December 12, 2019

Staff Analysis of Proposed Amendment to the *Dane County Water Quality Plan*, Revising the Environmental Corridors of the Central Urban Service Area in the City of Fitchburg

1. Existing Conditions

The proposed project site is located at 3101 Fish Hatchery Road in the City of Fitchburg (see Map 1). The site was originally developed as the Bowman Dairy Milking Parlor and Processing Facility in 1929. It was later converted to a juice concentration processing facility by Foremost Farms until 2007 until it was sold to Citrus Systems, whom operated the facility until closing in 2018. Petroleum products and solvents that were used and stored on the site in the past have contaminated portions of the underlaying soil and groundwater. Some remediation actions have been conducted at the site. However, a Phase II Environmental Impact Statement for the site included subsurface investigations, completed by SCS Engineers in October of 2019, of the soils and groundwater and found residual contamination around much of the site. The Wisconsin Department of Natural Resources Bureau for Remediation and Redevelopment closed the active remediation of the site in 2003 with the condition that a deed restriction be recorded to require a surface barrier, such as a paved surface, over the remaining soil contamination (link to BRRTS information).

The site was originally developed before there were any environmental corridor or stormwater management requirements in effect. The site contains multiple buildings with most of the remaining 4.5-acre site being covered in asphalt paving. An existing approximately 20-foot-wide gravel access drive enters the southwest corner of the site from Fish Hatchery Road prior to crossing the southern property line. The drive runs parallel to Nine Springs Creek immediately south of the site and provides access from Fish Hatchery Road to an adjacent property east of the site. The total existing impervious cover is 177,100 square feet, or 90 percent of the site.

The environmental corridors of the Central Urban Service Area were originally adopted in 1983, using 1969 USGS Quad maps as a base map. The corridors on the southern portion of the subject parcel were delineated as part of the original corridor delineation based on a 200-foot vegetative buffer strip centered along Nine Springs Creek and a Federal Emergency Management Agency (FEMA) 100-year floodplain (see Map 2). Sometime between 1988 and 2005 the environmental corridors were adjusted to remove some wetland area immediately east of the site and to include some additional wetland/riparian area farther east from the site, resulting in the environmental corridors as they are currently mapped (see Map 2). The distance between the stream northern top of bank and the existing asphalt pavement currently ranges between as little as 45 feet to greater than 75 feet. However, only a small portion of this area is vegetated as the approximately 20-foot gravel access drive is located between the pavement and the stream top of bank. Of the portion of the gravel access drive that is within the limits of the site, as little as 10 feet of vegetation separates the gravel

edge from the top of bank with an additional 10 feet of vegetation between the gravel drive and the site pavement. The total area of existing impervious surface, excluding the gravel access drive, within the riparian buffer is be approximately 5,930 square feet.

Land uses adjacent to the parcel are commercial/industrial to the north and northeast, Nine Springs Creek, wetlands and open space to the southeast and south, and commercial, multi-family buildings along with the Nine Springs Golf and Disk Golf Course on the other side of Fish Hatchery Road.

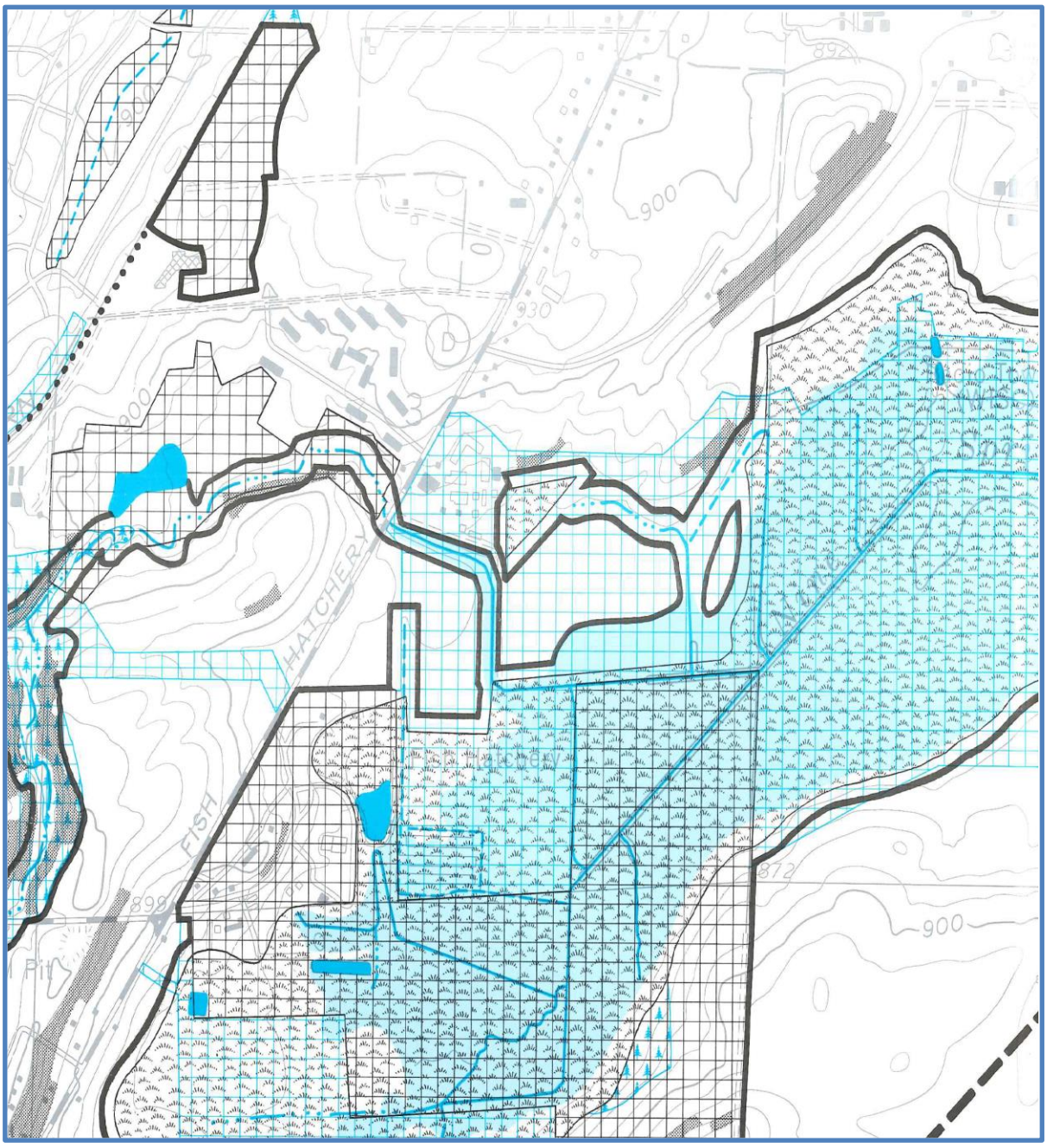
2. Description of Proposal

The site is proposed for redevelopment with a new, high density (160 dwelling units and 10,000 square feet of commercial space), mixed-use commercial residential apartment complex (see Map 3). A wetland delineation has not been conducted for the project, however, the Wisconsin Department of Natural Resources (WDNR) has provided concurrence of no wetlands present within the limits of the site. The WDNR 2013 Wetland Inventory shows a large wetland complex within 200 feet of the southeast parcel corner. The total proposed impervious cover is 137,500 square feet, or 70 percent of the site. The proposed project will very slightly decrease the minimum vegetated buffer width between the stream northern top of bank and the site pavement to range between as little as 44 feet to greater than 75 feet. The total area of proposed impervious surface, excluding the gravel access drive, within the riparian buffer will be approximately 4,970 square feet, a buffer impact decrease of 940 square feet from existing conditions.

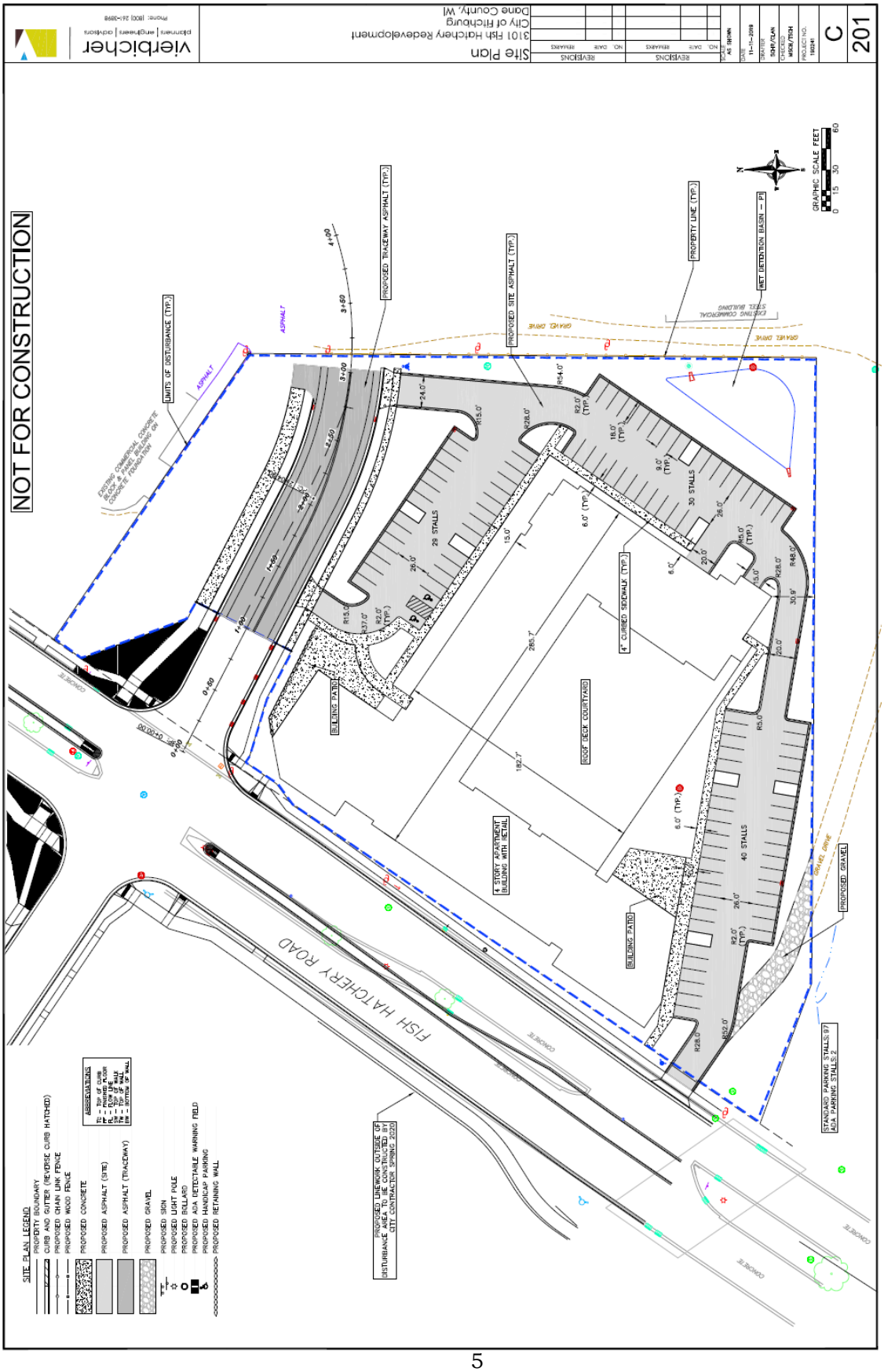
The 75-foot stream buffer reduction is proposed to be largely mitigated by the installation of stormwater management facilities to capture and treat stormwater runoff from most of the development and planting of native vegetation within the environmental corridor. Redevelopment sites are typically not required to provide the same level of stormwater management requirements as new development. However, the City of Fitchburg ordinance requires both redevelopment and new development sites to reduce, to the maximum extent practicable, total suspended solids load leaving the redeveloped site by 80%, based on the average annual rainfall, as compared to no runoff management controls. The ordinance also states that new parking areas only need to achieve 60% total suspended solids reduction. The proposed stormwater management plan includes an underground detention facility and a wet detention pond at the southeast corner of the site. In addition, should the eastern property owner be willing to abandon the existing gravel access drive as a result of better access to the extended portion of Traceway Drive to the North, the developer has committed to removing the existing gravel drive and restoring the area to native plantings. Infiltration, including the use of porous pavement, is not proposed as a result of the subsurface petroleum and commercial solvent contamination. However, the development is proposing to include a green roof, which will provide improved stormwater volume control compared to current conditions.

Map 1 – Amendment Area

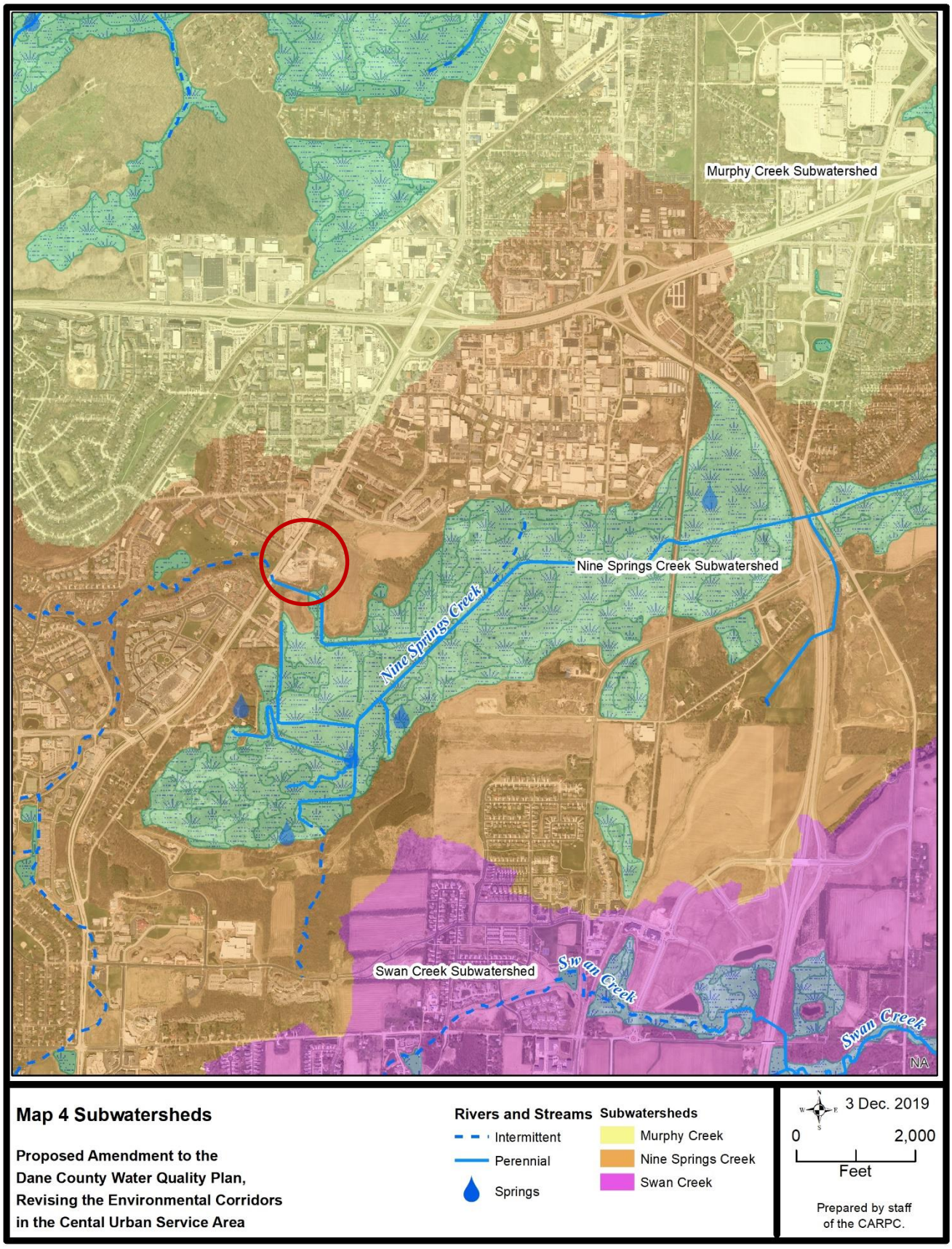
Map 2 – 1983 Environmental Corridor Map



Map 3 – Proposed Site / Stormwater Management Plan



Map 4 – Subwatersheds



Nine Springs Creek Wetlands

The environmental corridor in this area is associated with Nine Springs Creek, where it first becomes a perennial stream, upstream of its associated wetlands. The Nine Springs Creek wetlands cover an expansive area of over 650 acres between Fish Hatchery Road and State Highway 14 (see Map 4).

3. Consistency and Conflict with Adopted Plans and Policies

The City of Fitchburg has determined that the multifamily residential land use proposed for the site is consistent with the City's Comprehensive Plan, adopted in 2009 and most recently amended in 2018, and with its planning goals for the Fish Hatchery corridor. The City Council of the City of Fitchburg acted at its November 12, 2019 meeting to approve Planned Development District – General Implementation Plan zoning for the subject property authorizing a request for a "major change" to the environmental corridors of the Central Urban Service Area.

Environmental Corridor

The *Dane County Water Quality Plan* outlines policies regarding the delineation and designation of environmental corridors in the *Environmental Corridors* report, last updated and adopted by the Dane County Regional Planning Commission in 1996 and approved by the WDNR in 1997. The report establishes the need for a minimum 75-foot vegetative shoreland and wetland buffer. The need for buffer strips is based on the role they play in filtering pollutants from stormwater runoff; protecting stream banks and wetlands from erosion; providing space for the natural meander, shifting, and expansion of streams and wetlands; and protecting the habitat functions of these resource areas. Because of the natural resource functions provided by vegetative buffer strips, any encroachment into the minimum buffer width of 75 feet requires an evaluation of the impacts of the encroachment. This evaluation is performed through the Water Quality Plan amendment process and the requirement for WDNR review and approval.

The Capital Area Regional Planning Commission (CARPC) subsequently adopted Environmental Corridor Policies in February 2008. These policies include:

- Existing development (impervious area) is exempted from inclusion in corridors.
- Vegetative buffers for wetlands and shorelands (75-feet minimum and excluding impervious surfaces).

There are no specific policies regarding redevelopment sites.

Stormwater Management

The existing site has seen the addition and modification to multiple buildings since the 1930s, before there were any stormwater management requirements in effect. Current City of Fitchburg (Chapter 30) and Dane County (Chapter 14) ordinances do not require redevelopment sites to meet any peak runoff rate

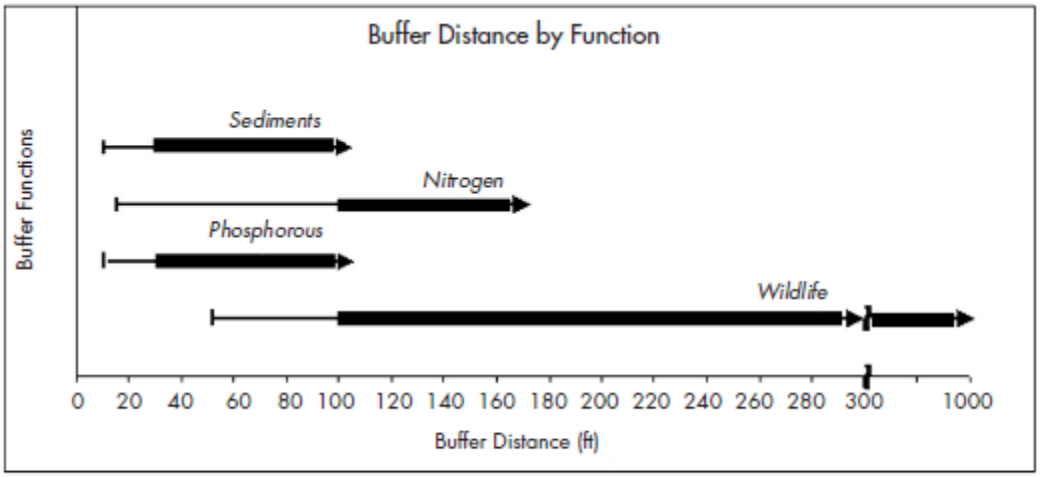
control or volume control standards. The City of Fitchburg ordinance requires both redevelopment and new development sites to reduce, to the maximum extent practicable, total suspended solids load leaving the redeveloped site by 80% (60% for new parking areas), based on the average annual rainfall, as compared to no runoff management controls. This exceeds the 40% sediment control required for redevelopment sites under the Dane County ordinance.

4. Impacts or Effects of the Proposal

Redevelopment of the site will provide for an additional 160 dwelling units and leasable commercial space without any increase in the size of the urban service area.

The redevelopment plan for the site will include a stormwater management plan to provide at least 80% sediment reduction and a currently undetermined amount of peak rate control and volume control. This will result in an improvement in water quality since the current site has no stormwater management.

The proposed vegetated buffer width of 44 to greater than 75 feet is sufficient to provide sediment and phosphorus removal. In addition, the total proposed buffer area impacted is 940 square feet less than the present buffer impact. The proposed buffer width will provide little to no wildlife benefits, as does CARPC's standard 75-foot buffer.



Effective buffer distance for water quality and wildlife protection functions. The thin arrow represents the range of potentially effective buffer distances for each function as suggested in the science literature. The thick bar represents the buffer distances that may ***most*** *effectively accomplish each function (30 - > 100 feet for sediment and phosphorous removal; 100 - > 160 feet for nitrogen removal; and 100 - >300 feet for wildife protection. Depending on the species and the habitat characteristics, effective buffer distances for wildlife protection may be either small or large.*

Source: *Planner's Guide to Wetland Buffers for Local Governments,* Environmental Law Institute 2008.

Table 1. Pollutant Removal Rates (%) in Buffer Zones					
Reference	Buffer Vegetation	Buffer Width (meters)	Pollutant		
			TSS	TP	TN
Dillaha *et al.*1989	Grass	4.6	63	57	50
		9.1	78	74	67
Magette *et al.* 1987	Grass	4.6	72	41	17
		9.2	86	53	51
Schwer and Clausen 1989	Grass	26	89	78	76
Lowrance *et al.* 1983	Native hardwood forest	20 - 40	-	23	-
Doyle *et al.* 1977	Grass	1.5	-	8	57
Barker and Young 1984	Grass	79	-	-	99
Lowrance *et al.* 1984	Forested	-	-	30-42	85
Overman and Schanze 1985	Grass	-	81	39	67
Young *et al.* 1980	Grass	27.4	-	88	87

Source: Aquatic Buffers Fact Sheet. Center for Watershed Protection Stormwater Manager's Resource Center web site (http://www.stormwatercenter.net/)

The proposed underground detention facility and wet detention pond will include outfall structures that tend to concentrate the flow. These concentrated flows can cause erosion and channeling where it discharges to the receiving waters. It is therefore important to design the discharge structures with level spreaders or similar practices to spread the flow and prevent channelization and erosion.

The proposed site layout and future sitework methods are being coordinated between the developer, developer's engineer(s) and the WDNR to further mitigate the known subsurface petroleum and solvent contamination. The removal of contaminated soils during excavation of the building will result in the reduction of total contaminants onsite.

5. Alternatives

One alternative is for no redevelopment to occur on the site. This would not improve water quality since there is currently no stormwater management for the site and less vegetated buffer than proposed within the redevelopment. In addition, there would be no further subsurface contaminant removal.

Another alternative would be to redesign the site layout to accommodate a 75-foot vegetated buffer for Nine Springs Creek and associated floodplain and wetlands. This would result in an unknown cost increase for the project and has already been determined by the developer that the project would be unviable. The project not moving forward would result in no redevelopment of the site and therefore no improvement in water quality or subsurface contaminant remediation.

6. Controversies, Comments Received, Unresolved Issues

The proposal has been reviewed by the City of Fitchburg Plan Commission and approved by the City Council.

A public hearing has been scheduled for December 12, 2019, at 7:00 p.m. to receive testimony on this proposed amendment to the *Dane County Water Quality Plan*. Staff has not received any comments on the proposed amendment at this writing.

7. Conclusions

The "major change" to the environmental corridors is located on a parcel that was originally developed in the 1920s or 1930s, prior to environmental corridors and stormwater management requirements. The environmental corridors were first delineated in 1983 after the original development had taken place.

The following conclusions can be made in support of the proposed amendment:

- The proposed site includes a stormwater management plan to provide at least 80% sediment reduction and a currently undetermined amount of peak rate control and volume control through an underground detention facility, a wet detention pond, and a green roof. In comparison, there is no stormwater management for the existing site. The 80% requirement exceeds the 40% requirement for redevelopment in the Dane County Ordinance.
- The proposed project will increase the vegetated buffer area by 940 square feet over existing conditions for Nine Springs Creek south of the site while maintaining a minimum buffer width of 41 feet and up to and greater than the 75-foot buffer width required by CARPC's adopted policies and criteria in some locations.
- The proposed project will encounter known subsurface contaminants during the construction process that will require removal and/or remediation resulting in a net decrease of onsite contaminants.
- Overall, the redevelopment will reduce the impervious area on the parcel by approximately 39,600 square feet.

In summary, the proposed changes on the site will have positive impacts to water quality overall. It is the Regional Planning Commission staff's opinion that the proposed amendment is consistent with water quality standards under Wis. Stat. § 281.15, with the conditions of approval identified below to protect water quality and provide environmental resource management.

CARPC staff recommends that approval of this amendment be conditioned on the City of Fitchburg's continued commitment to pursuing the following:

1. Submit a detailed stormwater management plan for CARPC and DCL&WCD staff review and approval prior to any land disturbing activities in the amendment area. The stormwater management plan shall include the following:

a. Install stormwater and erosion control practices prior to other land disturbing activities.
b. Provide at least 80% sediment control for the amendment area for the 1-year, 24-hour design storm, in accordance with the City of Fitchburg Stormwater Ordinance.
c. Utilize a green roof to reduce stormwater runoff volume.
d. Provide level spreaders or similar practice to spread the flow of water discharging toward the riparian buffer.

2. Require that the environmental corridor stream buffer be established in dense, grassy, native vegetation, maintained at a height of at least 6 inches.

3. Work with the eastern property owner to establish an egress route to the north such that the existing gravel access drive / easement can be abandoned and restored to native vegetation.