August 12, 2014

Staff Analysis of Proposed Amendment to the *Dane County Land Use and Transportation Plan* and *Water Quality Plan*, Revising the Cambridge Urban Service Area Boundary and Environmental Corridors in the Village of Cambridge

1. Applicant: Village of Cambridge

2. Description of Proposal

Amendment Area. The Village of Cambridge requests and amendment to the Cambridge Urban Service Area adding 75.7 acres between U.S. Highway 12 and 18 and State Highway 134 in the northwest corner of the Village of Cambridge. The addition is currently in agricultural use with 0.8 acres of existing right-of-way. The amendment proposes the addition of 42.4 developable acres. (See Maps 1 and 2, Table 1) to the Cambridge Urban Service Area.

Proposed Development. *The proposed development is based on a conceptual plan developed by a UW-Madison graduate student in the Landscape Architecture program. Work was completed as a part of their 2012/2013 capstone project. This plan envisioned a winery and surrounding vineyards adjacent to what was described as a "locavore" restaurant as well as community gardens, greenhouse, and a Community Supported Agriculture (CSA) farming area. A mixture of single- and multi-family were nestled between these two agricultural nodes. The plan also imagined a 1.0 mile bicycle loop trail that would enclose the winery/vineyards and thread its way through the housing and gardening/farming elements.*

The Village of currently owns the 75.7 acres of land in question and rents the arable land to a local farmer. The current proposal for this site consists of 15.2 acres of low-density, single-family residential; 5.0 acres of multi-family, high-density residential; 26.0 acres of agriculture; and 7.0 acres of commercial development (to be developed in a second phase). The proposal delineates 14.3 acres of land to be converted into open space and stormwater management from agriculture. Current uses also include woodland covering 1.4 acres of the site (to be converted into agriculture under the proposal), a water tower occupying 1.3 acres in the southeast corner of the amendment area, and 0.8 acres of right-of-way.

Additionally, there is a single, residential parcel east of the site which would not be subject to this amendment proposal and remains in the Town of Christiana. The proposed amendment boundary would abut the property on three of its sides. The Village has been in contact with the property owner repeatedly regarding annexation, inclusion in the USA, and purchase of the parcel. The owner has declined all requests to this effect. The Village has been advised by their counsel that hostile annexation of the property or annexation through petition or referendum would fail. Residents totaling ½ of the area population could block or overturn both decisions; the current property owners are the only residents counted in these efforts. In the interest of neighborliness, the Village does not wish to push the issue. However, they will be pursuing right of first refusal on the property should the owner wish to sell. The structure is currently in good repair, and could serve as an asset to the site program as a bed and breakfast or visitor center.

The updated proposed development includes the following program elements:

- A vineyards and a winery on 26.0 acres to the northwest of the amendment area employing between 4.5 and 18 full-time employees.
- A 1.0 mile bicycle/running trail circling the site
- Twenty-seven (27) "Estate" lots for single family homes ranging in size from 18,000—39,000 sq. ft
- Seventeen (17) single family lots at roughly 10,000 sq. ft. each
- Eighteen (18) "Estate" condominium units
- Likely commercial tenants include:
    - A bank employing 8-10
    - Five (5) to 10 studio offices with sole proprietors
    - A professional office employing 15-20
    - Four (4) to 5 small retail establishments with two employees each

Table 1 – Cambridge Urban Service Area, The Winery at Cambridge

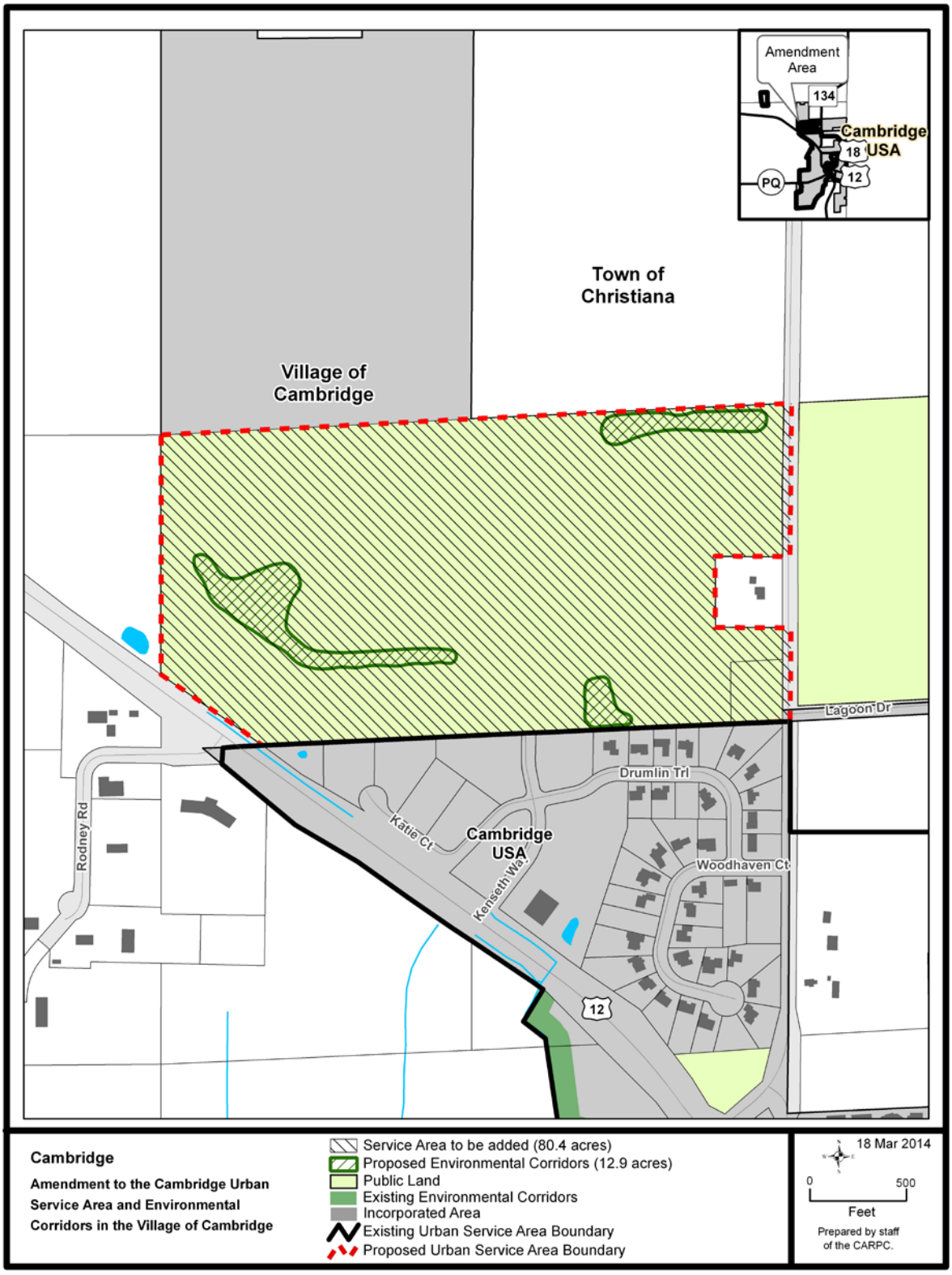
Requested by the Village of Cambridge

Proposed Land Use	Density (units/acre)		Total (ac.)	% of Total	Housing Units	No. of Persons	No. of Students	Existing Develop.	Environ. Corridor	Develop-able
	Proposal	Cambridge USA								
Low-Density Residential	2.9	3.3	15.2	**20%**	44	103	17			15.2
Low-Medium Density Res.		*	0.0	**0%**	0	0	0			0.0
High Density Residential	13.1	*	5.0	**7%**	66	132	21			5.0
Mixed Use		*		**0%**	0	0	0			0.0
Residential Total	**5.4**	**n/a**	**20.2**	**27%**	**110**	**235**	**38**	**0.0**	**0.0**	20.2
Agriculture			26.0	**34%**				72.2		46.2
Commercial			7.0	**9%**						7.0
Green Space				**0%**						0.0
Institutional				**0%**				1.3		1.3
Mineral Extraction				**0%**						0.0
Open Space			9.1	**12%**						9.1
Stormwater Management			5.2	**7%**					5.2	0.0
Street R-O-W			8.1	**11%**				0.8		7.3
Undetermined				**0%**						0.0
Wetland				**0%**						0.0
Woodland				**0%**				1.4		1.4
TOTAL			**75.7**	**100%**	**110**	**235**	**38**	**75.7**	**5.2**	**42.4****

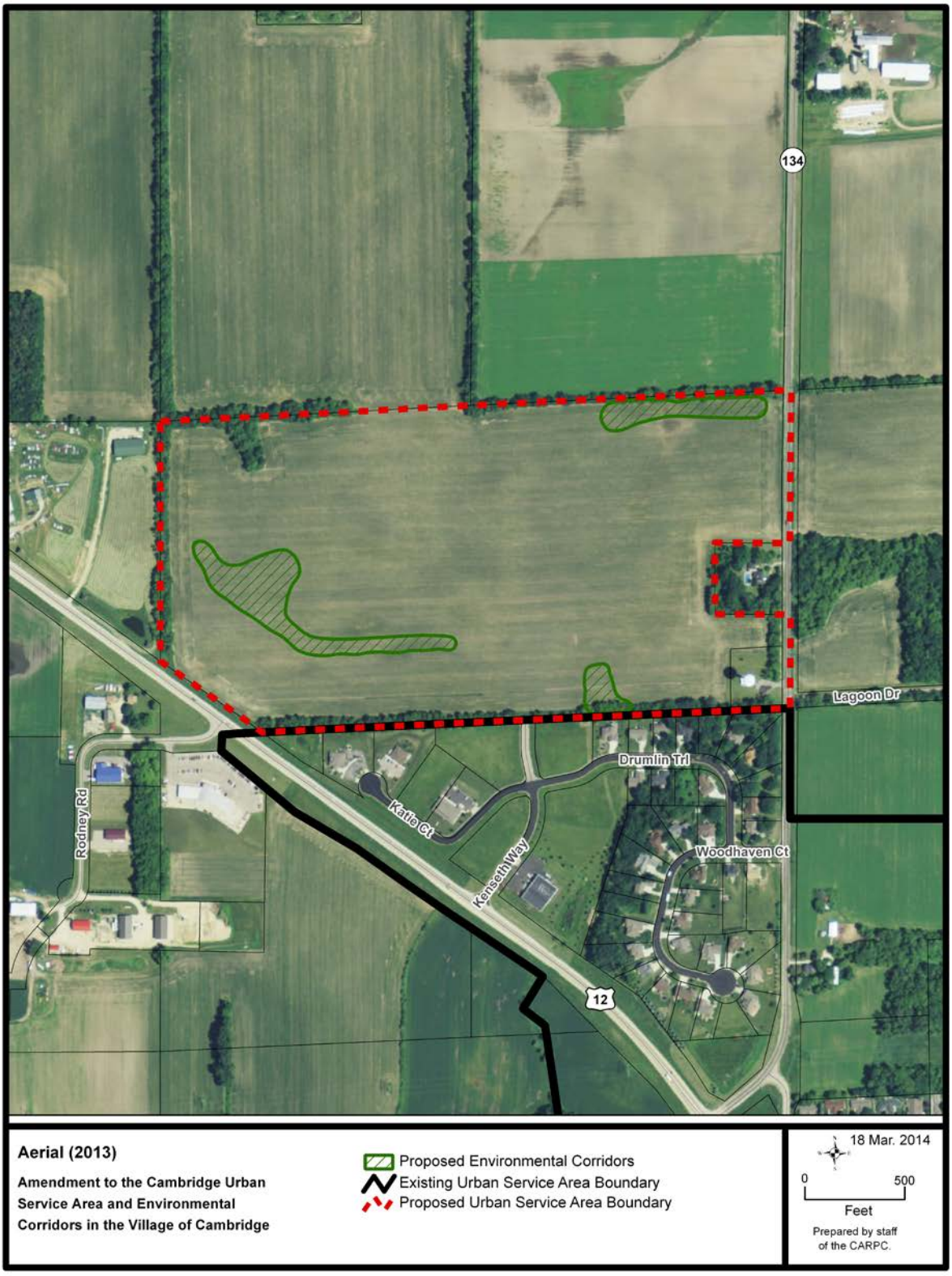
*Density is computed for "multi-family" uses. Camridge's multi-family density was 5.6 units/acre as of 2000.

**Per the conditions spelled out in the conclusion of the staff analysis, the 26.0 acres designated as vineyard by the Village's land use plan and in this amendment proposal will not be counted against Cambridge's 2035 land demand projection of 65 additional developable acres.

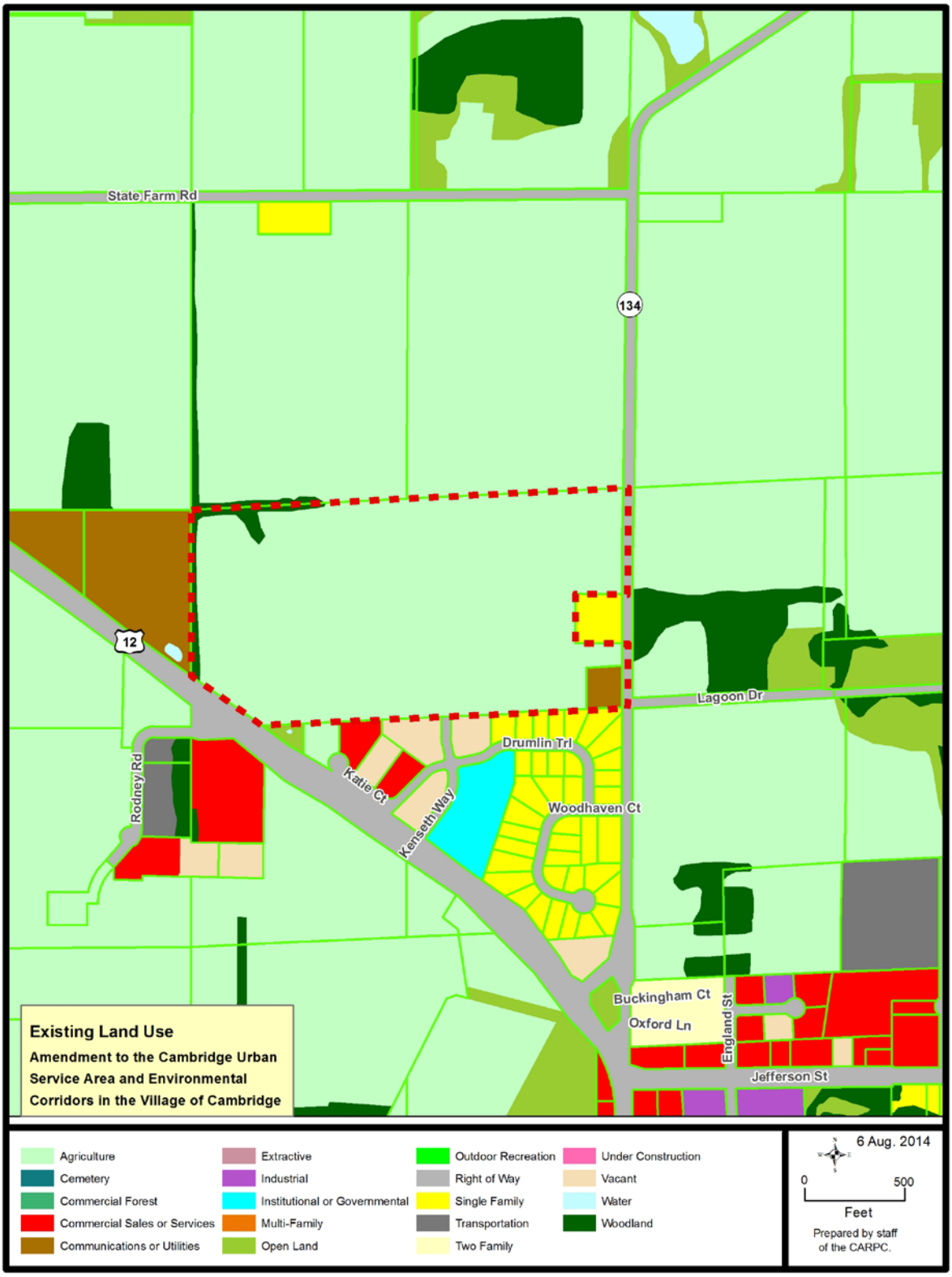
Map 1


Amendment Area
134
Cambridge USA
18
12
PQ
Town of Christiana
Village of Cambridge
Lagoon Dr
Drumlin Trl
Rodney Rd
Katie Ct
Cambridge USA
Kenseth Way
Woodhaven Ct
12
Cambridge
Amendment to the Cambridge Urban Service Area and Environmental Corridors in the Village of Cambridge
Service Area to be added (80.4 acres)
Proposed Environmental Corridors (12.9 acres)
Public Land
Existing Environmental Corridors
Incorporated Area
Existing Urban Service Area Boundary
Proposed Urban Service Area Boundary
18 Mar 2014
0
500
Feet
Prepared by staff of the CARPC.

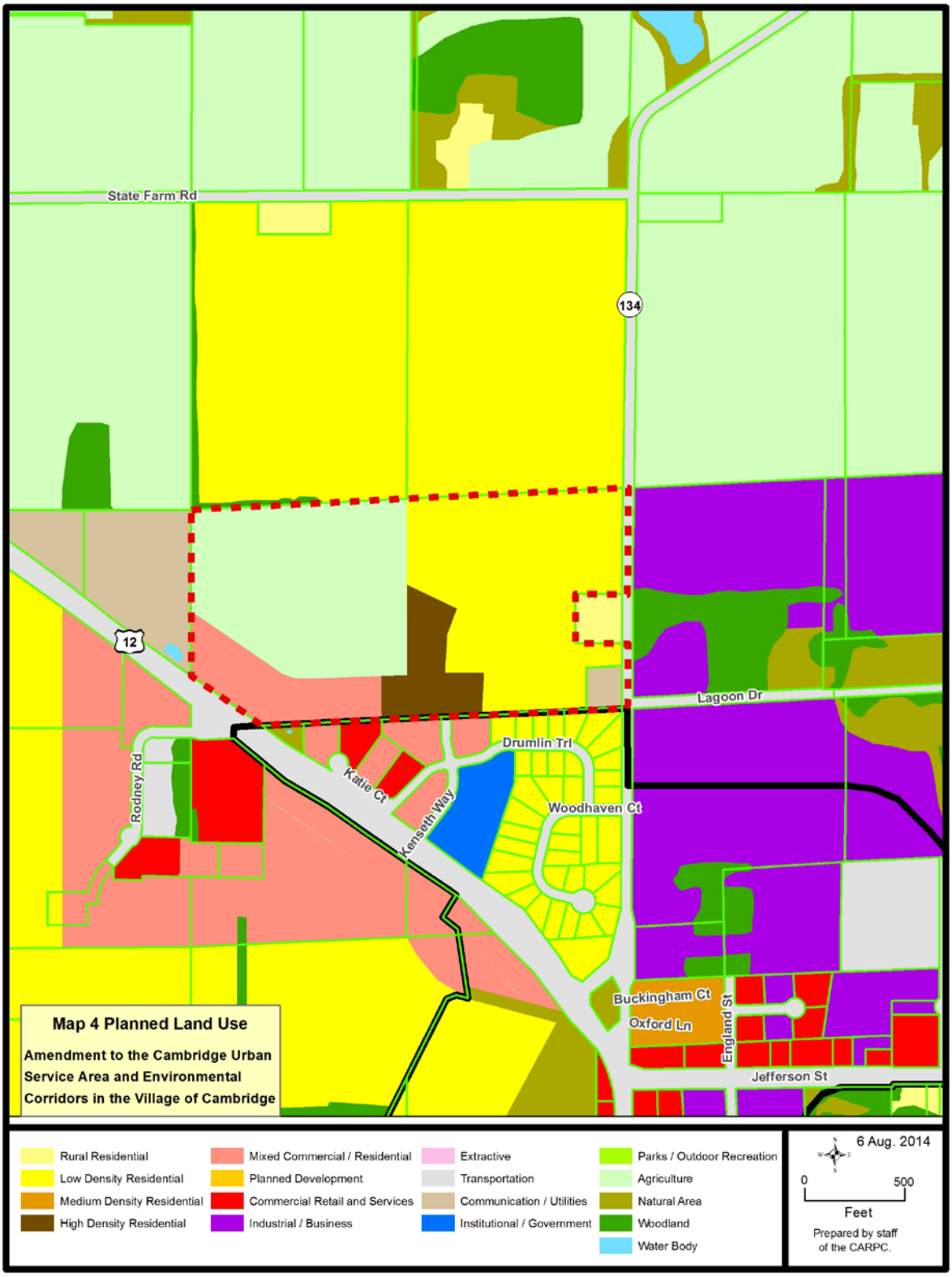
Map 2


134
Lagoon Dr
Drumlin Trl
Katie Ct
Kenseth Way
Woodhaven Ct
Rodney Rd
12
Aerial (2013)
Amendment to the Cambridge Urban Service Area and Environmental Corridors in the Village of Cambridge
Proposed Environmental Corridors
Existing Urban Service Area Boundary
Proposed Urban Service Area Boundary
18 Mar. 2014
0
500
Feet
Prepared by staff of the CARPC.

Map 3


State Farm Rd
134
12
Lagoon Dr
Drumlin Trl
Rodney Rd
Katie Ct
Kenseth Way
Woodhaven Ct
Buckingham Ct
Oxford Ln
England St
Jefferson St
Existing Land Use
Amendment to the Cambridge Urban Service Area and Environmental Corridors in the Village of Cambridge
Agriculture
Cemetery
Commercial Forest
Commercial Sales or Services
Communications or Utilities
Extractive
Industrial
Institutional or Governmental
Multi-Family
Open Land
Outdoor Recreation
Right of Way
Single Family
Transportation
Two Family
Under Construction
Vacant
Water
Woodland
6 Aug. 2014
0
500
Feet
Prepared by staff of the CARPC.

Map 4


State Farm Rd
134
12
Lagoon Dr
Drumlin Trl
Rodney Rd
Katie Ct
Kenseth Way
Woodhaven Ct
Buckingham Ct
Oxford Ln
England St
Jefferson St
Map 4 Planned Land Use
Amendment to the Cambridge Urban Service Area and Environmental Corridors in the Village of Cambridge
Rural Residential
Low Density Residential
Medium Density Residential
High Density Residential
Mixed Commercial / Residential
Planned Development
Commercial Retail and Services
Industrial / Business
Extractive
Transportation
Communication / Utilities
Institutional / Government
Parks / Outdoor Recreation
Agriculture
Natural Area
Woodland
Water Body
6 Aug. 2014
0
500
Feet
Prepared by staff of the CARPC.

3. Existing Environment

Natural Resources. The Amendment Area is located within Lower Koshkonong Creek subwatersheds (see Map 5). A small portion of the site drains to the south and flows through the village in defined drainage ways. The majority of the site drains to the northeast and flows through ditches and eventually into Koshkonong Creek as well.

Wetlands

There are no mapped wetlands located within the proposed amendment area, according to the Wisconsin Wetland Inventory. There is a small (<2 acre) farmed wetland indicated by the Wisconsin Wetland Inventory in the southwest corner of the site (See Map 5). A wetland delineation needs to be performed before construction activities begin, though it is unlikely that a high quality wetland would be found within the amendment area as nearly all of the area has been under cultivation.

Koshkonong Creek

The existing biological use of lower Koshkonong Creek is as a warmwater sport fishery. It is included on the state 303d list of impaired waters for phosphorus. It is also included in the Rock River Basin Total Maximum Daily Load (TMDL) project for phosphorus, with a target stream concentration of 0.075 mg/L.

Threatened and Endangered Resources

The WDNR Bureau of Endangered Resources maintains the Wisconsin Natural Heritage Inventory, a database representing the known historical occurrences of rare species and natural communities in the state. A screening review conducted by CARPC staff indicated that there are observations recorded of aquatic species of concern potentially within a two mile buffer of the site. There were no recorded instances within the site boundaries and it is highly unlikely that any of the listed species would be present on the site andthere are no ponds or lakes in the amendment area.

Woodlands

There is a small strip of woods along the northern edge of the amendment area.

Soils and Geology

The Land Type Associations of Wisconsin classifies this amendment area as being in the Dane-Jefferson. It describes the surficial geology of the area as an undulating complex of till plains with drumlins, outwash plains, and lake plains, and muck deposits. Surface elevations in this amendment area range from around 876 feet to 896 feet (see Map 6).

According to the Natural Resource Conservation Service (NRCS) Soil Survey of Dane County, the majority of soils in this amendment area are in the Plano-Ringwood-Griswold association. These soils are moderately well drained and well drained; deep silt loams and loams. Table 2 shows detailed classification for soils in the amendment area. Table 3 shows important soil characteristics for the amendment area (see Map 7).

The depth to bedrock throughout the amendment area is greater than 50 feet according to the *Dane County Groundwater Protection Plan*.

The amendment area does not have any shallow bedrock within 5 feet of the land surface based on NRCS soil survey data. Map 8 shows areas with seasonal high water table within 5 feet of the land surface, based on NRCS soil survey data. The Elburn silt loam, Plano silt loam,Radford silt loam, St. Charles silt loam and Virgil silt loam soils have the potential for a seasonal high water table within 5 feet of the surface. NR 151 and Dane County Ordinance Chapter 14 limit infiltration in areas with these conditions to roof runoff or stormwater management practices using a filter layer between 3 and 5 feet deep depending on the percent of fines in the soil mix.

Table 2

Soils Classification

Soil	% of Area	General Characteristics
Dodge silt loam; DnB	14 %	Deep, well-drained, gently sloping and sloping soils on glaciated uplands. Soils have high fertility, moderate permeability, and a moderate to severe hazard of erosion. Poses slight to moderate limitations for development due to low bearing capacity.
Elburn silt loam, gravelly substratum; EgA	<1%	Deep, somewhat poorly drained, nearly level and gently sloping soils in glaciated stream valleys. Soils have high fertility, moderately slow permeability, and a moderate hazard of erosion. Poses severe limitations for development due to seasonal high water table and low bearing capacity.
Plano silt loam; PnA, PnB	66%	Deep, well drained and moderately well drained, nearly level to sloping soils on glacial uplands. Soils have high fertility, moderate permeability, and a slight to severe hazard of erosion. Poses slight to moderate limitations for development due to slope and low bearing capacity.
Radford silt loam; RaA	11%	Deep, somewhat poorly drained, nearly level and gently undulating alluvial soils in low drainage ways and stream channels. Soils have high fertility, moderate permeability, and a seasonally high water table. Poses very severe limitations for development due to seasonal high water table and very low bearing capacity.
Ringwood silt loam; RnB	3%	Deep, well drained, gently sloping to sloping soils on glaciated uplands. Soils have high fertility, moderate permeability, and a moderate to severe hazard of erosion. Poses slight to moderate limitations for development due to low bearing capacity and slopes.
St. Charles silt loam; ScB	4%	Deep, well drained and moderately well drained, nearly level to moderately steep soils on glaciated uplands. Soils have high fertility, moderate permeability, and a moderate hazard of erosion. Poses slight to moderate limitations for development due to low bearing capacity.
Virgil silt loam, gravelly substratum; VwA	2%	Deep, somewhat poorly drained, nearly level and gently sloping soils on convex bench lands on outwash plains. Soils have high fertility, moderately slow permeability, and a moderate hazard of erosion. Poses severe limitations for development due to seasonal high water table and low bearing capacity.

Source: Dane County Soil Survey

Table 3

Soils Characteristics

Characteristic	Soil Map Symbols (see Map 7)	% of Area
Prime Agricultural Soils	DnB, EgA, PnA, PnB, RnB, ScB, VwA	89%
Hydric Soils (Indicates Potential / Restorable Wetlands)	EgA, RaA, VwA	13%
Soils with Seasonal High Water Table < 5 ft.	EgA, PnA, PnB, RaA, ScB, VwA	83%
Soils Associated with Steep Slopes	N/A	0%
Soils Associated with Shallow Bedrock < 5 ft.	N/A	0%
Poorly Drained Soils	EgA, RaA, VwA	13%
Best Potential for High Rates of Infiltration (3.6" / hr.)	DnB	14%

Source: Dane County Soil Survey

Groundwater

The depth to groundwater is over 25 feet throughout the amendment area according to the *WGNHS upper aquifer contours and the ground elevation map.* The regional groundwater model estimates that general direction of groundwater flow in the area is from the northwest to the southeast, toward koshkonong Creek (see Map 9).

Many of the soils on the site can have a seasonal (April to June) zone of water saturation within 5 feet of the ground surface. However, they are classified as moderately well drained to well drained, therefore their suitability for buildings with basements is not limited (see Table 4 and Map 8).

In 2009, the Wisconsin Geological and Natural History Survey published a report estimating the existing groundwater recharge rates in Dane County based on the soil water balance method. The study estimates the existing groundwater recharge rate in the amendment area to be 9 to 10 inches per year (see map 10)

Archaeology

The Wisconsin State Historical Society (WSHS) reviewed the amendment location and estimated that the likelihood of significant archaeological sites to be low. (See attached letter) However, it is recommended that an on the ground archaeological survey of the amendment area be performed by a qualified archaeologist. When ground disturbing activities, or potentially ground disturbing activities, are planned, please contact Chip Brown at 800-342-7834 or chip.brown@wisconsinhistory.org at the Wisconsin Historical Society to be in compliance with Wis. Stat. §157.70.

Land Use. The majority of the amendment area is in agricultural use, with the exception of 0.8 acres in right-of-way, 1.4 acres of woodland, and 1.3 acres occupied by a water tower.

Land uses adjacent to the amendment area are as follows:

North: Agriculture (Village of Cambridge), Agriculture (Town of Christiana)

South: Residential (Village of Cambridge)

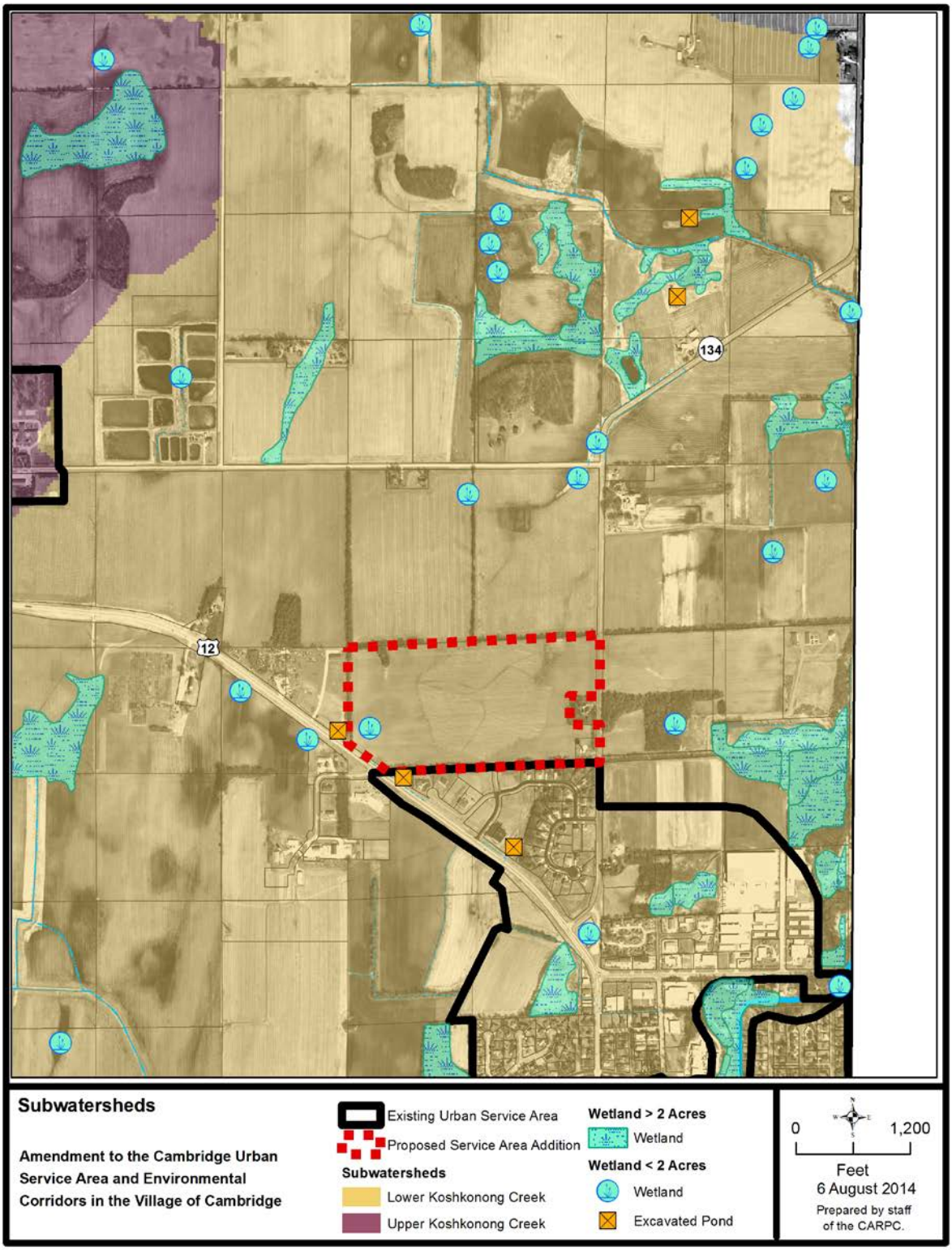
Southeast: Agriculture (Town of Christiana)

East: Agriculture and Single-Family Residential (Town of Christiana)

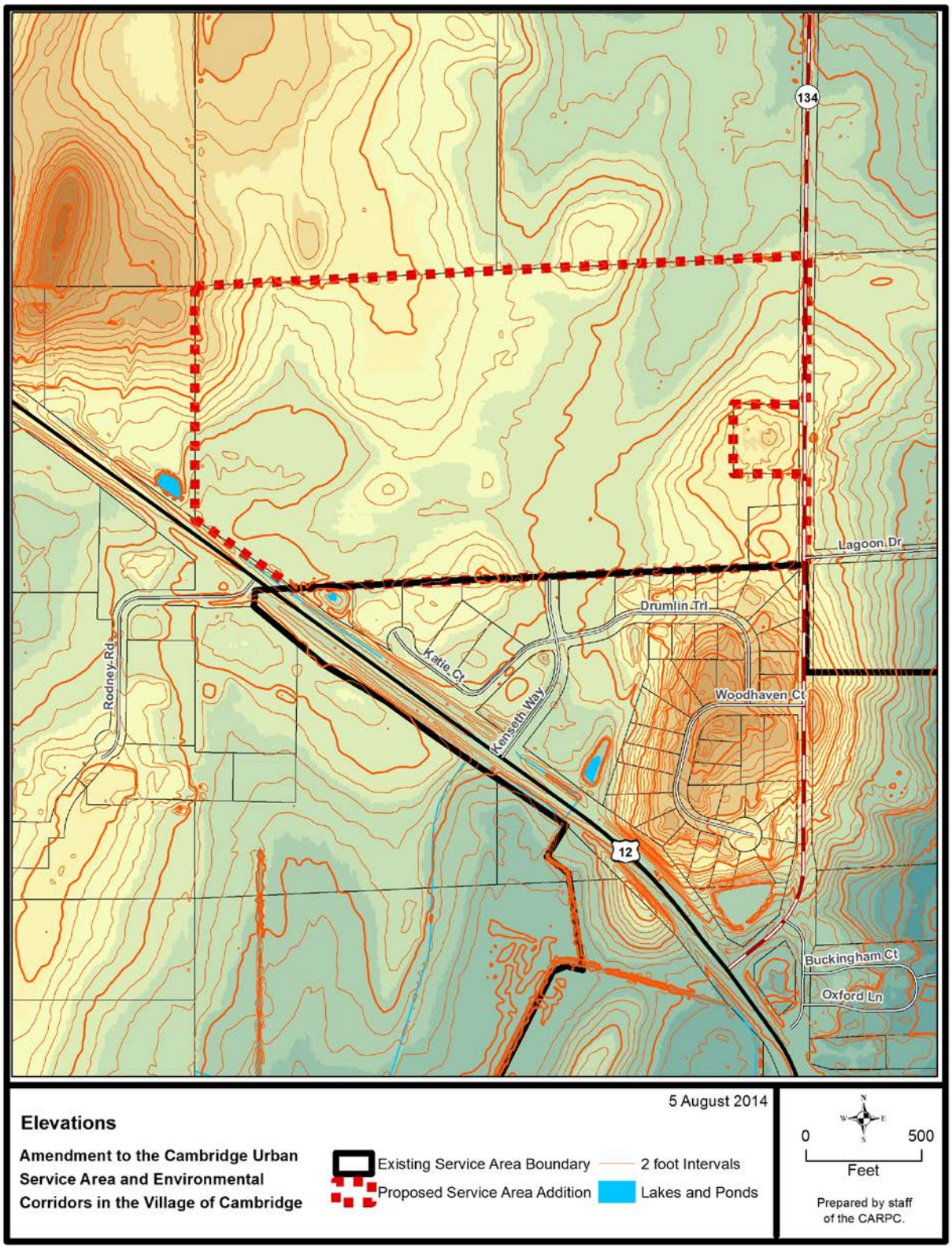
West: Agriculture and Commercial (Town of Christiana)

Transportation System. The Wisconsin Department of Transportation estimates average daily traffic (ADT) counts on adjacent roadways as follows: 11,700 ADT along Hwy 12/18 south of the site, 5,900 ADT eastward along Jefferson St. (Hwy 18) through the Village, and 10,100 ADT along W. Main St. (Hwy 12 south to Fort Atkinson). WI-134 east of the proposed amendment carries 840 ADT. The proposal would route commercial traffic off of Hwy 12/18 and residential traffic through the existing residential area south of the amendment site and off of WI-134. Traffic to the winery in the northwest of the site would travel through the residential areas from the arterial roadways (south and east). The developer and Village of Cambridge are in the process of negotiating accommodation for a deceleration/turn lane along WI-134 to access the development. Likewise, the applicant and developer have been in communication with WISDOT regarding provisions along HWY 12/18.

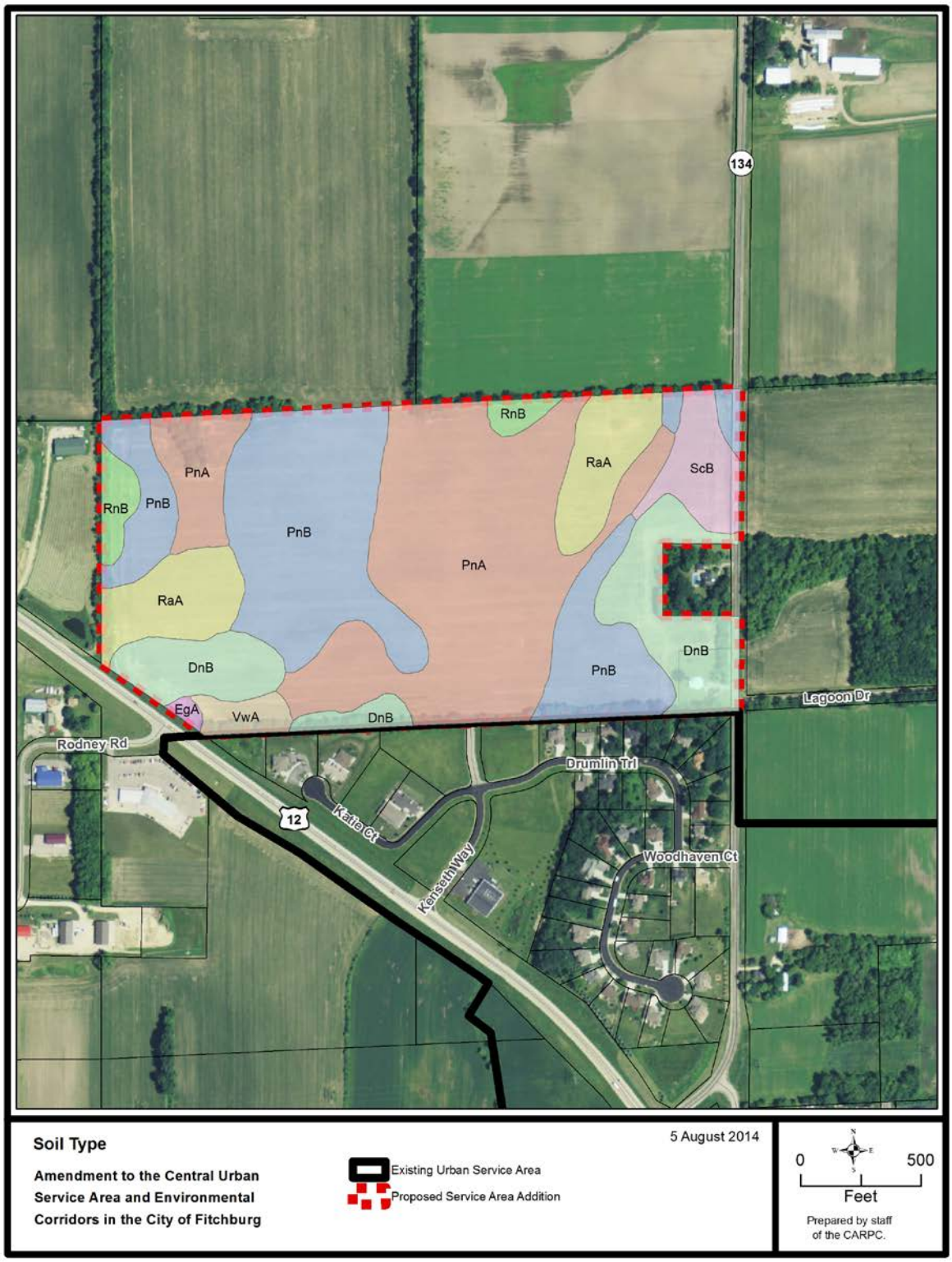
Map 5


134
12
Subwatersheds
Amendment to the Cambridge Urban Service Area and Environmental Corridors in the Village of Cambridge
Existing Urban Service Area
Proposed Service Area Addition
Subwatersheds
Lower Koshkonong Creek
Upper Koshkonong Creek
Wetland > 2 Acres
Wetland
Wetland < 2 Acres
Wetland
Excavated Pond
0
1,200
Feet
6 August 2014
Prepared by staff of the CARPC.

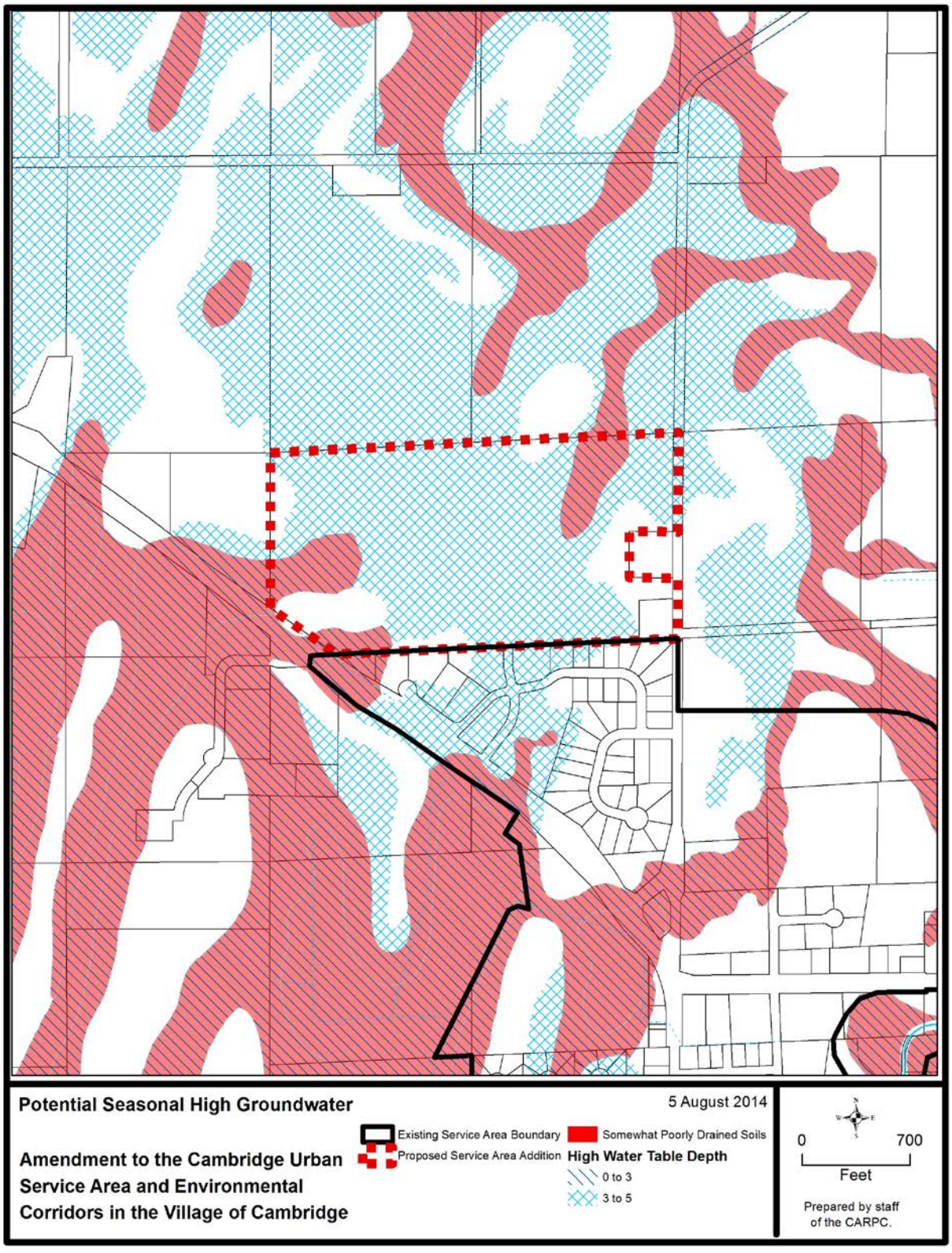
Map 6


134
Lagoon Dr
Drumlin Trl
Katie Ct
Kenseth Way
Rodney Rd
Woodhaven Ct
12
Buckingham Ct
Oxford Ln
5 August 2014
Elevations
Amendment to the Cambridge Urban Service Area and Environmental Corridors in the Village of Cambridge
Existing Service Area Boundary
Proposed Service Area Addition
2 foot Intervals
Lakes and Ponds
N
W
E
S
0
500
Feet
Prepared by staff of the CARPC.

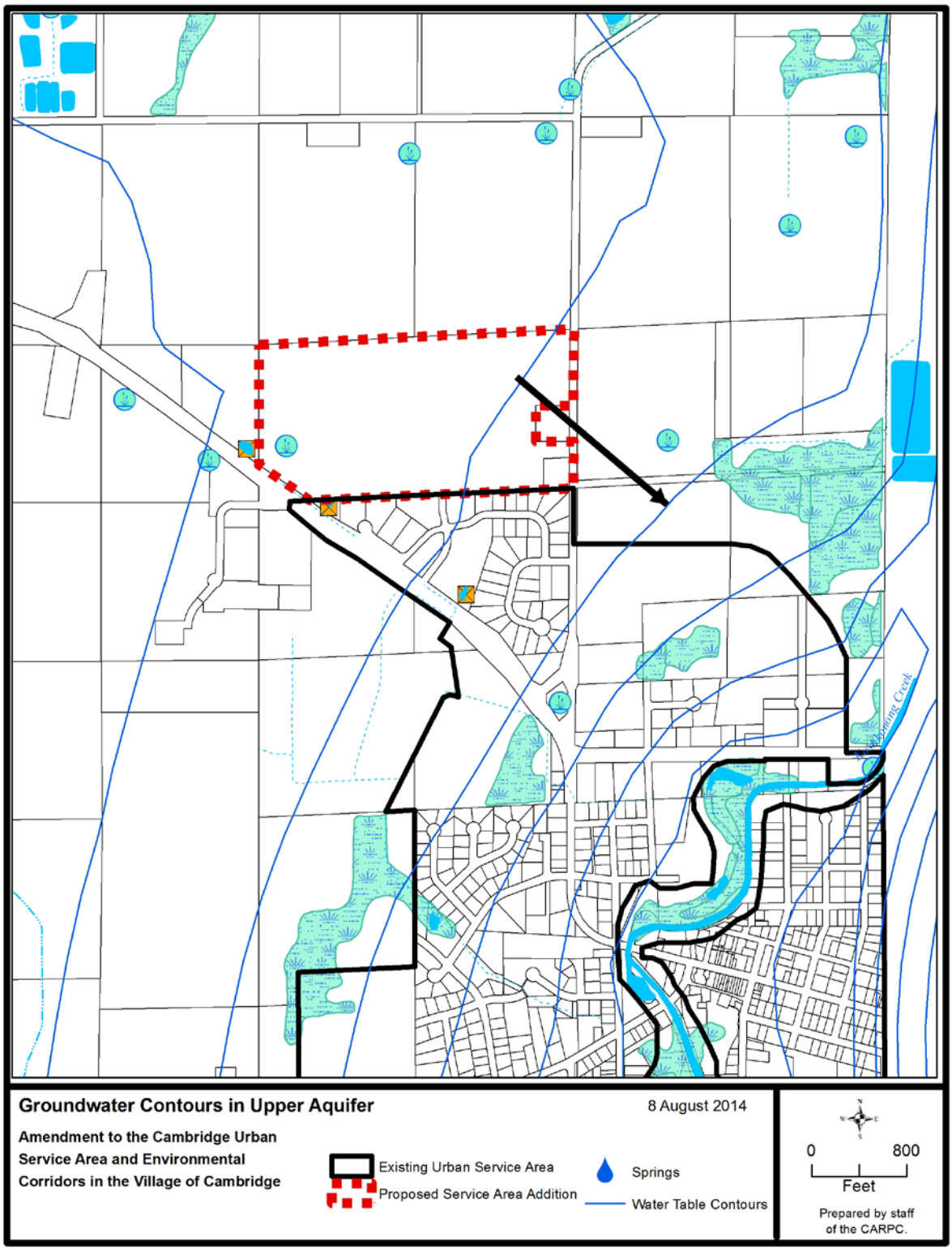
Map 7


134
RnB
PnA
RnB
PnB
PnB
RaA
ScB
PnA
RaA
DnB
PnB
DnB
EgA
VwA
DnB
Lagoon Dr
Rodney Rd
Drumlin Trl
12
Katie Ct
Kenseth Way
Woodhaven Ct
Soil Type
Amendment to the Central Urban Service Area and Environmental Corridors in the City of Fitchburg
5 August 2014
Existing Urban Service Area
Proposed Service Area Addition
0
500
Feet
Prepared by staff of the CARPC.

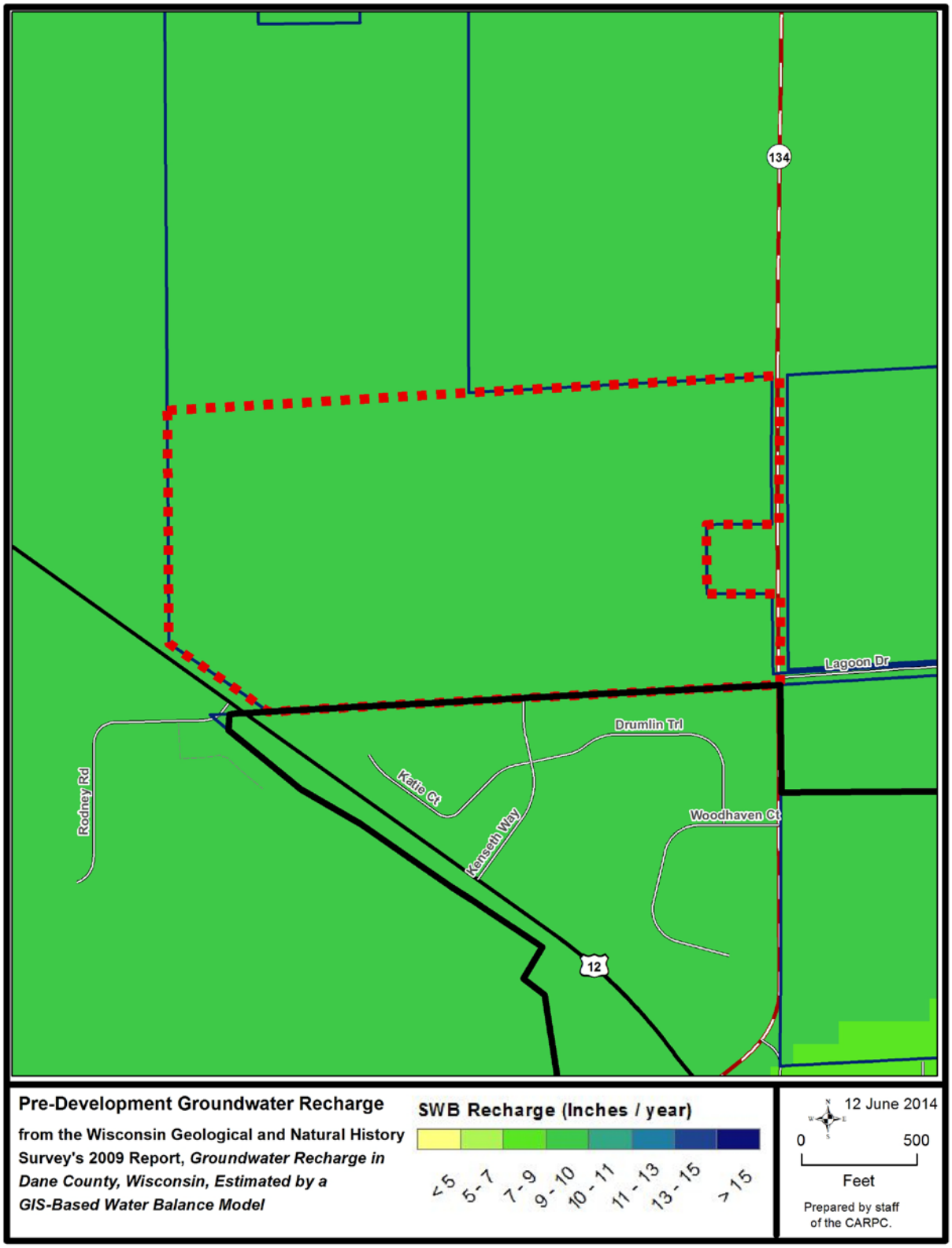
Map 8


Potential Seasonal High Groundwater
5 August 2014
Amendment to the Cambridge Urban Service Area and Environmental Corridors in the Village of Cambridge
Existing Service Area Boundary
Proposed Service Area Addition
Somewhat Poorly Drained Soils
High Water Table Depth
0 to 3
3 to 5
0
700
Feet
Prepared by staff of the CARPC.

Map 9


Groundwater Contours in Upper Aquifer
8 August 2014
Amendment to the Cambridge Urban Service Area and Environmental Corridors in the Village of Cambridge
Existing Urban Service Area
Proposed Service Area Addition
Springs
Water Table Contours
0
800
Feet
Prepared by staff of the CARPC.

Map 10


134
Lagoon Dr
Drumlin Trl
Katie Ct
Kenseth Way
Woodhaven Ct
Rodney Rd
12
Pre-Development Groundwater Recharge
from the Wisconsin Geological and Natural History Survey's 2009 Report, Groundwater Recharge in Dane County, Wisconsin, Estimated by a GIS-Based Water Balance Model
SWB Recharge (Inches / year)
<5
5 - 7
7 - 9
9 - 10
10 - 11
11 - 13
13 - 15
>15
12 June 2014
0
500
Feet
Prepared by staff of the CARPC.

4. Consistency or Conflict With Adopted Plans and Policies

Consistency With Plans.
The amendment proposal is consistent with the *Dane County Farmland Preservation Plan.* The plan identifies the surrounding areas (west, north, and east) as "Farmland Preservation Plan Area." The winery and vineyards provide a suitable transition from the residential component into the adjacent agricultural uses.

The amendment proposal is consistent with the *Village of Cambridge Smart Growth 2025* comprehensive plan (2005). The plan and its future land use map were amended in July 2014 to include low-, medium-, and high-density residential uses, commercial and agriculture uses in the locations proposed, bringing this amendment into compliance with the Village's long-range planning documents.

There is no conflict with the *Dane County Park and Open Space Plan.*

Consistency With CARPC's Advisory Goals and Objectives. The Capital Area Regional Planning Commission has adopted 14 goals as part of the advisory *Dane County Land Use and Transportation Plan.* The amendment request is evaluated with respect to each of these goals based on CARPC staff's professional judgment, since the plan does not provide any metrics or indicators for this evaluation. Two of the CARPC's Advisory Goals are supported by the amendment. Six additional goals are somewhat supported, two of which have offsetting factors limiting the extent of their support. The amendment is neutral with respect to six goals.

1. ***Promote the development of balanced communities throughout the county with sufficient commercial, industrial, residential, and open space land to meet the needs of existing and future residents.***

   The proposed development somewhat supports this goal.

   The proposal includes housing options in a variety of configurations and densities (≅110 dwelling units at:). Residential areas are adjacent a 1.0 acre park site, a 1.0 mile bicycle loop trail, and roughly 14 acres of green space (in the form of open lands as well as stormwater management). It also provides a 7.0 acre mix of commercial office and retail.

   No retail market analysis was provided with the proposal.

   Housing market data provided by the applicant indicated the sale of 16 new, single-family homes (one half of which were built by Veridian) in the $225,000—275,000 range between January, 2014 and May, 2014.[1] Regarding the market demand for condominiums, the applicant cited "few" condos currently being developed in Madison market and "even less" in the suburbs.

   The applicant does point out the uniqueness of the winery/vineyard-cum-residence development with regards to both housing and retail market appeal.

   The Village has waived the remaining portion of their park dedication requirement of 1,423 sq. ft. per dwelling unit (≅3.6 acres for the proposal)—as well as any additional fee-in-lieu-of payments—accepting the proposed 1.0 acre park site and bicycle facilities as sufficient.

[1] Source not cited.

2. ***Promote compact urban development in new areas adjacent to existing urban areas and in the redevelopment or infill development of existing neighborhoods.***

   The proposal only somewhat supports this goal due to offsetting effects with respect to density.

   The proposed single-family residential densities are lower than those throughout the Cambridge Urban Service Area. The single-family residential density proposed is for 2.9 dwelling units per acre (du/acre). Single-family residential density in Cambridge is currently 3.3 du/acre. However, the proposed total build-out for multi-family residential (13.1 du/acre) is over twice the currently documented multi-family density (5.6 du/acre) in the Urban Service Area. Averaged density across the site would be 5.4 du/acre.

   While the proposal does not include any infill development, it is immediately adjacent to existing residential development of a similar density as well as to the Cambridge Urban Service Area.

3. ***Promote the development of functionally and visually distinct communities encouraging compact, mixed-use neighborhoods and the efficient provision of a full range of public services.***

   The proposed amendment somewhat supports this goal.

   By virtue of the vineyard/winery, the proposed development would be programmatically unlike any other neighborhood in Dane County. However, no information or indication was given in the application materials suggesting visual distinctiveness with regards to building materiality or form nor neighborhood design.

   The proposal is somewhat mixed in its approach to compactness and mixture of use. While the proposal covers a wide range of densities, development is on extreme ends of the spectrum, falling into three general categories: large-lot residential (ranging from 10,000—25,000 sq. ft.), high-density, multi-family residential (those exceeding the Village of Cambridge's definition of 6—12 du/acre) and what are programed as highway commercial/retail buildings (to be completed in a future phase). The high-density residential lots are present adjacent low-density or agriculture areas. Likewise, high- and low-density residential are present adjacent one another in the proposed plan. From a design standpoint, fast transitions between dissimilar land uses must be managed carefully. The applicant and developer are encouraged to investigate visual transitions between these areas to ensure a cohesive and elegant cross-section through the site.

   The amendment proposes a full range of public urban services.

4. ***Provide a full range of safe and affordable housing opportunities and choices for all residents throughout the county.***

   The proposed amendment somewhat supports this goal.

   As mentioned previously, the proposal includes a broad range of housing types. Single-family price-points are estimated between $225,000 and $275,000. Price-points for the condominiums and apartments were not given in the application material.

5. ***Provide an integrated, all-mode transportation system which offers the efficient, effective and safe movement of people and goods, and provides mode choice wherever possible while enhancing and, where relevant, preserving the character and livability of the neighborhoods and residential areas where transportation facilities are located.***

   The amendment is neutral with respect to this goal.

   Although bicycle and pedestrian infrastructure are included on portions of the site, the site exists at the periphery of Cambridge and there are few, if any, connections between these facilities and a wider system of transportation alternatives. In the case of pedestrian infrastructure, sidewalks are only required along non-cul-de-sac residential streets.

   Bicycle facilities are present in the proposal and would be connected to a longer, recreational trail, providing a means of recreation and travel to and from the site.

   No public transportation is available in Cambridge.

   Given the rural nature of Cambridge and peripheral location of the amendment area, large-scale infrastructure for transportation alternatives is financially and functionally unrealistic. However, limited efforts to connect non-motorized transportation modes (bicycling and walking) from the site to the center of Cambridge may be feasible.

6. ***Encourage concentration of employment and activity centers at nodes and along transit corridors to maximize the efficiency of the existing and future transportation system.***

   The amendment somewhat supports this goal.

   The proposed amendment proposes a range of uses and a high number of jobs (relative to the population of Cambridge) on the site. The site is located along a major transportation corridor, although no transit is currently planned in the vicinity.

7. ***Support and maintain the central urban core as the region's major activity center and seek greater diversity and vitality in that area.***

   The amendment neither supports nor conflicts with this goal. The proposed development would have no significant impact on the central urban core as the region's major activity center, though there are, admittedly, no wineries in Madison.

8. ***Promote an economic development strategy that will provide suitable employment opportunities and a stable and diversified economic base.***

   The proposed amendment area supports this goal.

   As mentioned previously, the development proposal would add a large (relative to Cambridge's population) number of jobs. The applicant estimates initial total employment at 40 and at 68 once fully developed.

9. ***Protect agricultural lands and limit non-farm developments in order to maintain the county as one of the nation's most productive agricultural areas.***

   The proposed amendment has offsetting effects, it somewhat supports this goal.

   While the land is currently almost exclusively agriculture, the proposal does maintain around one third of the original acreage in high value-added agriculture. The application outlines a number of ways in which the presence of the agricultural component (vineyard/winery) is leveraged in the interest of creating a unique experience for residents and visitors. The development raises the visibility (i.e. the importance) of agriculture through these boutique/tourism functions. Tourism is one market that the Village of Cambridge has been pursuing as a part of their economic development strategy. Rowe Pottery Works, located 0.6 miles from the proposed amendment area, is a strong example of the level of regional draw that Cambridge may create through the vineyard/winery concept.

10. ***Promote planning and design that preserves and restores environmental functions and protects important environmental, cultural and historic resources.***

    The amendment is neutral with regard to this CARPC goal as there are no elements proposed to preserve and restore and protect environmental functions other than meeting the required stormwater management standards.

11. ***Develop and promote a countywide system of open space corridors as a framework to protect the natural environment and scenic values, and provide outdoor recreation opportunities.***

    The amendment is neutral with respect to the goal of promoting a countywide system of open space corridors. The area proposed for environmental corridors in this amendment area is designated for stormwater management.

12. ***Promote, conserve and restore all water resources in the region as to both quality and quantity.***

    The proposed amendment supports this CARPC goal by proposing stormwater standards and BMPS that will conserve water resources.

13. ***Promote a sustainable capital area region. A sustainable region is one that is far-seeing enough, flexible enough, and wise enough to maintain and enhance its physical, environmental, and social systems of support.***

    This amendment is neutral with respect to this CARPC goal. The applicants have identified no specific sustainability elements in the proposal.

14. ***The CARPC shall work with communities to update the Dane County Water Quality Plan. In addition to the elements required by NR 121 of the Wisconsin Administrative Code, the Plan shall also define areas that can be developed with measures to protect, restore or minimize degradation of water quality.***

    The Village of Cambridge has not participated in the FUDA planning process. The Village may wish to consider these or other urban design services and assistance provided by CARPC staff.

Contiguity. The proposed amendment meets the CARPC criteria for contiguity with existing urban service areas. The proposed expansion is contiguous to the existing Cambridge Urban Service Area to the south.

Staging. CARPC policies require that service area expansion requests containing over 100 acres of developable land include 10-year staging boundaries. The proposed amendment only adds 75.7 acres to the Cambridge Urban Service Area.

Need. The currently adopted population projection for the Cambridge Urban Service Area in 2035 is 2,011, and the land demand projection is 65 additional developable acres. The proposed amendment adds 42.4 developable acres, less than the anticipated land demand for the Cambridge Urban Service Area. The development will accommodate 44 new single family housing units and up to 66 multi-family units.

The last amendment to the CUSA was an addition of 2.9 developable acres approved by the Wisconsin Department of Natural Resources on April 15, 2013.

5. Proposed Urban Services

Public Water System. The Village of Cambridge Water Utility will provide public water service to the proposed amendment area.

Cambridge Water System

Public water service to the amendment area will be provided via a water main connected to the water tower in the southeast corner of the amendment area. The proximity to the Village water storage tank assures the delivery of adequate fire flow

All of the development area will be served by public water facilities, including the winery buildings. A private well is proposed for irrigation of the grapes.

Projected Demand

The Village estimates that for the approximately 134 dwelling units in the amendment area, the Winery and the commercial land, water use will be about 56,400 gallons of water per day (equal to 39 gpm). The peak demand is estimated at 156 gpm. This assumes 300 gallons per household per day, commercial and winery demand at 1,500 gpd, and a peaking factor of four.

The CARPC criterion for water supply is for the system plan to be able to provide the peak water demand plus 2,500 gpm for fire protection for 2 hours with the available firm pumping capacity and storage. CARPC staff has determined that the water system is currently capable of meeting the CARPC water supply criterion.

Wastewater. When fully developed the 134 dwelling units, the winery and the mixed use residential area are estimated to add a hydraulic loading of approximately 48,000 gallons of wastewater per day. This assumes 3 persons per dwelling unit and 80 gallons of wastewater per capita per day. It also assumes a total of 10.8 acres of occupied winery area and mixed use area at 1,500 gallons per acre per day. The peak flow rate will increased by 134 gpm using a peaking factor of 4.

The collection system discharges to a sewage pumping station at the intersection of Kenseth Way and U.S. highway 12. The pumping station equipment and controls and the forcemain will require upsizing to handle the sewage generated by the proposed development.

Wastewater Treatment

The Cambridge –Oakland Wastewater Regional Treatment Plant will provide wastewater treatment for the amendment area. The plant has a rated capacity of 0.571 mgd and currently has an average flow of 0.32 mgd. The additional 0.048 mgd from the proposed amendment area is well within the capacity of the plant.

Stormwater Management System. The Village has proposed stormwater management standards that meet or exceed the performance standards required by the State of Wisconsin (NR 151), Dane County (Chapter 14), and the City of Madison (Chapter 37) stormwater regulations as follows:

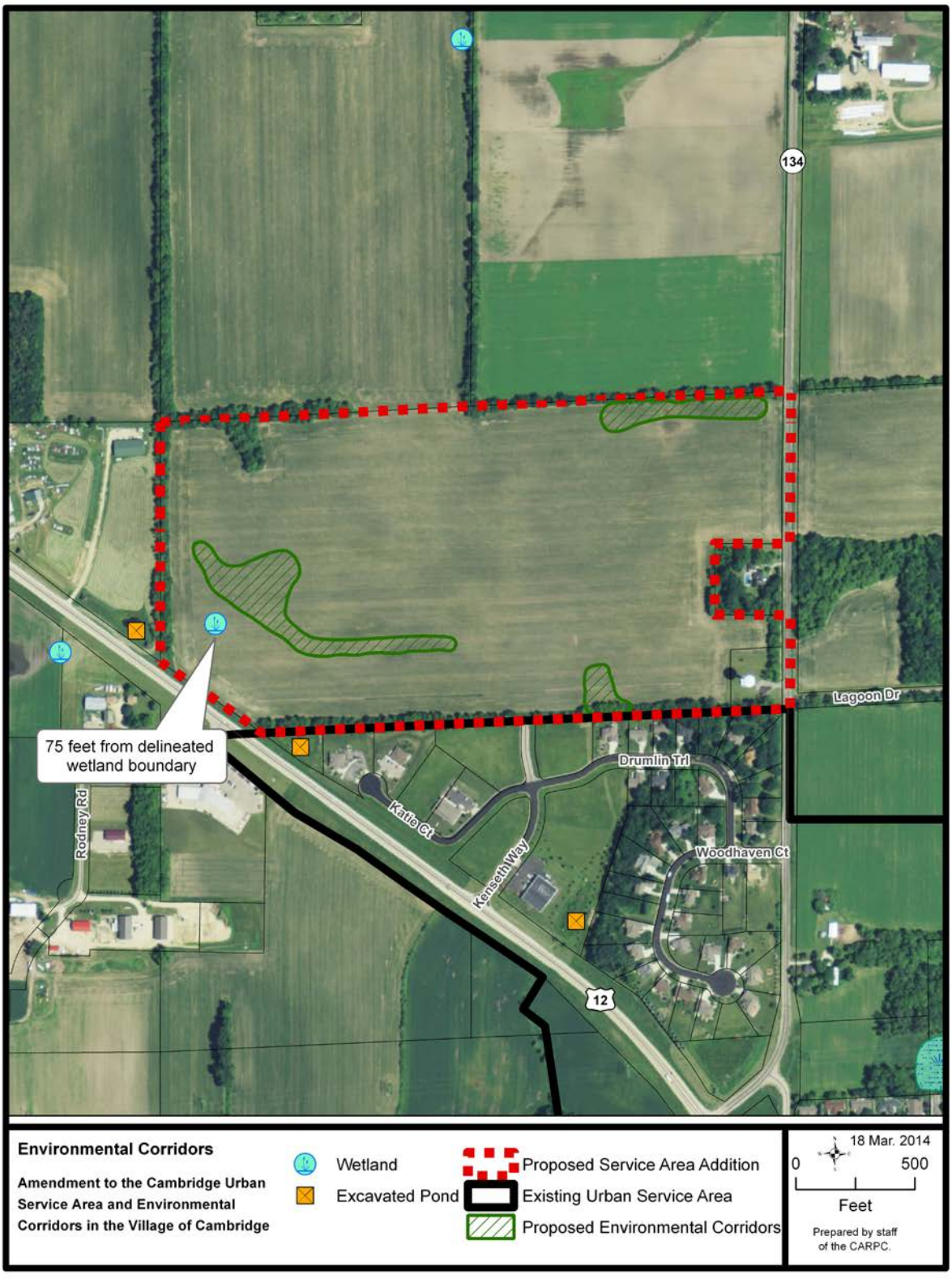
1. Require post-construction sediment control (reduce total suspended solids leaving the site by at least 80%) for the average annual rainfall basis (State of Wisconsin and City of Madison standard), with a minimum of 60% of that control occurring in a retention pond prior to infiltration.
2. Require post-construction peak runoff rate control for the 1, 2, 5, 10 and 25-year, 24-hour design storms to no more than pre-development peak runoff rates. Safely pass the 100-yr 24-hour storm.
3. Require post-development stay-on of 90% of pre-development stay-on volumes for the average annual rainfall, as defined by WDNR. This is the same standard as the Dane County Ordinance and exceeds the requirements in NR 151.
4. Maintain pre-development groundwater recharge rates from the Wisconsin Geological and Natural History Survey's 2009 report, *Groundwater Recharge in Dane County, Wisconsin, Estimated by a GIS-Based Water-Balance Model* (9.5 in./yr. for this amendment area) or by a site specific analysis.

Environmental Corridors. The proposed amendment area includes 5.16 acres of environmental corridors for stormwater management areas. There is an unmapped wetland within the amendment area which needs to be delineate by a surveyor participating in WDNR's assurance program. The resulting wetland delineation and a 75-foot vegetative buffer should be designated as environmental corridors, consistent with the requirements of the *Dane County Water Quality Plan*. As this is a farmed wetland it is likely that a 75 vegetated buffer will adequately preserve the wetlands function. [See: Map 11]

Public Safety Services. The proposed amendment meets the CARPC criteria and standards for provision of a full range of urban public safety services. The Village of Cambridge has an ISO rating of 4 and a response time of 6 minutes from the moment a page is sent from Dane County Communications. EMS response times are estimated to be faster due to a full-time staff at the station. The proposed amendment area is roughly 0.3 miles from the EMS station. The Cambridge Police Station is located 4.9 miles from the site and the Deerfield Police Station is located 4.9 miles from the site. Additional law enforcement is provided by the Dane County Sherriff's Department, which contributes four deputies whose patrol areas cover Cambridge.

Street and Sanitation Services. The Village of Cambridge contracts with Advanced Disposal to provide collection of solid waste and recyclables year round. The Village provides yard waste collection as well as street repair.

Map 11 – Environmental Corridors



School and Park Facilities. The amendment area is located 1.4 miles from Cambridge Elementary, 1.2 miles from Nikolay Middle School , and 1.3 miles from Cambridge High School. The applicant reports that the school system is currently underpopulated and the district would welcome additional enrollment.

The amendment area will be served by several nearby parks:

- Cambridge Wildlife Preserve and Fishing Ponds—0.3 miles to the west
- Westside Park—0.9 miles
- Camrock Park—2.0 miles to the south
- Veteran's Park ("Cambridge Village Square")—1.1 mile east along Main St.
- Foundation Park on Lake Ripley—3.0 miles

There are five additional parks locations within 4 miles of the amendment area.

Urban Transportation System. The conceptual street plan connects with an existing, residential street to the south(Kenseth Way), with Highway12/18 by way of a commercial turn-in to the southwest of the site and with Hwy-134 to the east. All streets in the plan will be public and be constructed with a combination curb and gutter. Residential streets in the plan excluding cul-de-sacs will be built with sidewalks . All roadways will conform with the Village's street design standards.

Village of Cambridge Street Design Standards

Street Classification	*Minimum Right-of-Way*
Arterial (median-divided)	Not less than 86'
Arterial (single roadway)	Not less than 66'
Collector	Not less than 66'
Local/Minor	Not less than 60'
Cul-de-Sacs	Total diameter 120'; Roadway diameter 90'
Minimum roadway width	36'

Bicycle facilities will not be provided on roadways, but a 1.0 mile loop trail will ring the site and connect to the nearby CamRock bicycle trail. The Village recently obtained a $146,000 Dane County PARC grant to extend the bike trail from CamRock Park north through the Village up to Hwy 134 (east of the amendment area).

Public transportation services are not available in Cambridge.

6. Impacts or Effects of Proposal

Surface Water. Development typically creates impervious surfaces (i.e., streets, parking areas, and roofs) and alters the natural drainage system (i.e., natural swales are replaced by storm sewer) resulting, if not mitigated, in increased stormwater runoff rates and volumes, as well as reduced infiltration. Unmanaged development can also cause substantial short-term soil erosion and off-site siltation from construction activities. Scientific research has well documented that, without effective mitigation measures, the potential impacts of development on receiving water bodies can include:

- Flashier stream flows (i.e., sudden higher peaks)
- Increased frequency and duration of bankfull flows
- Reduced groundwater recharge and stream base flow
- Greater fluctuations in water levels in wetlands

- Increased frequency, level (i.e., elevation), and duration of flooding
- Additional nutrients and urban contaminants entering the receiving water bodies
- Geomorphic changes in receiving streams and wetlands
- Increased water temperatures

Natural drainage systems attempt to adapt to the dominant flow conditions. The frequency of bank-full events often increase with urbanization and the stream attempts to enlarge its cross section to reach a new equilibrium with the increased channel forming flows. Higher flow velocities and volumes increase the erosive force in a channel, which alters streambed and bank stability. This can result in channel incision, bank undercutting, increased bank erosion, and increased sediment transport. The results are often wider, straighter, sediment laden streams, greater water level fluctuations, as well as loss of riparian cover, and shoreland and aquatic habitat.

Stormwater runoff carries soil particles, nutrients, and contaminants that can change the ecological balance of the receiving water body. Changes in the volume, rate, frequency, or duration of stormwater entering or discharging from the water body can also change the ecological integrity.

If left unmanaged, these changes in hydrology, combined with increased urban pollutant loading, can have a dramatic effect on the aquatic ecosystem of streams. It is important to realize that flow is a major determinant of the physical habitat in a stream, which in turn determines the biotic composition of stream communities. A growing body of literature documents that channel geomorphology, habitat structure, and complexity are determined by prevailing flow conditions, which in turn determine the biota that can inhabit the area. This is true for the fish as well as the aquatic insects upon which they feed. Studies of streams affected by urbanization have shown that fish populations either disappear or become dominated by rough fish that can tolerate the associated lower water quality levels.

The Village proposes to mitigate the urban non-point source impacts of the proposed development by implementing stormwater best management practices that are designed and constructed in accordance with performance standards that meet or exceed current minimum standards. The proposed stormwater best management practices will reduce the impacts of the proposed development and should partially address the potential impacts on the receiving waters.

Groundwater. An important potential impact associated with urban development is declining groundwater levels, resulting from groundwater pumping and discharge of treated wastewater to surface water systems. In addition, the expansion of impervious surfaces associated with development can cause the ground water - surface water balance in streams and wetlands to shift from a groundwater-dominated system to one dominated more by surface water runoff, with subsequent reductions in stream quality and transitions to more tolerant biological communities. If left unmanaged, this can cause a reduction in stream baseflow and spring flow.

The groundwater impacts of the proposed development can be partially mitigated by maintaining the pre-development groundwater recharge rate. The pre-development groundwater recharge rates have been determined in the Wisconsin Geological and Natural History Survey 2009 report, *Groundwater Recharge in Dane County, Wisconsin, Estimated by a GIS-Based Water-Balance Model.*

Transportation System Impacts. Based on Institute for Transportation Engineers (ITE) daily average trip rates and the detail provided in the application, the land uses in question may produce somewhere in the range of 1,200—1,350 average daily trips. Actual traffic generation may vary and a professional traffic engineer may need to be consulted.

School System Impacts. Extrapolating from the 2010 Census count of children, children by household type, and the proportions of elementary, middle, and high-school aged children to the total population of Cambridge, the development may generate around 50 students. This would be roughly 17 elementary school, 19 middle school, and 12 high school aged children. The applicant reports that the Cambridge school system is currently under-capacity and would welcome a boost in enrollment. The Cambridge School District has approximately 923 students who come from the Villages of Cambridge and Rockdale as well as from 7 area townships.

7. Alternatives

While there are a handful of smaller, vacant properties identified in the 2010 land use survey, there is no suitable location currently within the urban service area that fits the programmatic requirements of this proposal. The winery and "estate" home configuration demands a larger footprint than could be provided in any configuration of currently available lots. Moreover, the agricultural (winery and vineyard) components of the proposal are at odds with any siting but at the periphery of the Village, adjacent to other agricultural uses. As this project is a Village –led venture, sites are further limited to those currently owned or obtainable by the Village.

8. Controversies, Comments Received, Unresolved Issues

A public hearing before the Capital Area Regional Planning Commission is scheduled for 7:00 p.m. on September 11, 2014 at the City of Fitchburg, 5520 Lacy Road Fitchburg, WI. The Town of Christiana has been notified of the application. No comments have been received as of the publication of this staff analysis.

9. Conclusions and Staff Recommendation

The proposed amendment would add 42.4 developable acres to the Cambridge Urban Service Area (68.4 acres less the 26.0 acres designated as vineyard which will be protected from future development pursuant to condition "g" below.) This is lower than the 2035 land demand projection. Cambridge's total, projected 2035 land demand is 617 acres, 65 acres of which is currently unsatisfied.

The proposed amendment supports the CARPC goal of conserving water resources by proposing protective stormwater standards and BMPs. The amendment also supports the goal encouraging economic development, suitable employment opportunities and a stable and diversified economic base.

There are a number of goals that are only somewhat supported due, in part, to the seemingly incongruous program of the site. Densities at opposite ends of the spectrum, unique land use adjacencies (e.g. agriculture/multi-family residential, large lot residential/multi-family residential, and commercial office/agriculture); and unarticulated building massing, appearance, and transitions[2] all have an offsetting effect on what could otherwise be strong support of the advisory goals. The winery and vineyard neighborhood is

[2] The Village staff, developer, and designer(s) involved in this proposal may have already addressed many of these issues. However, these details were not disclosed in the application submitted to the CARPC.

a very compelling design idea and it has the potential to be a very unique, cohesively designed neighborhood. However, it is also potentially problematic given the number, mixture, and wide ranging scales of the land uses.

The Village has proposed a stormwater management plan for this amendment that meets or exceeds the performance standards in NR 151 and the Dane County Chapter 14. This includes peak flow rate control for a wide range (1-yr, 24-hr to 25-yr, 24-hr) of design storms and 90% of pre-development stay-on for volume control. The proposed stormwater best management practices will reduce the impacts of the proposed development and should partially address the potential impacts on the receiving waters.

CARPC staff recommends approval of this amendment, based on the land uses and services proposed and conditioned on the Village of Cambridge's commitment to pursuing the following:

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

    a. Install erosion and sediment control practices prior to other land disturbing activities. Protect infiltration practices from compaction and sedimentation during land disturbing activities.

    b. Control peak rates of runoff for the 1, 2, 10, 25-yr 24-hour design storms to no greater than "pre-development" levels in accordance with existing ordinances.

    c. Safely pass the 100-yr 24-hour design storm.

    d. Provide water quality control (based on at least 80% sediment control) for the amendment area in accordance with existing ordinances.

    e. Maintain the post development stay-on volume at 90% of the pre-development stay-on volume for the one-year average annual rainfall period, as defined by WDNR.

    f. Maintain pre-development groundwater recharge rates from the Wisconsin Geological and Natural History Survey's 2009 report, *Groundwater Recharge in Dane County, Wisconsin, Estimated by a GIS-Based Water-Balance Model* (9.5 in./yr. for this amendment area) or by a site specific analysis.

    g. Land designated as vineyard by the proposal *is not being counted against* the Village of Cambridge's developable acreage Any future development of the 26.0 acres designated as vineyard will require approval of the land use change by CARPC.

It is also recommended that the Village pursue the following:

1. Because ground disturbing are proposed for this area, please contact Chip Brown at 800-342-7834 or chip.brown@wisconsinhistory.org at the Wisconsin Historical Society to be in compliance with Wis. Stat. §157.70.
2. Staff urges the Village and developer to continue their work together and urges them to think through the design challenges cited above. The complexity of these land use combinations will necessitate visualizing the elements of the plan in section as well as three dimensions—considering massing, relationships, etc.—prior to refining precise site measurements and geometries.
3. Staff also recommends that the Village and their developer carefully consider the design of the *transitions* between the uses and spaces that are being proposed so as to avoid any unnecessary visual or programmatic disconnect. To do otherwise may result in missed opportunities with this evocative neighborhood concept.
4. Staff further encourages the Village and their developer to continue their investigation of this design opportunity through the use of distinctive materiality and form. This will help articulate the uniqueness of this neighborhood, distinguish it from the status quo, and craft a cohesive whole made up of (seemingly) disparate parts.

Attachments

WISCONSIN
HISTORICAL
SOCIETY

August 8, 2014

Sean Higgins
Capital Area Regional Planning Commission
City-County Building, Room 362
210 Martin Luther King Jr. Boulevard
Madison, WI 53703-2558

RE: Winery at Cambridge Urban Service Area Application

Dear Mr. Higgins:

No previously recorded archaeological sites or cemeteries are recorded within proposed Winery at Cambridge urban service expansion area. The only surveys within the proposed expansion area are right-of-way survey along USH 12 on the far southwestern corner of the proposed service area (WHS #92-0857) and along STH 134 on the east boundary of the proposed service area (WHS #14-0231). No sites were found in or near the proposed Winery during either survey.

Even though the expansion parcel has not been surveyed for archaeological sites, it is our office's determination that the probability of significant archaeological resources on the parcel is low. We do not recommend archaeological survey.

Please note that under Wisconsin law, Native American burial mounds, unmarked burials, and all marked and unmarked cemeteries are protected from intentional disturbance. If anyone suspects that a Native American burial mound or an unmarked or marked burial is present in an area, the Wisconsin Historical Society should be notified. If human bone is unearthed during any phase of a project, **all work must cease**, and the Wisconsin Historical Society **must be contacted** at 1-800-342-7834 to be in compliance with Wis. Stat. 157.70 which provides for the protection of all human burial sites. **Work cannot resume until the Burial Sites Preservation Office gives permission.** If you have any questions concerning the law, please contact Mr. Chip Brown, 608-164-6508.

If you have any questions, or if you need additional information, please feel free to contact me.

Sincerely;

John H. Broihahn
State Archaeologist
State Archaeology and Maritime Preservation
608-264-6496
John.broihahn@wisconsinhistory.org
(Northeast Neighborhood 1 and 2 4/2014)