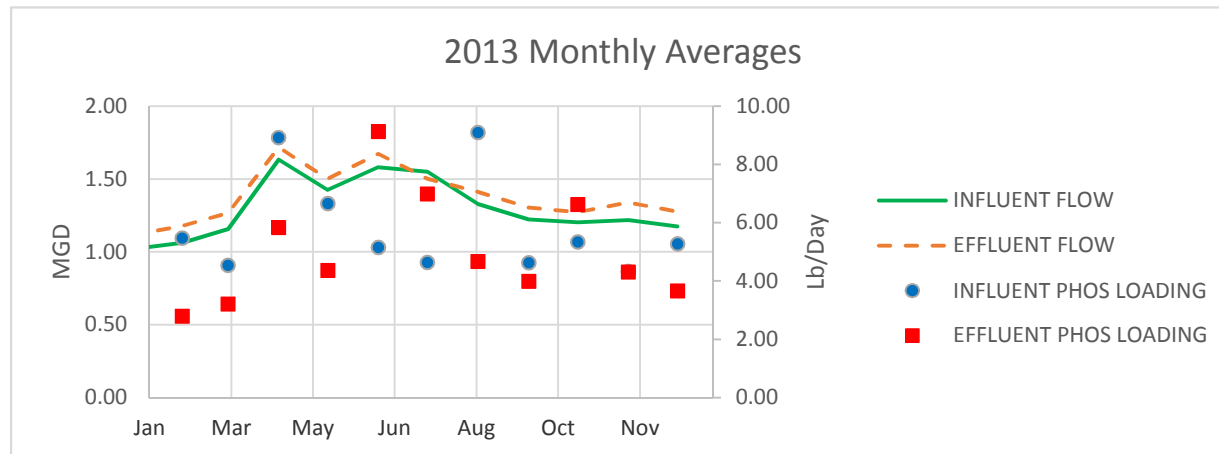
Date Signed

3/11/16

*Must be an Authorized Representative for the treatment facility

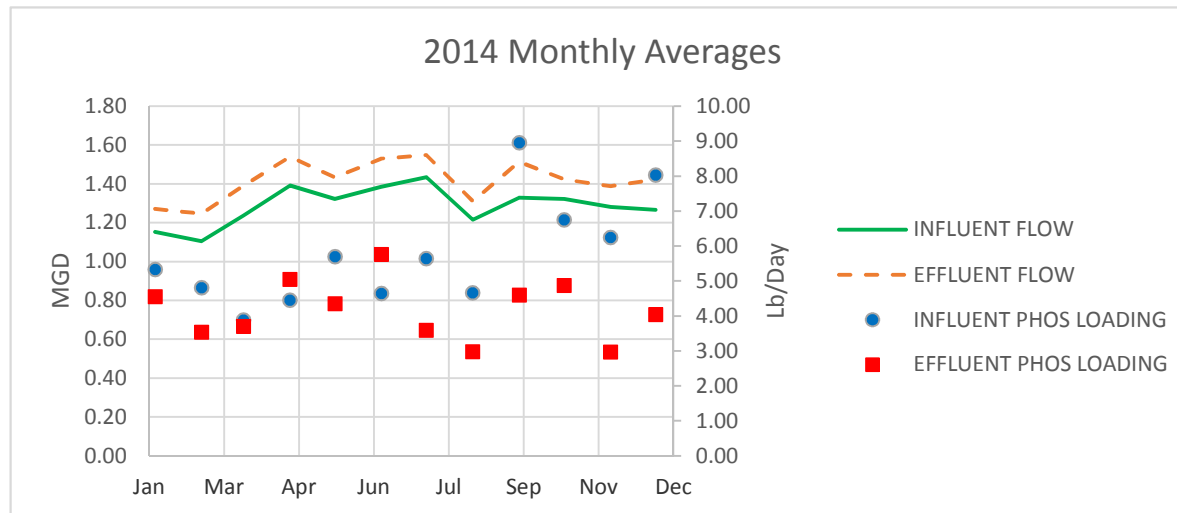
Village of Oregon
WWTP Phosphorus Data

2013 Monthly Averages	Influent Flow	Influent Total Phos	Influent Phos Loading	Effluent Flow	Effluent Total Phos	Effluent Phos Loading
	MGD	MG/L	LB/DAY	MGD	MG/L	LB/DAY
January-13	1.02	4.11	5.46	1.11	0.48	2.15
February-13	1.06	4.43	5.47	1.18	0.65	2.79
March-13	1.16	3.95	4.53	1.27	0.81	3.21
April-13	1.63	4.96	8.92	1.72	0.96	5.84
May-13	1.43	3.53	6.66	1.50	0.77	4.37
June-13	1.58	3.31	5.15	1.67	1.49	9.13
July-13	1.55	2.80	4.64	1.50	1.23	6.98
August-13	1.33	5.20	9.09	1.41	0.94	4.67
September-13	1.22	3.39	4.63	1.30	0.92	3.99
October-13	1.20	3.32	5.34	1.27	1.30	6.63
November-13	1.22	2.99	4.33	1.34	0.96	4.31
December-13	1.17	4.22	5.27	1.28	0.82	3.66
Maximum	1.63	5.20	9.09	1.72	1.49	9.13
Minimum	1.02	2.80	4.33	1.11	0.48	2.15
Average	1.30	3.85	5.79	1.38	0.94	4.81



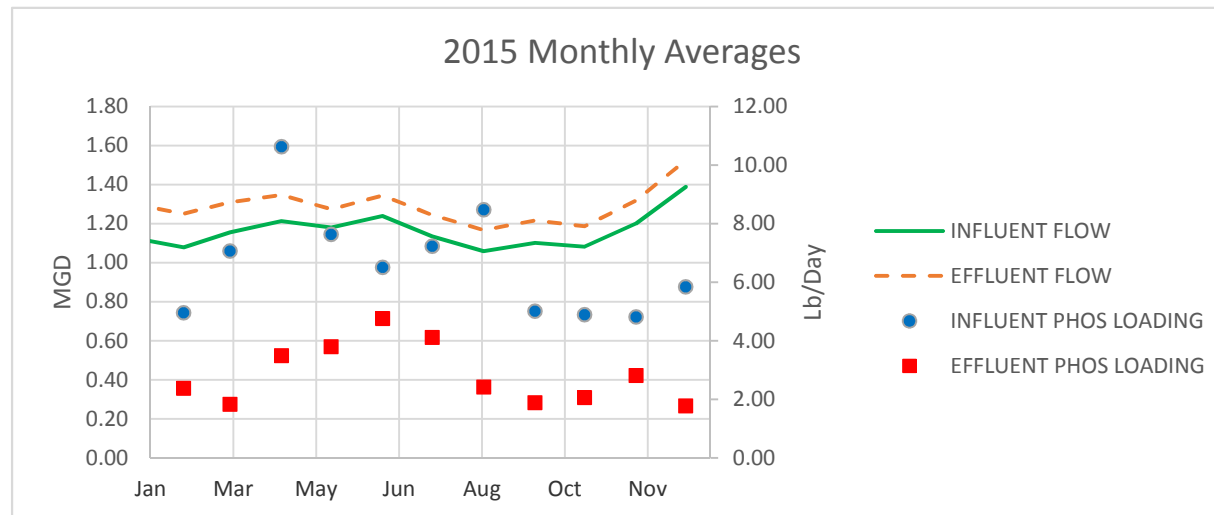
Village of Oregon
WWTP Phosphorus Data

2014 Monthly Averages	Influent Flow	Influent Total Phos	Influent Phos Loading	Effluent Flow	Effluent Total Phos	Effluent Phos Loading
	MGD	MG/L	LB/DAY	MGD	MG/L	LB/DAY
January-14	1.15	3.49	5.33	1.27	0.97	4.55
February-14	1.10	3.56	4.81	1.25	0.79	3.53
March-14	1.24	3.01	3.88	1.39	0.83	3.70
April-14	1.39	3.15	4.45	1.54	0.85	5.04
May-14	1.32	3.19	5.70	1.43	0.86	4.35
June-14	1.38	3.01	4.64	1.53	0.97	5.76
July-14	1.43	2.94	5.64	1.55	0.67	3.59
August-14	1.22	3.63	4.66	1.31	0.70	2.98
September-14	1.33	5.02	8.95	1.51	0.79	4.60
October-14	1.32	4.55	6.75	1.42	0.99	4.87
November-14	1.28	4.39	6.24	1.39	0.64	2.96
December-14	1.27	4.64	8.03	1.42	0.75	4.04
Maximum	1.43	5.02	8.95	1.55	0.99	5.76
Minimum	1.10	2.94	3.88	1.25	0.64	2.96
Average	1.29	3.71	5.76	1.42	0.82	4.16



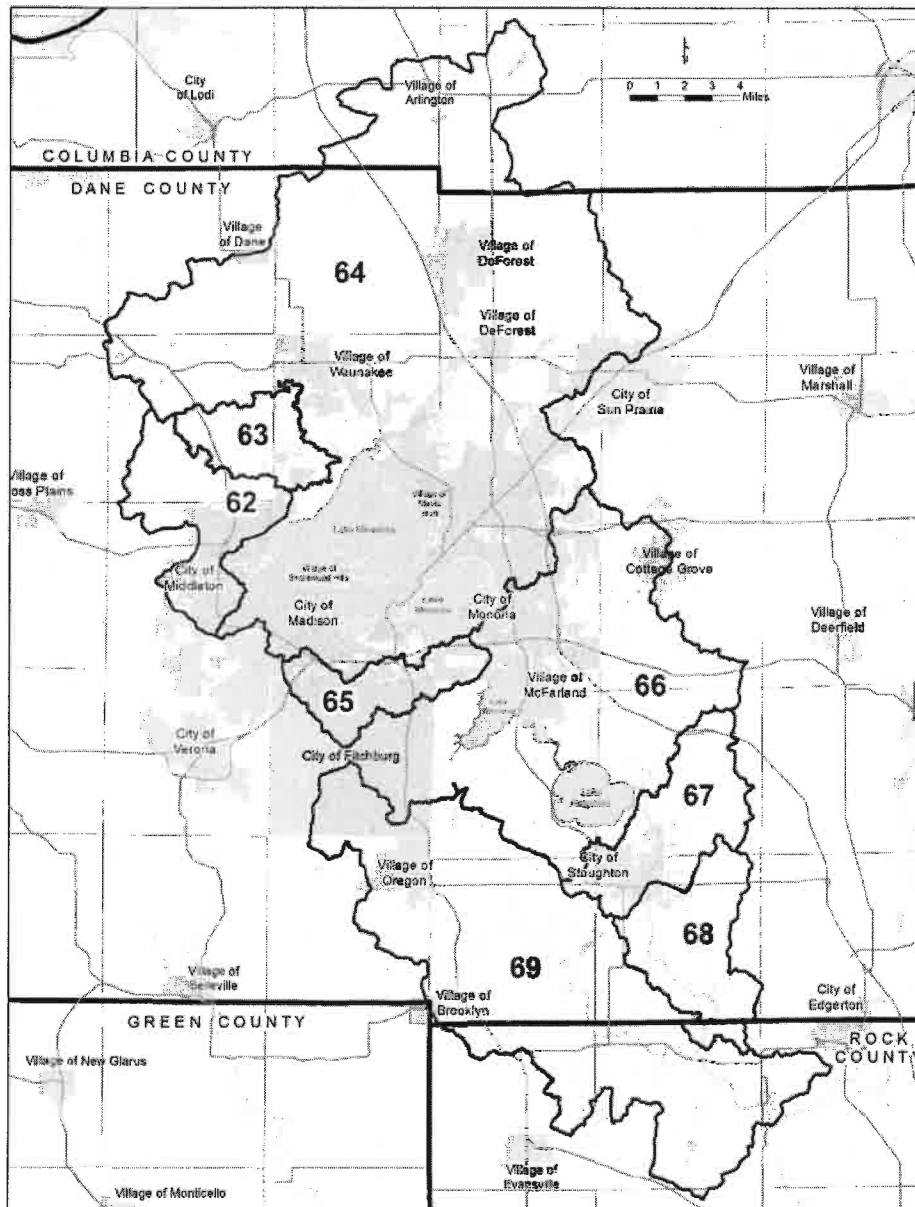
Village of Oregon
WWTP Phosphorus Data

2015 Monthly Averages	Influent Flow MGD	Influent Total Phos MG/L	Influent Phos Loading LB/DAY	Effluent Flow MGD	Effluent Total Phos MG/L	Effluent Phos Loading LB/DAY
January-15	1.13	5.00	6.03	1.30	1.01	4.60
February-15	1.08	5.14	4.95	1.25	0.54	2.37
March-15	1.15	4.68	7.06	1.31	0.36	1.82
April-15	1.21	8.11	10.63	1.35	0.74	3.49
May-15	1.18	4.71	7.63	1.27	0.85	3.80
June-15	1.24	4.57	6.50	1.34	0.98	4.76
July-15	1.13	5.81	7.23	1.24	0.93	4.11
August-15	1.06	5.90	8.47	1.17	0.60	2.42
September-15	1.10	3.91	5.01	1.22	0.43	1.88
October-15	1.08	4.20	4.89	1.19	0.50	2.06
November-15	1.20	2.87	4.81	1.32	0.61	2.81
December-15	1.39	3.80	5.84	1.52	0.30	1.77
Maximum	1.39	8.11	10.63	1.52	1.01	4.76
Minimum	1.06	2.87	4.81	1.17	0.30	1.77
Average	1.16	4.89	6.59	1.29	0.65	2.99



Watershed Adaptive Management Request

Attachment A-Action Area Map



Yahara River Watershed With TMDL Stream Reaches Shown.

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Attachment B-Anticipated Partners

Partner		
<i>Madison Metropolitan Sewerage District</i>		
<i>Oregon WWTP, Stoughton Utilities, Madison Gas & Electric, WDNR-Fish Hatchery</i>		
<u>Towns</u>	<u>Villages</u>	<u>Cities</u>
<i>Blooming Grove</i>	<i>Cottage Grove</i>	<i>Fitchburg</i>
<i>Bristol</i>	<i>Grove</i>	<i>Madison</i>
<i>Burke</i>	<i>DeForest</i>	<i>Middleton</i>
<i>Cottage Grove</i>	<i>Maple Bluff</i>	<i>Monona</i>
<i>Dunkirk</i>	<i>McFarland</i>	<i>Stoughton</i>
<i>Dunn</i>	<i>Shorewood</i>	<i>Sun Prairie</i>
<i>Middleton</i>	<i>Hills</i>	
<i>Pleasant Springs</i>	<i>Waunakee</i>	
<i>Westport</i>	<u><i>Others</i></u>	<i>UW-Madison</i>
<i>Windsor</i>		
<i>Dane County Land and Water Resources Department</i>		
<i>Columbia County Land and Water Department</i>		
<i>Rock County Land Conservation Department</i>		
<i>USGS</i>		
<i>Clean Lakes Alliance</i>		
<i>Clean Wisconsin</i>		
<i>Sand County Foundation</i>		
<i>Yahara Pride Farms</i>		
<i>Capital Area Regional Planning Commission</i>		
<i>"Friends" Groups-e.g. Friends of Pheasant Branch Conservancy</i>		
<i>River Alliance of Wisconsin</i>		
<i>Rock River Coalition</i>		
<i>USDA/NRCS</i>		
<i>Wisconsin Department of Agriculture, Trade and Consumer</i>		
<i>Yahara Lakes Association</i>		
<i>UW Extension</i>		
<i>WDNR</i>		
<i>Wisconsin Land and Water Conservation Ass.</i>		