

11-28-09

To: Capital Area Regional Planning Commission (CARPC)

From: Western Dane Coalition for Smart Growth and Environment (WDC/SGE)

Re: Statutory and related reasons to recommend against the City of Middleton - Town of Westport Central Urban Service Area (CUSA) amendment request for 910 acres at Bishop's Bay northwest of Lake Mendota

Summary

WDC/SGE asks that The City of Middleton and the Town of Westport joint amendment request for a CUSA at Bishop's Bay be turned down for recommendation to DNR by CARPC. Many essential elements of the proposed development plan are in conflict with regulations of:

- NR 121 Areawide Water Quality Management Plans;
- NR 102 Water Quality Standards for Wisconsin Surface Waters;
- NR 103 Water Quality Standards for Wetlands;
- NR 110 Sewerage Systems, the Dane County Water Quality Plan, 2004;
- Endangered Species Act 1973.

The applicants have not demonstrated that this CUSA request for a parcel of 910 acres at that specific location is justified either by forecasted population growth or by economic need.

The applicants have not demonstrated that there is sufficient capacity at the pumping station to serve the potential demands of the proposed development past 2015. Likewise, there are questions if Nine Springs Treatment Facility would be able to fully accommodate the needs of the proposed development during the 2020-2030 period. Sewage treatment facilities with either insufficient or with only marginal capacities are a threat to water quality.

The problems over water supply to the Town of Westport have not been resolved. Regardless of what solution would be ultimately chosen, the fact remains that an additional half a million of gallons of fresh water would be pumped out daily in the region where not only streams and wetlands would be affected, but also possibly the wider regional pattern of groundwater recharging the lake in northwestern area near Lake Mendota would undergo forced reversal and start losing water from the lake to groundwater as a result of unsustainable pumping..

The potential runoff from hundreds of acres of impervious surfaces of the proposed development during even the smallest of storms has not been estimated and evaluated in any way. Its potential impact on wider water quality has not been assessed as required by regulations.

Proposed mitigation practices for water quality impacts have not been evaluated. It remains unclear if the measures enumerated would work as intended.

The CARPC staff recommendation that the requested CUSA amendment be approved based on the intent of the CUSA applicants rather than on the content of the amendment plan violates the expressed purpose of NR 121.01 calling for public participation throughout the planning process.

Specifics follow below.

A. Conflict with NR 121.01 Purpose

NR 121.01 states that, "Public participation will be provided for throughout plan development." However, the proposed plan ignores or leaves unspecified many of required components, to be determined only later, after the plan would already have been approved for recommendation to DNR by CARPC. But DNR does not conduct a public participation process as defined in 121.03 (12) for water quality management plan amendments, which had already passed CARPC review. That means that public participation for this proposed plan would cease before all plan amendment elements would have been fully developed.

The Bishop's Bay CUSA development plan submitted to CARPC for review lacks the following vital elements:

1. A complete stormwater management plan (CARPC staff report 11-12-09; Recommendation 1. pages 4, 5; page 42);
2. Full delineation of environmental corridors (CARPC staff report recommendation 3. page 5);
3. A plan to protect Endangered Blanding's turtle in the amendment area (CARPC staff report recommendation 2. page 5.; page 33);
4. A wetland protection restoration plan for Dorn Creek wetlands in the amendment area (CARPC staff report additional recommendation 1. page 5).

B. Multiple conflicts with NR 121.05 (1) (b) Water Quality Assessment

The proposed plan amendment only partly fulfills the requirement to provide water quality assessments of both existing and potential nonpoint water quality problems within its area. It provides only an assessment of the water quality conditions at Dorn Creek, Six Mile Creek, Lake Mendota.

I. No assessment was given for either existing or potential water quality problems for the following:

1. Pheasant Branch Creek watershed, into which a part of the amendment drains;
2. DNR mapped wetland at Lost Lake, into which a part of the amendment area also drains;
3. Three other DNR mapped wetlands located in the amendment area;
4. Perennial streams that provide seasonal in-flow or out-flow to the wetlands, all located in the amendment area.

II. No assessment was given of the potential impact of the proposed development on:

1. Water quality conditions necessary for maintenance of fish and other aquatic life in applicable surface waters and wetlands and as defined in NR 102 (Water Quality Standards for Wisconsin Surface Waters) and NR 103 (Water Quality Standards for Wetlands);
2. Endangered Blanding's turtle; DNR protected Northern pike; Intolerant fish species of Northern Redbelly Dace and Pearl Dace;
3. Hillsides from post-construction erosion caused by cuts into hillsides for the purpose of house and road placement.

C. Conflict with Recommendation U-2 of Dane County Water Quality Plan, 2004 (DCWQP);

U –2 of DCWQP states, "Management agencies should promote land use patterns and practices which preserve the integrity of the natural hydrologic system, including the balance between groundwater and surface water".

The Bishop's Bay CUSA request does not promote DCWQP-approved land use patterns and practices. It approves land use patterns and practices that would lead to destruction of the integrity of a large natural hydrologic system on the northwestern side of Lake Mendota.

The CARPC staff report (1-12-09 page 37) claims that declining groundwater levels resulting from groundwater pumping and wastewater diversion are less an issue for Middleton with wells located near the Yahara lakes, because the deep municipal wells draw water from the lakes rather than from the shallower groundwater. It also characterizes these lakes as "largely renewable sources".

However, the Dane County Regional Hydrologic Study, 2004 (page 3, figures 7-10) suggests that declining groundwater levels -- due to pumping and wastewater diversion -- is a serious issue also in Middleton. The Yahara lakes are a significant source of water to groundwater supplies and as such should heighten concerns over potential groundwater quality problems.

Furthermore, municipal pumping not only affects groundwater levels but it also affects water levels in streams and in wetlands. Dane County's Hydrologic Study predicts that by 2030, baseflow in Pheasant Branch, one of the amendment area's receiving streams, would drop to 0.29 cfs (cubic feet per second), from 2.20 cfs during pre-development. Lathrop and Potter (2004) report that projected water demand for the year 2020 in Middleton would result in up to 12% reduction in baseflow of Pheasant Branch Creek and that local wetlands would undergo 7% reduction in groundwater recharge regardless of whether deep municipal wells or other types of more shallow wells were pumped.

Most of the amendment area drains into the Dorn Creek watershed. This watershed is still largely rural, where 78% of the land is agricultural and 16% is wetlands. Dorn Creek contributes 7% of annual surface flow into Lake

Mendota. It is no coincidence that the northwest side of Lake Mendota, where Dorn Creek flows and where only modest development has taken place, is the only large remaining area around that lake where the pre-settlement pattern of groundwater recharging the lake persists (Dane County Hydrologic Study, 2004; Dane County Water Quality Plan, 2004 figures 7-10). If the proposed CUSA amendment were allowed to proceed, it would open the entire Dorn Creek watershed to intensive urbanization, which in turn would destroy the existing hydrologic groundwater pattern in the northwestern area of Lake Mendota.

D. Conflict with Recommendation G-1 and S-14 of DCWQP

G-1 of DCWQP states, "Evidence of significant unaddressed or unmitigated groundwater or hydrologic impacts should provide the basis for withholding approval for the requested activity or development."

S-14 of DCWQP states that "Management agencies should endeavor to prevent development that would increase the potential for flood-related problems".

The proposed amendment, if approved, would cause decrease in water levels in Dorn Creek and adjacent wetlands, due to increased groundwater withdrawals and increased stormwater runoff volumes. At the same time it would also cause additional regional flooding around Lake Mendota and other Yahara lakes. Both such impacts are immitigable.

The CARPC staff report suggests that perhaps "mimicking pre-development hydrology" and restoring infiltration to pre-development levels might mitigate water level losses in Dorn Creek and its wetland areas. However, according to Lathrop and Potter (2004:8), who conducted a study at nearby Pheasant Branch Creek in Middleton, infiltration practices are ineffective in high-density conditions such as where the applicants intend to develop. It is also doubtful that, even under the best of circumstances, infiltration could make up for daily groundwater withdrawals of millions of gallons.

There is not much that can be done in the amendment area to completely control runoff volumes once development is allowed in. A development with promised high volume control and infiltration standards, but without a coherent runoff mitigation plan likely would become just another contributor to downstream flooding around Lake Mendota and it sister lakes. CARPC's staff report of 7-11-06 (page 13) reminds that "Because of the sluggishness of the (Yahara) system even when new urban areas control post-development runoff peaks at pre-development levels through retention-detention basins, the typical 24- to 36-hour attenuation of the peaks does little to mitigate downstream flooding potential."

E. Unfulfilled requirement of NR 121.05 (1) (c) 1. An inventory of municipal source of pollutants

No such inventory has been included in the amendment document.

F. Unfulfilled requirement of NR 121.05 (1) (c) 2. Current demographic and economic growth data

1. Current demographic data were not provided.
2. Current economic growth data were not provided.

There is only a single brief reference to economic growth data in the amendment request (page 24). It is the applicant's estimate that 1,200 to 1,870 jobs would be located in Bishop's Bay based on square footage of retail and office space per employee. No economic evidence was shown to support that supposition.

G. Unfulfilled requirement of NR 121.05 (1) (c) 3. Population forecasts

NR 121.05 (1) (c) 3. requires population forecasts for 20 years in 5-year increments for minor civil divisions and individual service areas, prepared by a designated county planning agency (CARPC), and using a methodology consistent with WI-Department of Administration (DOA).

In place of NR 121.05 specified forecasted population growth figures, the CARPC staff report used January 2009 CARPC land demand projections, figured in acre units for the CUSA and approved by DOA. According to the report, land demand calculations for the entire CUSA forecast the need for an additional 2,624 developable acres for the 2010-2030 period. The 910 acres requested by the City of Middleton and by the Town of Westport includes 588 developable acres, or 22.5 % of the total developable acres needed to meet the land demand for the total CUSA until 2030.

Also according to CARPC staff population projections, the CUSA population will increase by 62,068 from the projected 298,331 in 2010 to 360,399 in 2030 (e-mail by Barbara Weber).

But the population increase for the same period in the City of Middleton and the Town of Westport combined will be 5,613 (2009 WI-DOA projections for Minor Civil Divisions). This number constitutes only 9% of the total CUSA growth until 2030.

The CARPC staff report states that the proposed Middleton-Westport addition is within the 2030 forecasted land demand for CUSA. However the same report never answers the key question underlying their argument:

“How is it reasonable to recommend for approval to DNR a request for a land area equivalent which is equivalent to 22.5% of the total projected land demand, when the combined population increase of the requesting municipalities would, for the same period, constitute only 9% of the total anticipated population growth within the total CUSA area?”

H. Unfulfilled requirements of NR 121.05 (1) (g) 1. & 2. a. b. None-industrial wastewater treatment and collection system plan; Sewage service area delineation

The required systematic comparison of alternative means of waste treatment and collection with consideration for water quality, environmental and other impacts, was not provided.

An analysis based on a 20-year population forecast, sewage collection needs and cost-effectiveness for the purpose delineating the sewer service area was not done.

J. Likely conflict with NR 110.05 (4) (a)

The Bishop's Bay development proposal states that the amendment area in the City of Middleton would consume approximately 393,355 gallons of water per day (gpd) and that it would generate 457,000 gpd of sewage. The Town of Westport would pump 54,900 gpd of water and would generate 74,600 gpd of sewage.

Respective 16% and 36% increases of sewage output over the freshwater input are unusual. But In both cases, CARPC's staff report states that, “the rates and assumptions used in the wastewater estimate for the development are reasonable” (page 30).

WDC/SGE requested consultation of Richard McKee, superintendent of the Dane-Iowa Wastewater Commission (DIWC), to help us understand the discrepancy between input and output volumes. According to DIWC chairman Robert Dodsworth, who solicited this information from McKee, sewage output volumes should be approximately equal to freshwater input volumes. He added that often, when infiltration or inflow into sewage system is suspected, then the pumped volume is compared to the processed volume in order to obtain the confirmation of inflow such as stormwater (e-mail communication).

This finding casts serious doubt on the accuracy of the sewage estimates supplied by the applicants.

The sewage estimates is not the only problem associated with the plans for the wastewater treatment and collection. Madison Metropolitan Sewage District's (MMSD) Pumping Station 15, involved in wastewater collection from the amendment area, will reach its capacity around 2015. The Nine Springs Treatment Facility is expected to reach capacity by 2020. According to Jon Schellpfeffer, chief engineer and director of MMSD, after the expansion in 2013 of the Nine Springs biosolids processing operation, no further expansions are anticipated before 2030.

At present time, the Nine Springs Facility operates very well. However during events of extreme participation, such as the one that occurred in June 2008, the district conveyance system is not adequate to handle all the rainwater and flooding ensues. During the last 15 years the area has been experiencing this type of extreme event with increasing frequency (e-mail communication from Schellpfeffer)

It is not clear if the Nine Springs facility will have enough capacity to function through 2030 or that Pumping Station 15 will have its capacity issues solved by 2015. The sewage treatment facilities that operate on the margins are more prone to cause violations in effluent discharges. NR 110.05 (4)(a) prohibits tributary sanitary sewer extensions to such facilities.

A 7-9-09 memo to the City of Middleton Public Works Committee from Toby Ginder, the city's public Works director, only heightens our concerns regarding potential insufficiency of utility service prior to 2030. In the memo referring to the proposed development at Bishop's Bay Mr Ginder states,

"Chapter six of the application, page 20, addresses utility service to the development. Statements are made that utility service will be adequate and maps are provided showing anticipated connections and main extensions. While these assertions imply service will be adequate, there is no documentation to support the statement. We simply don't know if the connections and extensions, as shown, will be adequate or not."

K. Conflict with NR 121.05 1) (g) 2. c. Exclusion of unsuitable areas for sewer extensions

According to this NR statute, areas unsuitable for sewer extensions include all those areas where development would cause adverse impacts on water quality. They include, but are not limited to wetlands, floodplains, slopes, groundwater recharge areas, shorelands etc.

The proposed amendment would allow for the following:

1. Potential obliteration of the perennial stream located in the southwestern quadrant of the amendment area, which flows from the DNR mapped wetland in northwestern direction to another DNR delineated wetland and from there roughly northwards into what CARPC staff has designated as potentially restorable wetland (compare CARPC report 11-12-09, Map 10 "Potentially Restorable Wetland Areas"; Map 11 "Shallow Bedrock/Seasonal High water Tables" and submitted CUSA application materials, Map 10, page 28 "Stormwater Management").

The amendment document states that a pending determination (of navigability) by DNR is the reason for the current exclusion of that perennial stream from the environmental corridor. However, navigability should not be the determinant of whether that perennial stream is preserved in the environmental corridor. That stream is a part of the natural hydrology and ecology of the area and should be preserved. It should neither be obliterated nor turned into a storm sewer. (See Recommendation U-2 of DCWQP, cited below.)

2. Conversion of DNR delineated wetland (located in west-central portion of the amendment area) into a stormwater detention facility (ibid).
3. Conversion of large, restorable wetland located in northwestern corner, near Oncken Road into a stormwater detention area, combined with recreational use (ibid).

Potential obliteration of the perennial stream, conversion of a wetland, and conversion of potentially restorable wetland into stormwater management facilities also **conflict with Recommendation U-2 of DCWQP** which states, "Management agencies should promote land use patterns and practices which preserve the integrity of the natural hydrologic system".

4. Development in wooded area near water (compare CARPC 11-12-09 Maps 10 and 11 to development maps).
5. Development on steep slopes near water (ibid).

Allowing development on steep slopes and in wooded areas also **conflicts with Recommendation S-2 of DCWQP** which states, "Wetlands, steep slopes, buffer strips and wooded areas in or near water bodies should be protected from development or adverse impacts through regulation or acquisition".

6. Development on hydric soils.
7. Potential degradation of water quality in receiving waters of Dorn Creek and Dorn Creek Marsh Fishery Area.

Since only the proposed standards for the stormwater runoff mitigation were given, while the mitigation plan largely remains unknown, it is uncertain to what extent water quality in the Dorn Creek Marsh Fishery Area or Dorn Creek would be protected.

L. Conflict with NR 121.05 (1) (i) 1. Identification and evaluation of best management practices (BMPs)

It is not known what BMPs would serve the proposed development and what beneficial functions they would perform. Other than a map provided by the applicants and indicating future locations of detention/retention basins plus location of selected wetlands and natural perennial streams to be converted into stormwater conveyance channels and collectors, there is no other information pertaining to BMPs.

CARPC's staff report recommends that a detailed stormwater management report be submitted after CARPC recommendation for approval had already been issued.

This recommendation directly contradicts the requirement of NR 121.05 (1) (i) 1., that BMPs must be identified and evaluated. The recommendation also violates the purpose of the NR 121 process to protect the water quality of the public resource and the public interest to participate in the protection of the same resource.

M. Conflict with Endangered Species Act of 1973

Endangered species law protects endangered animals on private and public lands and in many cases does not allow alteration of a specific animal's habitat.

The endangered Blanding's turtle resides in the amendment area. It is endangered precisely because of loss and fragmentation of its habitat. According to online publications by Iowa DNR/US Fish and Wildlife and also by the Center for Reptile and Amphibian Conservation and Management, Blanding's turtles sometimes travel an entire mile by land to reach a desirable water spot. They need shallow water areas for their hatchlings and deeper water areas for protection against freezing in winter (online publications). In an environment fragmented by urbanization, Blanding's turtles are victims of vehicular traffic, disappearance of both proper hatching and proper wintering spots, and disappearance of food.

Instead of recommending a 1,200 ft buffer needed to protect Blanding's turtle (11-12-09 CARPC report, page 33) and keeping connectivity in environmental corridors, CARPC staff has recommended only 300 ft buffer and avoided any meaningful discussion of connectivity of environmental areas. It is not known if adequate water conditions specific for Blanding's turtle would exist in yet to be fully designated environmental corridors. Report researched and prepared by:

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WORKS CITED

Articles

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Steuer, J J and Hunt R J; Use of Watershed-Modeling Approach to Assess Hydrologic Effects of Urbanization, North Fork Pheasant Branch Basin near Middleton, Wisconsin; USGS Water Resources Investigation Report 01-4113, 2001.

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Blanding's Turtle, pamphlet; Iowa DNR & US Fish and Wildlife service.

Planning Documents

CARPC staff report 7/16/06; City of Middleton CUSA amendment for Misty Valley Development.

CARPC staff report 11/12/09; Staff Analysis of Proposed Amendment for the Dane County Land Use and Transportation Plan and Water Quality Plan, Revising the Central Urban Service Area and Fox Bluff Limited Service Area Boundaries and Environmental Corridors in the City of Middleton and Town of Westport.

CARPC: Regional Trends for 2008; online.

Dane County Hydrologic Study, 2004; online.

Dane County Water Quality Management Plan, 2004.

The City of Middleton and the Town of Westport CUSA submitted materials; CARPC web site.

Memo 7-9-09 – Public Works Department – City of Middleton.

Natural resource regulations

NR 121 Areawide Water Quality Management Plans

NR 102 Water Quality Standards for Wisconsin Surface Waters

NR 103 Water Quality Standards for Wetlands

NR 110 Sewerage Systems