



AMENDMENT TO THE

# REGIONAL WATER QUALITY MANAGEMENT PLAN

## VILLAGE OF MUKWONAGO

AS ADOPTED BY THE  
SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

DECEMBER 1999

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REGIONAL PLANNING COMMISSION**

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# SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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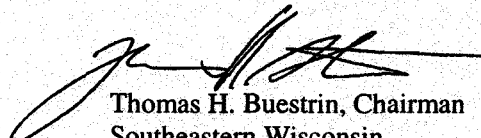
KENOSHA  
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**SUBJECT:** Certification of Amendment to the Adopted Regional Water Quality Management Plan (Mukwonago Sanitary Sewer Service Area)

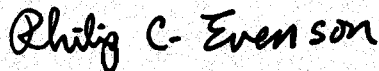
**TO:** The Legislative Bodies of Concerned Local Units of Government within the Southeastern Wisconsin Region, namely: the County of Waukesha and the Village of Mukwonago

This is to certify that at the meeting of the Southeastern Wisconsin Regional Planning Commission, held at the Midwest Express Center, Milwaukee, Wisconsin, on the 1st day of December 1999, the Commission did by unanimous vote by all Commissioners present, being 16 ayes and 0 nays, and by appropriate Resolution, a copy of which is made a part hereof and incorporated by reference to the same force and effect as if it had been specifically set forth herein in detail, adopt an amendment to the regional water quality management plan, which plan was originally adopted by the Commission on the 12th day of July 1979, as part of the master plan for the physical development of the Region. Said amendment to the regional water quality management plan pertains to the revised sanitary sewer service area for the Village of Mukwonago and consists of the documents attached hereto and made a part hereof. Such action taken by the Commission is recorded on, and is a part of, said plan, and the plan as amended is hereby transmitted to the constituent local units of government for consideration, adoption, and implementation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal and cause the Seal of the Southeastern Wisconsin Regional Planning Commission to be hereto affixed. Dated at the City of Waukesha, Wisconsin, this 2nd day of December 1999.

  
Thomas H. Buestrin, Chairman  
Southeastern Wisconsin  
Regional Planning Commission

ATTEST:



Philip C. Evenson, Deputy Secretary

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**RESOLUTION NO. 99-18**

**RESOLUTION OF THE SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION AMENDING THE ADOPTED REGIONAL WATER QUALITY MANAGEMENT PLAN, THAT PLAN BEING A PART OF THE MASTER PLAN FOR THE PHYSICAL DEVELOPMENT OF THE REGION CONSISTING OF THE COUNTIES OF KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WALWORTH WASHINGTON, AND WAUKESHA IN THE STATE OF WISCONSIN (MUKWONAGO SANITARY SEWER SERVICE AREA)**

WHEREAS, pursuant to Section 66.945(10) of the Wisconsin Statutes, the Southeastern Wisconsin Regional Planning Commission, at a meeting held on the 12th day of July 1979, duly adopted a regional water quality management plan as documented in the three-volume SEWRPC Planning Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000; and

WHEREAS, at a meeting held on the 5th day of December 1990, the Commission duly adopted an amendment to the regional water quality management plan refining and detailing the Mukwonago sanitary sewer service area as documented in SEWRPC Community Assistance Planning Report No. 191, Sanitary Sewer Service Area for the Village of Mukwonago, Waukesha County, Wisconsin, November 1990; and

WHEREAS, by letter dated August 18, 1999, the Village of Mukwonago requested that the Commission amend the Mukwonago sanitary sewer service area to reflect a change in the delineation of a primary environmental corridor; and

WHEREAS, the proposed amendment to the regional water quality management plan is documented in a Commission staff memorandum entitled, "Response to Request by the Village of Mukwonago to Amend the Mukwonago Sanitary Sewer Service Area," attached hereto and made a part hereof; and

WHEREAS, the requested change to the regional water quality management plan, as documented in the aforereferenced staff memorandum, was the subject of a public hearing held jointly by the Village of Mukwonago and the Regional Planning Commission on November 16, 1999; and

WHEREAS, Section 66.945(9) of the Wisconsin Statutes authorizes and empowers the Regional Planning Commission, as the work of making the whole master plan progresses, to amend, extend, or add to the master plan or carry any part or subject thereof into greater detail;

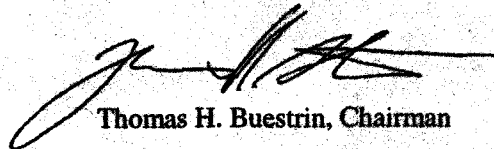
NOW, THEREFORE, BE IT HEREBY RESOLVED:

**FIRST:** That the regional water quality management plan for the Southeastern Wisconsin Region, being a part of the master plan for the physical development of the Region and comprised of SEWRPC Planning Report No. 30, Volumes One, Two, and Three, which was adopted by the Commission as a part of the master plan on the 12th day of July 1979, and which was amended on the 5th day of December 1990 as set forth in SEWRPC Community Assistance Planning Report No. 191, be and the same hereby is amended in the manner identified on Map 1 of the aforereferenced SEWRPC staff memorandum.

**SECOND:** That the Executive Director is authorized to submit findings to the Wisconsin Department of Natural Resources and the Wisconsin Department of Commerce that public and private sanitary sewer extensions necessary to serve the anticipated development on the lands concerned are in conformance with, and would serve to implement, the adopted regional water quality management plan as herein amended.

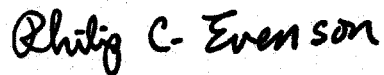
**THIRD:** That a true, correct, and exact copy of this resolution, together with the aforereferenced SEWRPC staff memorandum, shall be forthwith distributed to each of the local legislative bodies of the local governmental units within the Region entitled thereto and to such other bodies, agencies, or individuals as the law may require or as the Commission, its Executive Committee, or its Executive Director, at their discretion, shall determine and direct.

The foregoing resolution, upon motion duly made and seconded, was regularly adopted at the meeting of the Southeastern Wisconsin Regional Planning Commission held on the 1st day of December 1999, the vote being: Ayes 16; Nays 0.



Thomas H. Buestrin, Chairman

ATTEST:



Philip C. Evenson, Deputy Secretary

## SEWRPC STAFF MEMORANDUM

### RESPONSE TO REQUEST BY THE VILLAGE OF MUKWONAGO TO AMEND THE MUKWONAGO SANITARY SEWER SERVICE AREA

#### INTRODUCTION

By letter dated August 18, 1999, the Village of Mukwonago requested that the Southeastern Wisconsin Regional Planning Commission amend the Mukwonago sanitary sewer service area as that area is currently documented in SEWRPC Community Assistance Planning Report No. 191, Sanitary Sewer Service Area for the Village of Mukwonago, Waukesha County, Wisconsin, dated November 1990. The basic purpose of the amendment would be to reflect a change in the delineation of a primary environmental corridor on lands owned by Mr. Darwin Greenwald within the Village of Mukwonago sanitary sewer service area.

#### BACKGROUND

The proposed amendment would remove two areas encompassing a total of nine acres from the primary environmental corridor. These areas are identified as Area A and Area B on Map 1. The current proposal to amend the sewer service area is the latest in a series of events, going back about ten years, pertaining to the development of lands located east of STH 83 and north of CTH NN owned by Mr. Greenwald. A summary of the most noteworthy of these events follows:




- May 1990 The Village of Mukwonago requested that the Regional Planning Commission review development plans submitted by Mr. Greenwald for lands located east of STH 83 and north of CTH NN.
- July 1990 The Greenwald property was field surveyed by the Regional Planning Commission staff. The boundary of the primary environmental corridor was field-staked, and the findings of the field survey were provided to the Village.
- January 1991 A meeting involving staff of the Regional Planning Commission, the Wisconsin Department of Natural Resources (WDNR), and the property owner was held at the Commission offices. Matters of discussion included: limitations on development, possible development options, and the possibility of acquisition by the WDNR of 68 acres of primary environmental corridor lands—including Areas A and B—then owned by Mr. Greenwald. The Regional Planning Commission staff made the following points: 1) that any commercial or urban residential development within the primary environmental corridor would be in conflict with the adopted regional water quality management plan; 2) that residential development at a density of no more than one dwelling unit per 5 acres within upland portions of the primary environmental corridor would not be in conflict with the adopted regional water quality management plan; and 3) that all 68 acres of primary environmental corridor in this area—including Areas A and B—had been recommended for acquisition by the WDNR as part of the Vernon Marsh Wildlife Area, under the regional park and open space plan as amended by the Waukesha County park and open space plan.
- January 1992 A draft memorandum report was prepared by the Regional Planning Commission staff pursuant to a request by the Village of Mukwonago in July 1991 to initiate the process of amending the regional water quality management plan to remove 10 acres of upland woodlands—including Area A—from the primary environmental corridor. The draft staff memorandum recommended that the 10 acres of land not be developed. The memorandum cited the recommendation of the Waukesha County park and open space plan that all primary environmental corridor lands adjacent to the Vernon Marsh be acquired by the State for inclusion in the Vernon Marsh Wildlife





Map 1

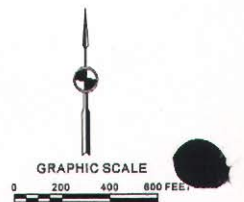
PROPOSED CHANGE TO ENVIRONMENTALLY SIGNIFICANT  
LANDS FOR THE VILLAGE OF MUKWONAGO AND ENVIRONS

U. S. Public Land Survey Section 23  
Township 5 North, Range 18 East



-  PRIMARY ENVIRONMENTAL CORRIDOR
-  PLANNED SANITARY SEWER SERVICE AREA
-  GROSS SANITARY SEWER SERVICE AREA BOUNDARY

-  AREAS PROPOSED TO BE REMOVED FROM THE PRIMARY ENVIRONMENTAL CORRIDOR
-  AREA WITHIN THE PRIMARY ENVIRONMENTAL CORRIDOR TO BE SOLD TO THE VILLAGE
-  AREA WITHIN THE PRIMARY ENVIRONMENTAL CORRIDOR TO BE DEDICATED TO THE VILLAGE
-  AREA WITHIN THE PRIMARY ENVIRONMENTAL CORRIDOR PURCHASED BY THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES IN 1995



Source: SEWRPC.

Area. The staff memorandum was the subject of a meeting held at the Commission offices involving staff of the Regional Planning Commission and the Village of Mukwonago, and the property owner. The Village did not move forward with a sewer service area amendment at that time.

- February 1993 A meeting was held at the Regional Planning Commission offices involving staff of the Commission, the Village of Mukwonago, the WDNR, State Representative Scott R. Jensen, and the property owner. Mr. Jensen suggested that certain lands be removed from the primary environmental corridor to accommodate commercial development along STH 83, and that the remaining primary environmental corridor lands on the site be offered for acquisition by the WDNR at a discounted price. It was agreed that Mr. Greenwald would prepare detailed site grading and design plans, in consultation with Regional Planning Commission, Village of Mukwonago, and WDNR staffs. The Village indicated that, provided they would result in little or no negative water quality impacts, such plans would be sufficient basis for the Village to resume the process of amending the regional water quality management plan.
- October 1993 The Mukwonago Village President and the Executive Director of the Regional Planning Commission urged the Secretary of the Wisconsin Department of Natural Resources to take steps to negotiate Department purchase of 68 acres of primary environmental corridor lands—including Areas A and B—on the property then owned by Mr. Greenwald for inclusion in the Vernon Marsh Wildlife Area.
- June 1995 The Wisconsin Department of Natural Resources informed Mr. Greenwald that the Department was interested in negotiating an option to purchase all of his primary environmental corridor lands. The offer was withdrawn about one month later, and was amended to include only those primary environmental corridor lands located within the Vernon Marsh Wildlife Area project boundary—excluding the Areas A and B. The Department subsequently purchased those primary environmental corridor lands—identified as Area C on Map 1.
- 1st Quarter 1998 The trees in Area A were clear-cut, removing the natural resource feature which caused that area to be identified as primary environmental corridor.
- August 1999 The Village of Mukwonago and Mr. Greenwald arrived at an agreement under which Mr. Greenwald would sell three acres of primary environmental corridor (Area D on Map 1) to the Village and dedicate 16 acres of primary environmental corridor lands (Areas E and F on Map 1) to the Village. A portion of the land to be sold to the Village would be used for a municipal well, provided the environmental assessment process associated with the well allows for regulatory agency approval. The land to be dedicated to the Village would be retained in open space use. The Village agreed to pursue a sewer service area amendment which would remove Areas A and B from the primary environmental corridor.

## AREA DESCRIPTION

As noted above, two areas encompassing a total of nine acres of land are proposed to be removed from the primary environmental corridor. Area A—the former woodland which has now been clear-cut—is proposed to be developed for commercial use; it encompasses 7.5 acres. Area B consists of upland woods located along the northern and western edge of an area that is proposed to be developed for multi-family housing; it encompasses 1.5 acres.

## RELATIONSHIP OF THE PROPOSED CHANGE TO THE EXISTING SANITARY SEWER SERVICE AREA

The proposed addition of 9 developable acres to the Mukwonago sanitary sewer service area represents a minor increase in the planned sewer service area of less than one percent. Thus, the areal extent and planned population of the Mukwonago sewer service area would remain essentially unchanged.

## WATER QUALITY IMPACTS

Stormwater runoff from the lands proposed to be removed from the primary environmental corridor drains partially toward the large wetland complex associated with the Vernon Marsh immediately to the east, and partially to the west and south toward STH 83 and CTH NN. Development of the subject 9-acre area is expected to increase nonpoint source pollutant loadings from the site both during and following construction, compared with existing conditions. Pollutant loadings, expressed in pounds per year of sediment and phosphorus, were estimated for existing conditions, for conditions during development, and for post-development conditions. The estimates considered pollutant loading during construction assuming a two-year construction period with construction erosion control measures in place which would achieve an 80 percent reduction in nonpoint source pollutant loadings. The estimated pollutant loadings are summarized in Table 1 and are approximated using common unit-area loadings.

With respect to sediment, under existing open space conditions, about 25 pounds per year may be expected to run off the subject 9-acre primary environmental corridor area. Sediment loading could approximate 8,100 pounds per year for that 9-acre area upon urban development and after stabilization following construction. During the assumed two-year construction period, however, about 18,000 pounds per year of sediment could potentially run off the area of lost corridor lands. Similar patterns exist with respect to phosphorus, with loadings increasing from 0.3 pounds per year under existing conditions to 13.0 pounds per year upon urban development and after stabilization following construction. Development of the 9-acre area for urban use can be also be expected to increase current loadings of metals.

A portion of the pollutant loadings generated on the 9-acre subject area and the remainder of the development sites are expected to be discharged toward the Vernon Marsh wetland complex to the east. It should be noted that the aforementioned estimates are not intended to be precise, and actual amounts of pollutant loadings will be dependent upon the type of stormwater management systems incorporated into development of the sites. In any case, the loadings from the development sites are expected to be relatively small in comparison to the total loadings to the large wetland complex. It should also be noted that significant short-term localized water quality impacts are expected during the construction period unless stringent runoff control measures are put in place and are properly maintained.

Table 1

**NONPOINT SOURCE POLLUTANT LOADINGS FROM PRIMARY ENVIRONMENTAL CORRIDOR  
LANDS PROPOSED TO BE REMOVED FROM THE GREENWALD PROPERTY, VILLAGE OF MUKWONAGO**

Pollutant	Pollutant Loadings (pounds per year)		
	Existing Land Use	Development as Currently Proposed	
		During Construction <sup>a</sup>	Post Development
Sediment	25	18,000	8,100
Phosphorus	0.3	12.0	13.0
Zinc	<0.1	<0.1	5.0

<sup>a</sup>Assumes construction occurs over a two-year period with one-half of the construction continuously underway over the two-year period and that construction site erosion is reduced by 80 percent utilizing source controls.

Source: SEWRPC.  
Revised 11/99

## OTHER ENVIRONMENTAL CONSIDERATIONS

The larger of the areas proposed to be removed from the primary environmental corridor, identified as Area A on Map 1, is an upland plant community which previously consisted mostly of southern dry-mesic hardwoods with scattered drainageways. In early 1998, a majority of the trees covering that area were removed by the property owner. The smaller area to be removed from the primary environmental corridor, identified as Area B on Map 1, is along the edge of an upland plant community consisting mostly of southern dry-mesic hardwoods. No Federal or State-designated rare, threatened, or endangered species were observed within the area during a field inspection in 1990. Maintenance of the drainageways and slopes tributary to the adjacent Vernon Marsh is important in protecting the quality of adjacent wildlife lands, as well as the wetland plant communities in the Marsh. It should be noted that a series of small

calcareous fens occur at the base of the slope located about 250 to 650 feet from the areas proposed to be removed from the primary environmental corridor. This rare wetland type at this location supports several State-designated rare, threatened, and endangered species, including False asphodel (*Tofieldia glutinosa*), Beaked spike-rush (*Eleocharis rostellata*), Lesser fringed gentian (*Gentiana procera*), Ohio goldenrod (*Solidago ohioensis*), and Blanding's turtle (*Emydoidea blandingi*). Special attention should be paid to these fens as development projects proceed.

#### COST-EFFECTIVENESS ANALYSIS

The lands in question lie completely within the currently approved Village of Mukwonago sanitary sewer service area. The nearest other public sanitary sewer system, the Village of East Troy system, is located approximately three miles south of the subject area. Consequently, no further analysis is deemed necessary to conclude that the subject area would be served most cost-effectively through connection to the Village of Mukwonago sewerage system.

#### SEWAGE TREATMENT PLANT CAPACITY IMPACT ANALYSIS

The Village of Mukwonago sewage treatment plant has a design capacity of 1.5 million gallons per day (mgd) on an average annual basis. The current flow rate is about 0.6 mgd on an average annual basis. The anticipated sewage flow to be generated within the 9-acre area proposed to be removed from the primary environmental corridor may be expected to be less than 0.01 mgd on an average annual basis. Thus, the impact of the proposed change to the primary environmental corridor on sewage treatment plant capacity is not significant.

#### PUBLIC REACTION TO THE PLAN AMENDMENT

A public hearing was held on November 16, 1999, at the Mukwonago Village Hall to receive public comment on, and reaction to, the proposed plan amendment. The hearing was sponsored by the Village of Mukwonago and the Regional Planning Commission. A summary of the plan amendment was presented and public comments were invited. No public comments were offered.

#### LOCAL GOVERNMENT SUPPORT FOR THE PLAN AMENDMENT

The Board of Trustees of the Village of Mukwonago adopted the plan amendment on November 16, 1999.

#### CONCLUDING RECOMMENDATION

It is recommended that the Southeastern Wisconsin Regional Planning Commission formally amend the sanitary sewer service area for the Village of Mukwonago as documented in SEWRPC Community Assistance Planning Report No 191, in the manner identified on Map 1. This recommendation recognizes the agreement between the Village and the landowner, which includes the dedication to the Village of primary environmental corridor lands adjacent to the Vernon Marsh Wildlife Area. The proposed amendment is a reasonable solution to long-standing conflicting urban development and open space preservation objectives for this area.

It is further recommended that the developer and the Village, in cooperation with the Wisconsin Department of Natural Resources, ensure that the design of the stormwater management system for the subject site takes into account the sensitive wetland areas and plant communities located to the east. Stormwater management facilities should provide for a high level of control of nonpoint source pollutants. Such facilities should also be designed to maintain or enhance the hydrology and groundwater quality characteristics associated with the aforementioned wetlands.