

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

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CITY OF FITCHBURG AMENDMENT  
REQUEST FOR CENTRAL URBAN SERVICE  
AREA, DANE COUNTY LAND USE AND  
TRANSPORTATION PLAN AND DANE  
COUNTY WATER QUALITY PLAN FOR THE  
NORTHEAST NEIGHBORHOOD

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**WRITTEN COMMENTS OF TOWN OF DUNN REGARDING THE CITY OF  
FITCHBURG’S REQUEST FOR PLAN AMENDMENTS**

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**INTRODUCTION**

These comments are filed on behalf of the Town of Dunn (“Town”) in opposition to the City of Fitchburg’s Amendment Request for the Northeast Neighborhood (“Amendment Request”) and based upon concerns the Town has about the water quality and hydrology impacts the proposed Northeast Neighborhood (“NEN”) would have on the waters of the state within the Town of Dunn, which are immediately downstream from the NEN. These waters include Swan Creek, Murphy Creek, the Waubesa Wetlands, and Lake Waubesa. These written comments are designed to supplement the materials referenced by Town of Dunn representatives at the March 27, 2015 meeting and include Attachments A to F and additional supporting materials. We formally request these comments, all attachments, and other supporting materials be included as part of the administrative record in this proceeding.

**I. THE WAUBESA WETLANDS ARE A UNIQUE AND IRREPLACEABLE RESOURCE AND HAVE BEEN RECOGNIZED AS SUCH BY MULTIPLE ORGANIZATIONS, INCLUDING THE WDNR.**

The Waubesa Wetlands are one of the highest quality and most diverse wetlands remaining in southern Wisconsin and have been recognized as a critical resource and critical habitat area by a variety of agencies and organizations.

The Wisconsin Wetland Association has designated the Waubesa Wetlands a Wetland Gem. *Wetland Gems*<sup>™</sup> are high quality habitats that represent the wetland riches—marshes, swamps, bogs, fens and more—that historically made up nearly a quarter of Wisconsin’s landscape. Critically important to Wisconsin’s biodiversity, these natural treasures also provide our communities with valuable functions and services as well as recreational and educational opportunities. The Waubesa Wetlands are one of only two Wetland Gems in Dane County, and are truly an irreplaceable resource.

One of the unique aspects of the Waubesa Wetland is the vast number and type of wetland types found within the larger wetland complex. These include:

- Fens, including the Great Fen;
- Peat Mounds, including Waubesa Mound;
- Deep water marshes, particularly near the lake shore;
- Shallow water marshes, with many of these distributed along the creeks;
- Shrub carrs, including Stage Shrub Carr at the wetland/upland east interface;
- Floating marsh mats, including the Great Floating Marsh near its south face;
- Great springs, including Bogholt Deep Spring, and others in Deep Spring Creek;
- Smaller springs, including Wagon Springs and Drinking Water Spring;
- Many streams, including Swan Creek and Murphy Creek whose watersheds extend outside into the upland, and creeks internal to the wetlands, including Snail Creek and Garos Creek;
- Spring-ponds, including Blandings Pond and Garos Ponds;
- The Forested Willow Swamp, at its southeast face with uplands; and
- Littoral waters, spanning the full interface of Waubesa Wetlands with Lake Waubesa.<sup>1</sup>

The Dane County Regional Planning Commission, predecessor to the Capital Area Regional Planning Commission, recognized the critical importance of the Waubesa Wetlands in its 1974 report, *Wetlands of Dane County*. The report places all wetlands of Dane County into Priority Groupings “to provide an aid for planning decisions.” The Waubesa Wetlands are given a Priority I designation, one of two such designations for the Yahara Lakes Region of Dane County, and are described as “one of Dane County’s most outstanding wetlands.” The report stated:

Wetlands placed in this [Priority I] group are the best in the county, and in some cases, among the most valuable in southern Wisconsin. . . . Their value is so great, especially now that there are so few of them, that it is difficult to conceive of any circumstances which would justify either their destruction or degradation. We

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<sup>1</sup> Wetland types are described in detail at <http://dnr.wi.gov/topic/EndangeredResources/Communities.asp?mode=group&Type=Wetland>. For specific wetland communities, see: [calcareous fen](#) (fens are groundwater-fed wetlands with lo); [poor fen](#) (high pH; extent uncertain); [emergent marsh](#) (includes littoral waters); [submergent marsh](#) (includes littoral waters); [submergent marsh - oligotrophic](#) (uncertain if low-nutrient marsh persists); [ephemeral pond](#) (spring-ponds); [shrub carr](#) (shrubs dominant, includes willows); [southern sedge meadow](#) (sedge dominated); [wet prairie](#) (grass dominated); and [wet-mesic prairie](#) (herbaceous grassland—some areas are restored).

urge that every effort be made for their protection in perpetuity. . . . “[P]rotection in perpetuity” must mean absolute protection.

*See Wetlands of Dane County* at page 135.

In addition, in 1974 the Waubesa Wetlands were designated as Scientific Area #114, which is now known as the Waubesa Wetlands State Natural Area, due to the unique nature and high quality of the wetlands as well as the species present. The Waubesa Wetlands’ designation papers are Attachment A to these comments. Threatened and rare species are present in the wetlands and include the Lesser-fringed gentian, the State-threatened Blanding’s turtle, and the State-threatened *Tofieldia glutinosa*. A range of species use the wetlands as critical habitat, including northern pike as a spawning area.

Wetlands are rare in the landscape but they provide levels of ecosystem services that are disproportionate to their area. Relative to uplands and oceans, the world’s wetlands, which constitute probably less than ten percent of the earth’s area, contribute the most to human well-being and deserve the strongest protection (Costanza et al. 1997 and 2014; Leaflet 10, Leaflet 36).

**II. THE TOWN OF DUNN, WDNR, THE NATURE CONSERVANCY, THE NATURAL HERITAGE LAND TRUST, DANE COUNTY, AND THE U.S. DEPARTMENT OF AGRICULTURE HAVE ALL MADE SIGNIFICANT INVESTMENTS IN PROTECTING THE WAUBESA WETLANDS AND LAKE WAUBESA.**

The Town of Dunn has invested hundreds of thousands of dollars in both conservation easements and a fee purchase to protect the Waubesa Wetlands. Other organizations and agencies have also recognized the importance of the Waubesa Wetlands and invested in protecting the Wetlands. The Town of Dunn’s funding partners include the Natural Heritage Land Trust, Dane County, the United States Department of Agriculture, Wisconsin Department of Natural Resources (“WDNR”), and the Nature Conservancy. The Nature Conservancy has made investments both in fee purchase of lands and a conservation easement on a property in the area. Attachment B to these comments contains a spreadsheet showing the financial investments made in these properties within the Waubesa Wetlands. Attachment B also contains a map showing the easements and land purchases in the vicinity of the Waubesa Wetlands, which are aimed at the protection of the Wetlands and the protection of Lake Waubesa.

As recently as 2012, several organizations partnered together to partially acquire and permanently protect a key portion of the Waubesa Wetlands, the Anderson/Anderson West property. The Natural Heritage Land Trust, Dane County, and Town of Dunn collaborated to purchase 39 acres of the 52 acre property, with financial support from a WDNR Stewardship grant. In addition, the Town of Dunn co-holds a conservation easement on the 39 acre Anderson West property in conjunction with the Natural Heritage Land Trust. Further, the Town of Dunn and Dane County co-hold a conservation easement on the 13 acre former Anderson property. These significant investments were made specifically to protect the extremely biologically important resource of the Waubesa Wetlands as well as Lake Waubesa.

In addition, the Town of Dunn has made significant infrastructure investments to protect the Waubesa Wetlands and Lake Waubesa. The Town of Dunn was instrumental in creating the sanitary districts that abut Lake Waubesa. Before the establishment of the sanitary district and the installation of sewer lines, private septic systems often failed, polluting Lake Waubesa. Lake Waubesa also suffered from significant, pervasive algae blooms, until Madison Metropolitan Sewerage District (“MMSD”), in partnership with the Town of Dunn and many other stakeholders, constructed an aqueduct to bypass Lake Waubesa. MMSD effluent now discharges to Badfish Creek. The cost to install the aqueduct in 1959 was \$3.5 million.

The Town of Dunn has also made unprecedented investments in land acquisition and improvements to those lands in order to protect and enhance Lake Waubesa. The Town invested significantly in the Third Street Wetland Restoration. The area was previously prone to flooding and runoff. Now, the wetland provides flood mitigation and the wetland helps to cleanse runoff before it enters Lake Waubesa. The Town also acquired Dunn Heritage Park on the southeast side of Lake Waubesa, and established fish spawning ponds to support Lake Waubesa’s fish population, northern pike in particular. Finally, the Town’s effort to defeat the Libby Landfill proposal, which would have significantly polluted the lake and wetlands, is another innumerable contribution towards maintaining the ecosystem’s health.

### **III. THE CITY OF FITCHBURG’S PROPOSED NEN WILL ADVERSELY AFFECT SWAN CREEK, MURPHY CREEK, THE WAUBESA WETLANDS, LAKE WAUBESA, AND OTHER WATERS OF THE STATE WITHIN THE TOWN OF DUNN.**

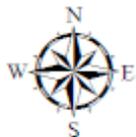
The City of Fitchburg’s proposed NEN will adversely impact the flow and quality of downstream waters in the Town of Dunn. The current land use in the NEN is predominately agricultural and rural. In contrast, the City of Fitchburg’s proposed NEN, if built, would result in a drastically different urbanized environment. Urbanization in general alters the water quality and flow in an area compared to its prior agricultural and rural status:

Urbanization generally increases the size and frequency of floods and may expose communities to increasing flood hazard. . . . The hydrologic effects of urban development often are greatest in small stream basins where, prior to development, much of the precipitation falling on the basin would have become subsurface flow, recharging aquifers or discharging to the stream network further downstream. Moreover, urban development can completely transform the landscape in a small stream basin, unlike in larger river basins where areas with natural vegetation and soil are likely to be retained.

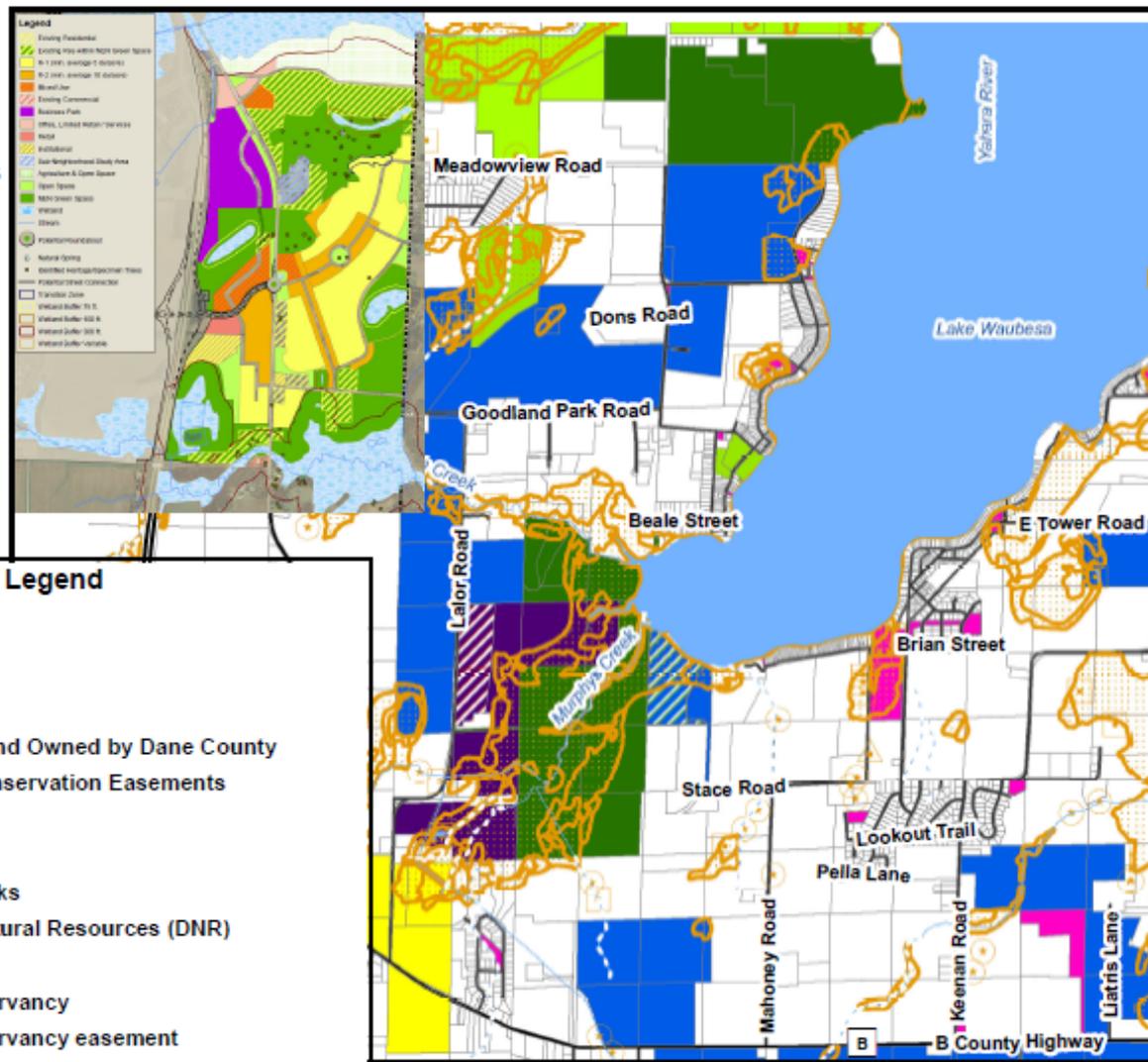
Konrad 2003. Swan Creek, Murphy Creek, and Nine Springs Creek are small stream basins that will be most adversely affected by urbanization. In addition, altered hydrology in these streams due to the change in land use from agricultural to urban will have correspondingly adverse impacts to the Waubesa Wetlands and Lake Waubesa.

Below is a map depicting the close proximity between the proposed NEN and Swan Creek, Murphy Creek, Nine Springs Creek, the Waubesa Wetlands, and Lake Waubesa:

# Northeast Neighborhood Development Relationship to the Waushea Wetlands



Data Sources:  
 Fly Dane Partnership  
 DNR Surface Water  
 Data Viewer  
 Town of Dunn  
 Fitchburg Northeast  
 Neighborhood Plan



Produced by Erica Schmitz, April 2015

**A. The City of Fitchburg’s proposed NEN underestimates the quantity and treatment of stormwater necessary to protect downstream waters within the Town of Dunn.**

The subject of the City of Fitchburg’s Amendment Request, the proposed NEN, has an inadequate stormwater plan that was based on the World Meteorological Organization’s (“WMO”) “climate normals.” The WMO’s climate normals are in fact a measure of past averages, which are not a reliable indicator of current or future precipitation. WMO intends climate normals to be used “as reference points by climatologists to compare current climatological trends to that of the past.” The WMO “climate normal” is defined as “the arithmetic average of a climate element”—like rainfall—over a 30-year period. A 30-year period is used because it is long enough to filter out inter-annual variation, and short enough to be able to show longer climatic trends. The current “climate normal” period is calculated from January 1, 1961 to December 31, 1990.

It is a common practice for engineering and planning firms to use this same “climate normal” from an earlier 30-year period for sizing the needed capacity of rainwater detention and processing systems, which they design for what they often call “stormwater management.” However, relying on a climate normal results in an underestimate of the stormwater retention capacity required. This flaw is well-known:

WMO-recommended 30-year normals are no longer generally useful for the design, planning, and decisionmaking purposes for which they were intended. They not only have little relevance to the future climate, but are often unrepresentative of the current climate. The reason for this is rapid global climate change over the last 30 years that is likely to continue into the future. It is demonstrated that simple empirical alternatives already are available that not only produce reasonably accurate normals for the current climate but also often justify their extrapolation to several years into the future.

Robert E. Livezey et al. 2007. As a result, other communities within the Yahara chain of lakes, such as the Town of Westport, have required new developments to comply with a no net runoff standard, which protects downstream waters from adverse impacts associated with surface water runoff.

Instead of a no net runoff standard, the NEN Stormwater Plan was developed based on WMO climate normals, which is the procedure that is widely recognized as flawed because it results in an underestimate of stormwater retention capacity required. It is important to note that the WMO uses climate normal as “a reference point to compare current climatological trends with the past.” However, the engineering firm employed for the NEN used this for a purpose beyond what the WMO climate normal was intended for: to determine the size of stormwater retention and treatment systems.

Professor Calvin DeWitt’s presentation to the Capital Area Regional Planning Commission as an independent expert, which is included as Attachment C, demonstrates the serious nature of this problem. There have been several precipitation events over the last three decades that have produced over double what the WMO climate normal predicted. The

presentation also presents data from the Wisconsin Initiative on Climate Change Impacts demonstrating the trends for increasing precipitation.

Moreover, the design of the stormwater systems for the NEN accommodates only eighty percent of the runoff from any particular event. The result is a stormwater plan that begins with outdated assumptions about precipitation, and controls for only eighty percent of that undersized number, with trends indicating precipitation events of increased size in the future. These realities combine to ensure that the system is undersized for likely precipitation, and flooding will thus result.

In addition, the increase in the groundwater recharge rate due to engineered infiltration from the development will result in increased flow in Swan and Nine Spring Creeks. Attachment D to these comments includes the RJN report, which supports this increased infiltration. Further, the RJN report concludes that the increased recharge rate will lead to more frequent flooding, and a lesser precipitation event will result in flooding where it would not under current recharge conditions. In other words, the threshold for a precipitation event will be lower than it is under current circumstances.

**B. The increase in the number of high volume flow events due to inadequate stormwater retention will adversely affect riparian areas downstream, including the Waubesa Wetlands.**

Flooding supports the significant expansion of invasive species, such as reed canary grass, which outcompetes native species. Conversion of the Waubesa Wetlands from native species to invasive species like reed canary grass will result in a degraded wetland with significantly reduced ecosystem services. Even with small watersheds and relatively clean inflows, weeds dominate disturbed wetlands (Doherty et al. 2014).

**C. The increased surface water runoff from the proposed NEN will create excess loading of nutrients, including nitrogen and phosphorous, to downstream waters. Excess nutrients will support the proliferation of invasive species and result in algae blooms, including toxic algae, in Lake Waubesa.**

Excess surface runoff from the proposed NEN will carry with it both dissolved and particulate phosphorous and nitrogen. These excess dissolved and particulate nutrients will flow to downstream waters where dissolved forms will be easily taken up by plants and algae, and even particulate nitrogen and phosphorus will contribute to internal eutrophication of downstream waters. Lake Waubesa is already considered hypereutrophic (Lathrop & Carpenter 2013). Any additional nutrient loading will be detrimental to the viability of the Waubesa Wetlands.

The impacts of increased nutrient loading on the quality of wetlands are well-documented. Both phosphorus and nitrogen are threats to wetlands and lakes, and both have been shown to stimulate invasive species, like reed canary grass and cattails (Green & Galatowitsch 2002; Woo & Zedler 2002; Kercher & Zedler 2004a,b; Kercher et al. 2007) and algal blooms (Lewis & Wurtsbaugh 2008; Lathrop 2007). Adding nutrients to a system or increasing their

availability, such as phosphorus in flooded soil, increases the speed at which reed canary grass can invade and dominate native vegetation (Kercher et al. 2004). While phosphorus can adhere to total suspended solids, this does not result in permanent storage of the phosphorus in the water system. Under reducing conditions, phosphorus in sediments becomes soluble. Wetland plants and shallow-water macrophytes can take up phosphorus from flooded soil (Boers et al. 2007; Loucks 1978). In addition, reed canary grass invasion does not require both phosphorus and nitrogen loadings. Adding nitrogen alone to a system also stimulates reed canary grass expansion (Green & Galatowitsch 2002).

Increased reed canary grass in the Waubesa Wetlands will decrease species diversity, and decrease the Waubesa Wetland's functional values. The Rojas study documents a fifty percent loss of species with nutrient-supported reed canary grass invasion, which included a wetland receiving runoff from a City of Fitchburg farm (Rojas & Zedler 2014). Additionally, once reed canary grass has invaded an area, it is persistent and resists both eradication and restoration of native plants (Healy & Zedler 2010). As a result, if the Waubesa Wetlands are increasingly invaded by reed canary grass, the loss of functional value to the wetlands will be irreversible.

Inflowing nitrogen may also lead to toxic algal blooms in Lake Waubesa, which are a threat to the usability of the lake for recreation and a potential threat to public health. Lake Waubesa has plentiful phosphorus which is bioavailable, and the addition of nitrogen could trigger toxic bloom of microcystin-forming *Microcystis* (Paerl 2015). Toxic algal blooms are not new to Dane County. In 2002, a boy died after swimming in a scum-covered pond:

Two days after swallowing water while splashing and diving in a scum-covered pond at a Dane County golf facility in July 2002, Dane Rogers went into shock and suffered a seizure before his heart failed, according to Coroner John Stanley's report. Another teen, unnamed in the report, also was in the pond with Rogers and later became sick, complaining of severe diarrhea and abdominal pain. He survived. Tests of blood and stool samples from both boys found the common blue-green algae, known as *Anabaena flos-aquae*, and its toxin, Anatoxin-a.

Don Behm, "Coroner cites algae in teen's death," *Milwaukee Journal Sentinel* (Sept. 6, 2003). This incident occurred in Oaks Golf Course off Highway TT in Cottage Grove. Increased nutrients in Lake Waubesa will facilitate toxic algal blooms within the lake, which will negatively affect recreation and present a public health threat.

#### **IV. WDNR MUST FOLLOW THE RULEMAKING PROCESS AND DENY THE AMENDMENT REQUEST DUE TO ITS IMPACT ON THE TOWN OF DUNN'S DOWNSTREAM WATERS, INCLUDING THE WAUBESA WETLANDS.**

The purpose of WDNR's areawide water quality management planning is to plan for managing, protecting, and enhancing surface water and groundwater quality in light of the interrelationship between land use and water quality. *See* Wis. Admin. Code § NR 121.03(1). When deciding on the City of Fitchburg's Amendment Request, WDNR must consider the environmental protections in sewer service area plan requirements and the state-wide wetland water quality standards as they apply to the Waubesa Wetlands.

**A. WDNR must follow the rulemaking process under Wis. Stat. ch. 227 when taking action on the City of Fitchburg’s Amendment Request.**

In the unlikely event that WDNR were inclined to approve the City of Fitchburg’s Amendment Request, such an approval must proceed through the rulemaking process under Wis. Stat. ch. 227. A “rule” under Wis. Stat. § 227.01(13) includes any regulation, standard, or statement of policy which (1) has the effect of law and (2) which is issued to implement specific legislation administered by an agency.

In the case of the Amendment Request, an approval of the City of Fitchburg’s Amendment Request would have the effect of law because it will enable the area to be sewerred and represents a determination by WDNR that the development is consistent with maintaining and enhancing water quality in the area. In addition, WDNR’s approval of the Amendment Request is specifically implementing WDNR’s duty contained in Wis. Stat. § 283.83 to engage in a continuous planning process that will result in plans for all waters of the state. As a result, the WDNR’s action on the City of Fitchburg’s Amendment Request is a “rule” within the meaning of Wis. Stat. § 227.01(13), and as such, WDNR must follow the rulemaking process contained in Wis. Stat. ch. 227 in taking action on the Amendment Request. The failure to follow this rule-making procedure in any approval decision for the Amendment Request would result in a determination that would have no legal effect.

**B. WDNR must hold a public hearing to allow interested parties to comment on the City of Fitchburg’s Amendment Request.**

WDNR must hold a public hearing to allow interested parties to comment on the City of Fitchburg’s Amendment Request prior to WDNR’s decision on the request. A public hearing will afford interested parties, in addition to the Town of Dunn, the opportunity to comment on the potential adverse impacts on the waters of the state caused by the Amendment Request. This will provide WDNR with valuable information that WDNR should consider in its decision on the Amendment Request for the Dane County Water Quality Plan.

Town of Dunn was informed via email on March 30, 2015, that WDNR is currently drafting its technical analysis and formulating an administrative decision for later in the week of April 6, 2015. The public comment period does not close on the City of Fitchburg’s Amendment Request until April 3, 2015. Without a public hearing and thereby extending the April 3, 2015 deadline for public comment, WDNR will not provide adequate time to consider public comments to reach a decision in the public’s best interest.

**C. WDNR must deny the Amendment Request because the NEN is wholly inconsistent with the Dane County Water Quality Plan’s environmental protection strategy.**

WDNR must deny the City of Fitchburg’s Amendment Request because the proposed NEN is inconsistent with the overall Dane County Water Quality Plan (“Dane County WQP”). The Dane County WQP includes a specific environmental protection strategy that includes both (1) pollution control and (2) resource protection. *See* “Dane County Water Quality Plan:

Summary Plan,” adopted by the Dane County Regional Planning Commission on Sept. 29, 2004 at p. 5.

The Dane County WQP explicitly recognizes “land design and management . . . as one of the most effective and important approaches to preventing and controlling pollution” to waters of the state, which includes the “appropriate location and siting of development.” *See* Dane County WQP at 5. The Dane County WQP explicitly recognizes the significant adverse impacts urban stormwater runoff has on surface waters explaining “the urban area has a much higher percentage of impervious or paved areas, and is often served by an efficient stormwater drainage system which is highly effective at transmitting pollutants to receiving waters.” Dane County WQP at 46. Urbanization alters the hydrology of an area causing “more rapid runoff and much higher peak flows.” In addition, runoff carries with it pollutants including “sediment, nutrients (especially phosphorus), organic matter, toxic materials, and bacteria.” Dane County WQP at 47. This description of the adverse impacts from development is wholly consistent with the above comments regarding the impact of the NEN on downstream waters.

Moreover, the Dane County WQP’s environmental protection strategy requires identifying resources for protection that are particularly vulnerable and perform critical environmental functions, such as “groundwater recharge and discharge, water quality improvement, erosion control, storage of floodwaters, wildlife habitat and scenic beauty.” Dane County WQP at 5. As explained above, Swan Creek, Murphy Creek, and the Waubesa Wetlands provide these critical values to the broader Lake Waubesa watershed. The Waubesa Wetlands are a state designated natural area that the public can enjoy, provide habitat to rare and state-threatened species, improve the water quality of Lake Waubesa by filtering pollutants, and moderate water levels on Lake Waubesa. The Waubesa Wetlands are exactly the type of “critical and vulnerable” resources that are to “be identified and their environmental functions protected” under the Dane County WQP.

In direct contrast to the environmental protection strategy outlined in the Dane County WQP, which requires a focus on land design and the appropriate siting of development, the NEN is located immediately upstream from one of the highest quality remaining wetlands in Southern Wisconsin. Moreover, the NEN’s urban stormwater runoff will have adverse impacts, including alteration of hydrology, increased sediment, and nutrient loading, to the immediately downstream Waubesa Wetlands. As a result, WDNR must deny the City of Fitchburg’s Amendment Request because it is wholly inconsistent with the Dane County WQP’s environmental protection strategy. Instead, under the Dane County WQP, the Waubesa Wetlands should be identified as a resource to be protected and pollution impacts to the Wetlands must be prevented.

**D. WDNR must deny the Amendment Request because the NEN has the potential for adverse impacts to waters of the state.**

The area of the proposed NEN should be excluded from the sewer service area plan because of the adverse impacts nonpoint source pollution will have on the water quality and flow in Swan Creek, Murphy Creek, and the Waubesa Wetlands. WDNR’s regulations on sewer service area plans require areas that are unsuitable for sewer due to environmental constraints be

excluded from the sewer service area plan. *See* Wis. Admin. Code § NR 121.05(1)(g). Areas that are unsuitable for sewer include those areas with “the *potential* for adverse impacts on the quality of the waters of the state from both *point and nonpoint* sources of pollution.” Wis. Admin. Code § NR 121.05(1)(g)(2)(c) (emphasis added). Areas specifically listed as subject to consideration include wetlands and groundwater recharge areas. This regulation requires only that the area proposed for sewer has the potential to adversely impact waters of the state for it to be eligible for exclusion from the sewer service area plan. In addition, impacts to waters of the state that WDNR should consider include both point and nonpoint pollution.

Nonpoint pollution, such as surface water runoff, from the area proposed to be included in the Amendment Request has a potential to adversely impact waters of the state. The Waubesa Wetlands extend on Swan Creek upstream from Lake Waubesa to the southern boundary of the NEN. Development in the NEN will alter the flow and quality of surface water runoff from the area, which drains downstream into Swan Creek and the associated Waubesa Wetlands. The increase in impervious surface in the area will lead to increased surface water runoff. This surface water runoff will carry increased sediments, nutrients, and other pollutants into Swan Creek and the Waubesa Wetlands. Increased sediments and nutrients will alter the water quality of these downstream waters, facilitating invasive species expansion in the wetlands. In addition, flow in Swan Creek and the downstream Waubesa Wetlands will be more variable. With the increase in impervious surfaces in the NEN, during high precipitation events, runoff will increase and flooding will occur in Swan Creek, Murphy Creek, and in the Waubesa Wetlands. This altered hydrology will negatively affect the Waubesa Wetlands.

Additionally, due to the increase in impervious surfaces associated with the NEN, there will be altered groundwater infiltration in the area. The Waubesa Wetlands depend on groundwater springs for flow that maintains many of the rare communities, such as the calcareous fens. Altering groundwater infiltration will change the hydrology of the Waubesa Wetlands, ultimately degrading the unique wetlands present in the area.

WDNR must deny the City of Fitchburg’s Amendment Request because the area proposed for inclusion in the sewer service area plan has the potential for adverse impacts on the quality of waters of the state. Nonpoint source pollution from the area proposed for inclusion in the sewer service area in the form of surface water runoff and altered groundwater recharge due to the increase in impervious surfaces will negatively impact flow and water quality in Swan Creek, Murphy Creek, and the downstream Waubesa Wetlands. As a result, because the development has the potential to impact the downstream Waubesa Wetlands, which are high-quality wetlands that have been designated a state natural area, the City of Fitchburg’s Amendment Request should be denied.

**E. WDNR must deny the Amendment Request because the proposed development will not comply with the wetland water quality standards in Wis. Admin. Code ch. NR 103.**

WDNR must deny the City of Fitchburg’s Amendment Request because the Amendment Request does not comply with the wetland water quality standards in Wis. Admin. Code ch. NR 103. WDNR’s wetland water quality standards “apply to all department . . . planning . . .

determinations that affect wetlands” as long as the “specific activities . . . are subject to the requirements of statute or rules requiring a department determination concerning effects on water quality or wetlands.” Wis. Admin. Code § NR 103.06. This specifically includes “permits and approvals under [Wis. Stat.] chs. 281 [and] 283 . . .” Wis. Admin. Code § NR 103.06(1).

WDNR’s determination on whether to approve or disapprove the City of Fitchburg’s Amendment Request is a planning determination that will affect wetlands, and therefore is subject to analysis under Wis. Admin. Code ch. NR 103. As discussed, the Waubesa Wetlands extend upstream on Swan Creek from Lake Waubesa to the southern boundary of the NEN, and will be affected by altered flow and water quality due to the proposed NEN.<sup>2</sup> In addition, WDNR’s statutory authority to make planning decisions under Wis. Admin. Code ch. NR 121 is based on Wis. Stat. ch. 281 and section 283.83, which mandates WDNR have a continuous planning process to protect surface and groundwater quality. Moreover, WDNR’s approval of the City of Fitchburg’s Amendment Request requires WDNR to determine that development in the area of the City of Fitchburg’s Amendment Request is consistent with protecting and enhancing groundwater and surface water quality, which is the purpose of areawide water quality management plans. *See* Wis. Admin. Code § 121.03(1) (defining AWQMP as “a plan for managing, protecting and enhancing groundwater and surface water quality. . .”). As a result, WDNR must consider the wetland water quality standards and make the determinations required by Wis. Admin. Code § NR 103.08 prior to making a final decision on the City of Fitchburg’s Amendment Request.

In addition, the Waubesa Wetlands are designated as state natural resource area number 114, and contain calcareous fens. Under Wis. Admin. Code § NR 103.04, the area designated as a state natural resource area or a calcareous fen in addition to “wetlands which are in proximity to or have a direct hydrologic connection” to the designated area or fen are “wetlands in areas of special natural resource interest.” As wetlands in areas of special natural resource interest, the Waubesa Wetlands, which reach upstream on Swan Creek to the southern edge of the NEN, are subject to additional protections under Wis. Admin. Code ch. NR 103. In determining whether the proposed activity will result in significant adverse impact to wetland functional values, WDNR must consider any potential adverse impacts to wetlands in areas of special natural

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<sup>2</sup> While the wetland water quality standards in Wis. Admin. Code ch. NR 103 are most often applied in situations where a direct fill or point source discharge will occur to a wetland, the language of Wis. Admin. Code § NR 103.06(1) is not limited to direct fills or discharges. Wis. Admin. Code § NR 103.06(1) states wetland water quality standards apply to any WDNR planning determination that may “affect” wetlands. As explained extensively, the Waubesa Wetlands will be adversely impacted by WDNR’s approval of the Amendment Request and, as a result, are “affected” by WDNR’s determination on the Amendment Request. In addition, the wetland water quality standards are relevant to determine if the result of granting the Amendment Request will have a “potential” to adversely impact these wetlands. If there is evidence that more likely than not granting the Amendment Request would have at least a “potential,” if not actually, adversely impact these wetland water quality standards, then the WDNR must deny the Amendment Request under Wis. Admin. Code § NR 121.05(1)(g)(2)(c).

resource interest and cannot consider any potential functional values provided by a mitigation project as offsetting the impact to an area of special natural resource interest.

In the unlikely event WDNR were to decide to approve the City of Fitchburg's Amendment Request under Wis. Admin. Code ch. NR 103, WDNR must find all of the following:

1. No practicable alternatives exist which would avoid adverse impacts to wetlands;
2. All practicable measures to minimize adverse impacts to the functional values of the affected wetlands have been taken; and
3. The activity will not result in significant adverse impacts to water quality or other significant adverse environmental consequences. In addition, because the Waubesa Wetlands are an area of special natural resource interest, WDNR cannot consider potential functional values from a mitigation project. *See* Wis. Admin. Code § NR 103.08(4)(b). In making this determination, WDNR must consider the following factors:
  - a. the wetland dependency of the proposal;
  - b. practicable alternatives to the proposal which will avoid and minimize adverse impacts to wetlands and will not result in other significant adverse environmental consequences;
  - c. impacts which may result from the activity on the maintenance, protection, restoration, or enhancement of the wetland water quality standards;
  - d. cumulative impacts attributable to the proposal which may occur;
  - e. potential secondary impacts on wetland functional values from the proposed activity;
  - f. any potential adverse impacts to wetlands in areas of special natural resource interest; and
  - g. any potential adverse impacts to wetlands in environmentally sensitive areas identified in AWQMPs.

*See* Wis. Admin. Code § NR 103.08.

WDNR cannot make the determinations required by Wis. Admin. Code § NR 103.08 with respect to the proposed NEN, all of which would be necessary prerequisites for an approval decision. First, there are practicable alternatives that exist that would avoid impacts to the Waubesa Wetlands. There are other undeveloped areas within the City of Fitchburg that have already been approved for development and included in the areawide water quality management plan. In addition, there are other undeveloped areas within the City of Fitchburg that could be developed and would not be immediately upstream of the Waubesa Wetlands.

Second, all practicable measures have not been taken to minimize adverse impacts to the functional values of the Waubesa Wetlands. As explained above, the NEN will alter the hydrology pattern and flow of the Waubesa Wetlands. In addition, surface runoff from the NEN will contain excess sediment and nutrients, which will result in sedimentation within the wetlands and excess phosphorous, nitrogen, chlorides, total suspended solids, and toxic pollutants in the wetlands. WDNR should require a water analysis of the site and, after completing that analysis, a stormwater management plan that will maintain the historical pre-development water flow and quality after the NEN is built. The following section discusses additional measures that could be taken to limit the impacts to the Waubesa Wetlands.

Third, approval of the City of Fitchburg's Amendment Request will result in significant adverse water quality impacts to the Waubesa Wetlands. As discussed above, if the City of Fitchburg's Amendment Request is approved, the Waubesa Wetlands will be negatively affected by changes in water flow and water quality, which will facilitate the spread of invasive species, leading to degraded habitat. These effects on the Waubesa Wetlands will prevent the attainment and maintenance of the wetland water quality standards in the Waubesa Wetlands, which provide habitat for rare and state-threatened species, such as the Blanding's turtle.

In addition, the NEN is not water dependent. The basic purpose of the NEN is to provide for new development within the City of Fitchburg, and this does not depend on proximity to a waterway or wetlands. The NEN is not water dependent and, as such, can be built in another area of the City of Fitchburg that is not immediately upstream to and, as a result, will not impact the Waubesa Wetlands.

WDNR must apply the wetland water quality standards in Wis. Admin. Code ch. NR 103 to the City of Fitchburg's Amendment Request. Moreover, WDNR cannot make the required determinations that are necessary prerequisites to an approval of the City of Fitchburg's Amendment Request under Wis. Admin. Code § NR 103.08. There are practicable alternatives within the City of Fitchburg where the NEN could be located, all practicable measures to reduce adverse impacts have not been taken, and the NEN will result in significant adverse water quality impacts to the Waubesa Wetlands. As a result, WDNR must deny the Amendment Request because it does not comply with the wetland water quality standards in Wis. Admin. Code ch. NR 103.

**V. IN THE UNLIKELY EVENT WDNR WERE TO APPROVE THE CITY OF FITCHBURG'S AMENDMENT REQUEST, SUCH APPROVAL WOULD ONLY BE REASONABLE IF CERTAIN CONDITIONS WERE TO ATTACH TO THE APPROVAL THAT ARE NECESSARY TO MINIMIZE IMPACTS TO WATERS OF THE STATE WITHIN THE TOWN OF DUNN.**

As explained above, WDNR should deny the City of Fitchburg's Amendment Request because development in the NEN will adversely impact water quality in Swan Creek, Murphy Creek, and the Waubesa Wetlands. These water quality impacts are wholly inconsistent with the purpose of an areawide water quality management plan, which is to manage, protect, and enhance groundwater and surface water quality.

**A. If WDNR were to approve the Amendment Request, WDNR at a minimum must include conditions to protect waters of the state within the Town of Dunn.**

However, if WDNR were inclined to approve the City of Fitchburg's Amendment Request, WDNR must, at a minimum, require any development in the NEN to comply with best management practices and must place the following conditions on its approval to protect the waters of the state within the Town of Dunn in order for such a decision to withstand a legal challenge under applicable law:

1. No Net Discharge Condition. The development must have no net discharge of water, sediment, nutrients, and toxic pollutants to any downstream waters. The baseline for the no net discharge comparison is the historical runoff from pre-settlement conditions. If WDNR does not require no net discharge, WDNR should at a minimum require 100 percent retention in a 100 year flood event and set limits for phosphorus, nitrogen, chlorides, total suspended solids, and toxic pollutants for any discharge from stormwater basins.
2. Watershed and Groundwater Study and Model. The developer or the City of Fitchburg must be required to fund a watershed study including the area of the proposed development and all waters of the state that flow downstream into the Town of Dunn. This watershed study will enable all parties to clearly understand the impacts the NEN will have on Swan Creek, Murphy Creek, and the Waubesa Wetlands. In addition, the developer or the City of Fitchburg must fund a groundwater study and develop a model for groundwater flow including the area proposed for development and the Waubesa Wetlands. The groundwater study and model will enable all parties to better understand the impact the NEN will have on the unique hydrology of the Waubesa Wetlands. These studies and the groundwater model must be completed prior to any development within the area subject to the Amendment Request.
3. Phased Development Dependent upon Compliance with Conditions. Development in the NEN must proceed in phases. The first phase should include development in the area with the least impact to waters of the state, which is indicated as Phase I on the map entitled "Phased Development Concept" included in Attachment E to these comments. The Phase I must be built and operating for a minimum of three years with monitoring as outlined in Attachment E's monitoring plan. Monitoring must show no adverse impact to downstream waters as described in Attachment E's monitoring plan. After this three year demonstration period, Phase II as denoted on the map in Attachment E may be constructed, and must be followed by another three year monitoring and demonstration period consistent with the requirements in Attachment E. If no adverse impact is shown, then Phase III as denoted on the map in Attachment E may be built.
4. Financial Guaranty. The developer or the City of Fitchburg must post a bond guaranteed for a minimum of 20 years from the date of the last construction in the NEN. The bond must be for an amount sufficient to guarantee performance of the stormwater management plan and ensure the development does not result in an adverse impact to waters of the state within the Town of Dunn. In the event there is a failure of performance

on any conditions of approval, the bond must be accessible by the WDNR, Dane County, or the Town of Dunn to correct such failure of performance.

5. Independent Inspection and Enforcement Rights. Dane County must be afforded inspection authority over the NEN property on a regular basis to ensure compliance with the conditions of the approval and the fees for such inspection authority should be paid by the City of Fitchburg or the developer. In addition, Dane County should be afforded the opportunity to perform any necessary corrective action in the event of a failure of the NEN developer to correct deficient conditions within a reasonable time. The costs of any such necessary correction action shall be funded by the Financial Guaranty.
6. Set-aside for Additional Stormwater Capacity. Any development in the NEN must reserve as undeveloped an area sufficient to increase stormwater retention facilities by at least thirty percent of the approved design capacity for each phase of the development in the event that the stormwater plan does not result in no net discharge to downstream waters. In the event that the stormwater plan does not result in no net discharge, this undeveloped area must be developed to retain stormwater sufficient to meet the no net discharge requirement.
7. Environmental Buffer Zones. The designated environmental corridors in the NEN must be expanded due to the high quality and unique nature of the downstream waters. In particular:
  - a. The environmental corridor on Swan Creek and its associated wetlands must be expanded to be at least 600 feet and vegetated with native species. The Waubesa Wetlands extend upstream on Swan Creek from Lake Waubesa to the southern border of the NEN. Because these wetlands are hydrologically connected, negative impacts to Swan Creek will directly affect the Waubesa Wetlands downstream. An expanded environmental corridor is necessary to infiltrate rainfall and runoff.
  - b. The environmental corridor surrounding the entire perimeter of “Lake Larsen” must be expanded to 300 feet and vegetated with native species. This environmental corridor is necessary to contain stormwater flows and infiltrate rainfall and runoff.
8. Monitoring and Access Requirements. WDNR must require the developer to fund water quality and quantity monitoring and analysis on waterways entering the Town of Dunn necessary to ensure no negative impacts to such waterways caused by the NEN development. Town of Dunn must be allowed to access the monitoring data to review the water quality and quantity impacts to its waters.

The record in this proceeding provides strong support for the WDNR to disapprove the Amendment Request because of the potential for adverse impacts the development will have to the waters of the state within the Town of Dunn. However, in the unlikely event that WDNR were to approve the Amendment Request, such approval would only be found reasonable if these

conditions were attached to such an approval since they are necessary to minimize the water quality impacts that any development in the area will have on the water quality in Swan Creek, Murphy Creek, and the Waubesa Wetlands.

**B. WDNR should consider additional innovative conditions to minimize adverse impacts to waters within the Town of Dunn.**

Attachment F to these comments includes additional innovative ideas compiled by the Town of Dunn that WDNR should consider in the unlikely event that WDNR approves the Amendment Request. These innovative ideas will ensure that all adverse impacts to waters of the state within the Town of Dunn are minimized.

**CONCLUSION**

The Waubesa Wetlands are one of the most diverse and highest quality wetlands remaining in southern Wisconsin and multiple parties, including the Town of Dunn, have strived to protect these wetlands. The NEN will result in a significant adverse impact to Swan Creek, Murphy Creek, and the Waubesa Wetlands and, as a result, WDNR must deny the City of Fitchburg's Amendment Request. In addition, prior to any decision on the Amendment Request, WDNR must conduct a public hearing to ensure all interested parties can provide WDNR with information relevant to its decision, and WDNR must make its ultimate decision through the proper rule-making procedure in Wis. Stat. ch. 227.

In the unlikely event WDNR were to approve the City of Fitchburg's Amendment Request, the WDNR must attach the conditions outlined in these written comments to ensure no adverse water quality impacts from the NEN will occur on the Town of Dunn's downstream waters. A failure to attach such conditions to any approval decision would result in an unreasonable decision that would not survive scrutiny under the applicable legal review process.

[signature pages to follow]

Dated this 3rd day of April, 2015.

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EXPERTS PROVIDING FACTUAL DETERMINATIONS

By: Cal DeWitt By: Ed Minihan

Title: Professor Emeritus-VW  
Date: 4/2/2015

Title: Town of Dunn Chair  
Date: 4/2/15

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By: Joy Zedler  
Joy Zedler

Title: Land Use Manager  
Date: 4/2/15

Title: Professor of Botany & Aldo Leopold Chair in Restoration Ecology  
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