

**CORRESPONDENCE/MEMORANDUM**

DATE: April 12, 2016

TO: FILE

FROM: Tim Asplund and Lisa Helmuth, WY/3

SUBJECT: Fitchburg Northeast Neighborhood Urban Service Area Amendment  
Staff Analysis - Discussion

**DISCUSSION**

DNR is responsible for approval of Areawide Water Quality Management (WQM) Plans (and plan amendments) in designated areas. In the case of Dane County, the DNR contracts with Capital Area Regional Planning Commission (CARPC) for analysis and review of proposed amendments to the Dane County WQM Plan. WDNR and CARPC have established standard procedures for the review and approval process for plan amendment requests. This process consists of CARPC working directly with applicants to develop acceptable amendment proposals. CARPC then submits a recommendation to WDNR for approval, or conditional approval, of the request. CARPC staff work with the applicant upfront to modify initial proposals to improve compliance with local, regional and state regulations before the proposals are reviewed by the regional commission and the DNR.

**Procedure**

The City of Fitchburg submitted a request for Northeast Neighborhood Amendment (NEN) to CARPC for review. After CARPC completed its review and recommended denying the request, the City made a direct request to the DNR to review the amendment proposal and requested that DNR provide an administrative decision under ch. NR121, Wis. Adm. Code. The City of Fitchburg submittal to WDNR regarding the proposed amendment contained a portion of the record of the applicant's request. Additional supporting information was included in the applicant's submittal and analyses to CARPC.

The WDNR's review included CARPC technical reports, correspondence, commission meetings, public hearing proceedings, the staff analysis report and CARPC resolution, as well as subsequent correspondence and materials created by the DNR. The review file includes a detailed description of how applicable review criteria have been addressed and a map of the urban service area change that includes the delineation of environmentally sensitive areas. The map of the urban service area includes, but is not limited to, springs, wetlands, rivers/streams, lakes, groundwater recharge areas/open space lands, and buffers.

Following the review, WDNR issued a decision on April 14, 2015 approving a portion of the application area. As part of the decision, the WDNR included a number of conditions that were intended to be applicable to the approved area and as a means of gathering additional information to make a decision on the remaining areas. Other conditions were intended as recommendations, not as conditions of approval which rendered the approval ambiguous and potentially confusing. In addition, the decision was not made on the entire area sought to be approved in the City's application, resulting in ambiguity concerning potential future action by the Department.

Following the April 14, 2015 decision, Fitchburg Lands, LLC, filed a petition for judicial review challenging the decision as being beyond the authority of the WDNR because the decision's conditions were unclear, and that the decision was not made on the entire area sought to be approved in the City's application. The Town of Dunn intervened as a party in the case challenging the position of Fitchburg Lands, LLC. On its own review,

and upon discussions with the parties, the WDNR determined that in the interest of resolving the judicial review action and issuing a decision that would not be subject to challenge, several conditions of the approval should be made more clear as to the scope of the approval and timing, as well as making more clear the description of the applicability of the conditions to the City. In support of this effort, additional clarification and explanation of the application was provided by the City and an owner of land within the proposed urban service area amendment area that was lacking at the time of the April 14, 2015, approval.

As part of the litigation process, additional conditions and settlement terms were proposed and agreed to by the three parties. A copy of the Settlement Agreement will be posted to the DNR website once all the parties have signed it. The additional conditions and settlement terms provided assurances to DNR that water quality would be protected and it allowed for additional areas to be included in the approval. Specifically, the landowner agreed to the following: 1) collection of additional data to support and inform design of stormwater features; 2) additional data that provide the public with specific information about stormwater quantity and quality associated with pre- and post-development conditions; 3) expansion of the wetland area buffer zone that exceeds the layout proposed and accepted in the initial application; and 4) measurable performance criteria as a condition precedent for subsequent development phase. These terms and conditions are further explained below.

**Stormwater Management - management actions required to remove or reduce impacts to water resources from the development action.**

Stormwater management in the proposed development area, compared with other areas of the county, is complicated. The development, as initially proposed, appeared to use wetlands as stormwater receiving waters, potentially resulting in increasing stormwater flow to Swan Creek and its corridors. Currently, portions of the land area are in agricultural use with varying levels of soil compaction. Existing land uses deliver excess nutrients and sediment to downstream resources. The variable terrain and differential water table (reflecting the perched aquifer in the eastern portion of the proposal) complicate stormwater retention in a residential development scenario. Conversely, protection of the southern riparian wetlands and downstream resources precludes channeling stormwater from newly developed areas to these resources as well.

The release of dissolved and particulate nutrients and sediment, and a potential to increase the existing spread of aquatic invasive species (reed canary grass, phragmites, and cattails) due to hydrologic modifications resulting from a development's discharge to sensitive areas are of concern. Increased stormwater flow to Swan Creek and its riparian corridor, which feeds the Waubesa Wetlands, poses a potential significant risk to the resource. Due to this concern, a detailed stormwater plan that avoids the treatment within natural surface water features such as existing springs and wetlands, is recommended for the long-term health of the regional wetlands.

The City of Fitchburg has agreed to comply with infiltration of 90% of the pre-development infiltration volume for all land uses. A site-specific stormwater management plan which delineates specific control measures will be required prior to construction. Stormwater management actions that involve using natural surface water features such as wetlands or streams as receiving waters require compliance with applicable local, regional and state regulations including chs. NR102 and NR103, Wis. Adm. Code, state water quality standards. More details regarding stormwater management are found in the conditions of the amendment decision.

In addition to the conditions of the DNR approval, and as part of the litigation settlement, the landowner agreed to include additional provisions in the storm water management plans for all of the land within the approved area under its ownership. The additional provisions include the following:

1. Design and maintain the storm water management system to provide post development stay-on volume to at least 90% of the predevelopment stay-on volume for the one-year average annual rainfall period, as defined by WDNR. The limit on the area of the site devoted to infiltration will not apply, and the exemption from infiltration requirements for areas of soil with infiltration rates of less than 0.6 in. /hr. will not apply.
2. The storm water management system will be designed and maintained to provide a reduction in off-site phosphorus runoff load of at least 50% compared to current land-use.
3. The storm water management facilities shall be maintained in accordance with good storm water management practices
4. The green space buffer adjacent to the regulatory wetland near Larsen Road will be at least 300 feet, except for the side of the wetland adjacent to Larson Road.

The landowner further committed to maintaining storm water management facilities in accordance with good storm water management practices and to comply with stormwater design standards and performance criteria listed in Conditions of Approval and the settlement agreement reached as part of the litigation process.

Finally, as part of the litigation settlement, the landowner also agreed to conduct stormwater monitoring, prior to construction, for one year at the outlets of 4 sub-watersheds in the Northeast Neighborhood. Exhibit 2 of the Settlement Agreement, which will be posted on the DNR website once all the parties have signed it, shows the stormwater monitoring locations. Two of these watersheds will subsequently be developed, whereas the other two watersheds will remain in agricultural or open space use. After the bulk of this “Phase 1” development is complete, storm water from these same 4 watersheds will be monitored for one year. Comparison and analysis of the predevelopment and post-Phase 1 development runoff data will be conducted to determine whether the stormwater management systems are consistent with the conditions of approval, and the additional terms agreed to by the parties in the litigation negotiations. If so, then the development will proceed for the remaining area.

#### **Land Use Needs – Compliance with DOA approved population projections**

The original Fitchburg Northeast (NEN) Neighborhood Amendment proposed adding 985.9 acres of land and water resources to the Central Urban Service Area of the Dane County Water Quality Management Plan. The proposal identified 273.5 acres of environmental corridor and used demographics based on 2003 population projections. CARPC has subsequently provided updated land use needs based on 2013 population projections from the US Census and provided a letter from DOA indicating support of the projections used, as required under ch. NR121, Wis. Adm. Code (see Wis. Adm. Code NR 121.05)

#### **Environmentally Sensitive Areas – Delineate Areas Inappropriate for Sewered Development**

Sewer service area plans require the delineation of environmentally sensitive areas that are prohibited from sewered development. In addition, the proposed development shall not impact the quality of these surface water features under the state’s water quality standards. In the case of wetlands, the applicable water quality standard is ch. NR103, Wis. Adm. Code.

The initial amendment request includes lands with hydrologically complex features in the northern, eastern and southern areas. The initial proposal identified 273.5 acres of environmentally sensitive areas; however, only a portion of the wetland features had been professionally inventoried. There is a need for professional wetland delineations and buffers that correspond to protections requisite to maintain water quality standards

for all wetland features. Additionally, a new inventory of springs conducted by WGNHS identified features that shall be identified as environmentally sensitive areas. These springs have not been delineated on the development map.

With this action, the DNR approves approximately 511 acres of developable and non-developable lands to the Urban Service Area (USA) for the City of Fitchburg. Fine scale analysis of environmentally sensitive area delineations both within the approval area as well adjacent to and downstream will be developed and published for the record and future USA amendment applications. This approval constitutes a final decision on the entire area requested in the City of Fitchburg's application.

### **Impacts to Regionally Significant Resources: Waubesa Wetlands**

Hydrologically connected downstream resources include the regionally important and unique Waubesa Wetlands complex. Statements by numerous experts and advocates have outlined the value of these resources and the importance and need for protection of these resources. Significant investigation regarding the specific sources and flows of surface and groundwater feeding these wetlands is warranted.

To ascertain the condition of surface water features in and around the approved amendment area, wetlands are to be field delineated and a quantitative wetland condition survey of riparian and isolated wetlands conducted as part of the conditions of approval. In addition, the areas within the USA as approved that are owned by Fitchburg Lands and designated as Environmental Corridor will be permanently dedicated through an enforceable real estate restriction that will be recorded in the office of the Register of Deeds to ensure that such lands shall not be subject to industrial, commercial or residential development, but may be used for park-related facilities (*e.g.*, shelter) or infrastructure and storm water management, as per the settlement agreement.

In addition, the Department recommends that the DNR, City of Fitchburg, Town of Dunn, CARPC and others conduct a watershed-based study to provide recommendations for management actions and protection areas focusing on the Waubesa Wetlands. This study will use updated groundwater model data, storm event data, and nutrient and sediment runoff projections for areas feeding the Waubesa Wetlands. The study should, at minimum, provide recommendations for source water protection areas to reduce cone of depression impacts and to protect areas that feed surface water features such as the perched fen located west of Lake Waubesa. This study should provide more detail regarding current and future well placement and identify water quantity mitigation actions that may alleviate groundwater use pressure. The study should evaluate nutrient loadings, including nitrogen and phosphorus in both particulate and dissolved forms, in streams, springs, groundwater, and Lake Waubesa, and assess the health of the watershed's biological communities (plants, wildlife, fish, invertebrates, etc.), and how changes in surface and ground water quantity, quality, and flow may affect those biological communities.

The watershed study is included as an Additional Recommended Action in the decision. The completion of this report is not a requirement for the development of the subject urban service area approval issued in the decision document. However, this and subsequent amendments should be considered in light of the long-term impacts on groundwater resources in Dane County.

Finally, a special study of the Waubesa Wetlands should also be conducted by DNR and partner agencies through the WQM Planning Program as staff and fiscal resources allow. These studies will apply the Floristic Quality Assessment and the WI Wetland Rapid Assessment Methodology to assess impacts to wetland functional values as part of compliance with chs. NR102 and NR103, Wis. Adm. Code. DNR will actively seek partners to participate on a collaborate study of the wetlands and to identify management actions to protect these regionally significant resources.

## **Impacts to Regionally Significant Resources: Groundwater**

Initial discussions between DNR and the WGNHS regarding the application of the Dane County Hydrological Model for analysis of this amendment revealed that a previous, coarser-scale version of the model was applied to the proposed amendment. The 2013 model results indicated that source water areas for the Waubesa Wetlands are primarily located in western portion of the county, where hydraulic conductivity and therefore permeability to the deep aquifer is high.

In the east just southwest of Lake Waubesa, a geologic irregularity in the Eau Claire Shale (which acts as an aquitard where it is present), results in the deep aquifer-fed spring that helps form the Waubesa Wetlands. This information is combined with well-documented and increasing issue of aquifer drawdown in the Madison Metropolitan area (“cone of depression”) and 2035 model projections hypothesizing the loss of Starkweather Creek along with significant flow reductions in numerous other surface features. Therefore, while not a requirement for this specific application, the DNR requests that the City of Fitchburg use the updated Dane County Hydrologic Model for future application proposals (including evaluation of areas not approved in this DNR decision document), as well as any additional significant land use change scenarios in the region.

In addition, CARPC technical staff, DNR, and the WGNHS, should complete a revision of an appendix to the Dane County WQM Plan focused on groundwater by December 2016. DNR staff reviewed a draft of this document and is in the process of providing comments. The document identifies areas recommended for more detailed studies of groundwater flow and surface and groundwater interaction, including the area around the Waubesa Wetlands.

## **Public Participation**

Extensive public participation on the proposed amendment was offered at the local level during the CARPC meetings which serve as part of the local public hearing for amendment requests. These public input sessions extended over two meetings in late 2014 became part of the official record for this decision.

On March 12, 2015, DNR issued a press release notifying the public that the Department was reviewing the City’s request for the NEN Amendment. The press release directed the public to a DNR webpage where the city’s cover letter, amendment request, and supporting documentation were posted. As part of the public participation process, the DNR accepted public comment from March 12 - April 3, 2015. Two subsequent Gov Delivery notices were issued. During the public comment period, DNR received 71 written comments against the proposed amendment and 8 comments supporting the proposal. During this time, 5 persons/entities requested a public hearing on the matter. In addition, the DNR met with the Town of Dunn and its legal representatives, as well as wetlands experts residing in the Town, to provide detailed comments for consideration during decision making. These public comments are available on the DNR’s website.

On February 29, 2016, DNR issued a press release notifying the public that the Department was revising its April 14, 2015 decision. The press release directed the public to a DNR webpage where the draft revised decision and supporting documentation were posted. As part of the public participation process, the DNR accepted public comment from March 1 to March 14, 2015. A Gov Delivery notice was also issued. During this second public comment period, DNR received 33 written comments against the proposed amendment and one comment supporting the proposal. These public comments are available on the DNR’s website.

## **Summary of Comments received on the Revised Decision**

The Department considered all public comments in its final decision. Three major themes emerged in the comments on the revised decision:

- 1) Concerns regarding stormwater quality and quantity impacts to downstream resources, including the Waubesa Wetlands, and meeting water quality standards.

The Department believes that the conditions of approval, as well as additional provisions included in the settlement agreement reached with Fitchburg Lands and the Town of Dunn, as part of litigation related to the Department's April 2015 Decision, will adequately address potential impacts of stormwater runoff on the Waubesa Wetlands. In addition, any development that proceeds in the approved area will need to meet statewide stormwater, wetland, and water quality standards, as well as municipal and county ordinances. See above discussion on Stormwater Management and Impacts to Regionally Significant Resources – Waubesa Wetlands.

In addition, the Department recommends that the DNR, City of Fitchburg, Town of Dunn, CARPC and others conduct a watershed-based study to provide recommendations for management actions and protection areas focusing on the Waubesa Wetlands. This study will use updated groundwater model data, storm event data, and nutrient and sediment runoff projections for areas feeding the Waubesa Wetlands. This is included as an Additional Recommended Action in the decision.

- 2) Concerns that the impact of regional groundwater depletion on surface waters is not being adequately addressed in decision.

The Department recognizes the need to consider regional hydrology when making water quality decisions. For this reason, we are requesting the use of the updated Dane County Hydrologic Model for future application proposals, as well as any additional significant land use change scenarios in the region. CARPC staff have drafted an appendix to the Dane County WQM Plan focused on groundwater. DNR staff has reviewed this document and are in the process of providing comments. The document identifies areas recommended for more detailed studies of groundwater flow and surface and groundwater interaction. See above discussion on Impacts to Regionally Significant Resources – Groundwater.

- 3) Concerns regarding the planned monitoring before development and after development.

The Department received numerous comments regarding the monitoring plan referenced in this staff analysis memo. To be clear, the monitoring plan was negotiated as part of a settlement agreement with the Town of Dunn and the landowner during the litigation process, and is not part of the Department's approval. The Department does not believe it has the authority to require monitoring in the amendment approval process under § 283.83 and ch. NR121. However, the Department was involved in developing the technical aspects of the monitoring plan, and is confident that the monitoring will address most of the comments received.

In particular, the plan, in the settlement agreement, will employ a Before/After, Control/Impact design on 4 locations within the approved amendment area immediately upstream of Swan Creek. Sampling will be conducted at sufficient frequency to capture a range of storm events, as well as base flow conditions. Data will be collected for a minimum of one year pre- and post-development of the first phase of the project to ensure that the agreed upon water quality based performance standards at the monitoring stations are being met. Detailed monitoring plans, pre-development data summary, and Phase 1 post-development monitoring report will be provided to the Department for review and concurrence with the terms of the settlement before the remaining area is developed.