
Staff Analysis of Proposed Amendment to the
Dane County Water Quality Plan
**Revising the Sewer Service Area Boundary and Environmental
Corridors in the River Road Limited Service Area**
“Hope Ct & Tuggle Ln”

History of the River Road Limited Service Area

The area that is now the River Road Limited Service Area (LSA) was originally established as a sewer service area within the Central Urban Service area in 1979 (Resolution No. 213). In the early 1990s, the portion along River Road was designated by Dane County Regional Planning Commission (DCRPC) as the River Road Limited Service Area. Around the same time, an area that had been contemplated for sewer development, referred to as the “River Ridge Run Plat”, was removed from the sewer service area, leaving the two disconnected areas that currently comprise the River Road LSA—which specifically includes the areas near the intersections of River Road/Tuggle Lane and River Road/Gilkeson Road (see **Map 1**).

Current Amendment

The Town of Westport is requesting an amendment to the River Road LSA north of the Yahara River, near the Village of Waunakee and the City of Madison. This proposed amendment seeks to add portions of two parcels to the River Road LSA, providing the ability to receive public sanitary sewer service to each (see **Map 2**). The first amendment area, referred to as “Area #1”, is located at the westerly end of Hope Ct and is a vacant parcel seeking to construct a single-family residential unit and connect to public sewer located within Hope Court. The second amendment subarea, referred to as “Area #2”, is located at the southerly end of Tuggle Lane which currently has an existing single family residential property served by private onsite septic seeking to connect to public sewer located at the rear of the property.

Existing Conditions

Land Use

Area #1 consists of vacant subdivided lands proposed for single-family development. Area #2 consists of an existing single-family residential home (see **Map 3 and 4**¹). No new development or redevelopment activities are planned in Area #2. Refer to **Table 1** for existing and planned land uses.

Area #1 – Surrounding Planned Land Uses:

- **North & West:** Rural Preservation (Ag.), Community Residential
- **East:** Existing Residential, Institutional
- **South:** Existing Residential, Community Residential

Area #2 – Surrounding Planned Land Uses:

- **North:** Existing Residential, Institutional
- **West & South:** Existing Residential, Open Space / Parks
- **East:** Water body

Table 1
Existing and Planned Land Use²

Land Use Category	Area #1		Area #2		Total Area Acres	Existing Housing Units (count)	Proposed Housing Units (count)
	Existing Land Use	Planned Land Use	Existing Land Use Acres	Planned Land Use			
Residential		0.7	0.1	0.1	0.8	1	1
Institutional/ Government							
Woodland							
Other Open Land	0.7		1.0	1.0	1.0		
TOTAL	0.7	0.7	1.1	1.1	1.8	1	1

Note: Area #2 represents a parcel that is partially within the existing LSA.

¹ Existing Land Use (Map 3) and Planned Land Use (Map 4) maps may vary from each other due to varying underlying data sources. Additionally, acreages listed in Table 1 may not visually match Maps 3 and 4 due to variations in mapping and calculation methods.

² Acreages listed in application materials may vary from acreages calculated through mapping in GIS by staff depending upon applicant data sources and mapping methods.

Natural Resources

The amendment areas are within the Lake Mendota-Yahara River (HUC 12: 070900020604) and Cherokee Lake-Yahara River (HUC 12: 070900020504) subwatersheds (see **Map 5**). There is one wetland complex to the south of Area #2 which is hydrologically connected to the Yahara River.

The amendment area is not within a drainage district. Wastewater from the amendment area will be treated at the Madison Metropolitan Sewerage District (MMSD) Wastewater Treatment Facility. The treated effluent is discharged to Badfish Creek, bypassing the Yahara chain of lakes.

Wetlands

WDNR's Wisconsin Wetland Inventory (WWI) shows one emergent / wet meadow wetland within Area #2.

The WWI-mapped wetland, with a minimum 75' vegetated buffer, is required to be designated as Environmental Corridor per the adopted Policies and Criteria for Environmental Corridors ([link to document](#)), as part of the *Dane County Water Quality Plan*. A wetland delineation is recommended for Area #2 if redevelopment occurs here in the future.

In addition to the delineated wetlands within the amendment area, there are also other wetlands near the amendment area. According to the WWI, the wetland area directly to the south of Area #2 is classified as palustrine persistent emergent / wet meadow, broad-leaved deciduous scrub/shrub, and broad-leaved deciduous forest. This wetland complex is associated with the Yahara River.

Floodplains

Area #2 includes 1% annual chance (i.e., 100-year) floodplains associated with the Yahara River. All the 1% annual chance floodplain is included in Environmental Corridors as required by the Policies and Criteria for Environmental Corridors. Areas of 0.2% annual chance (i.e., 500-year) floodplain are also present within Area #2 but do not necessitate inclusion in Environmental Corridors (see **Map 10**).

Yahara River

The runoff from Area #1 drains to the Yahara River and is within the Lake Mendota-Yahara River watershed. The Yahara River (WBIC 798300 / WATERS ID 355202) is 63 miles long and originates in Columbia County, connecting Lakes Mendota, Monona, Kegonsa, and Waubesa. Pollutants of concern in the Yahara River are sediment/total suspended solids and total phosphorus, which have resulted in a degraded habitat and low dissolved oxygen. Total Maximum Daily Loads (TMDL) for total phosphorus and sediment were approved by the US EPA in 2011 for the Rock River Basin. The Token Creek to the headwaters segment (from mile

47.02 to 63.02) is downstream of both amendment areas and supports a Warmwater Sport Fishery (see **Map 5**). This 16-mile segment was listed as an impaired water per Section 303(d) of the Clean Water Act in 2014 for phosphorus. An assessment of chloride in 2016 found levels to be too high and the segment was listed as impaired. This segment was assessed during the 2022 listing cycle and based on sample data chloride was proposed for delisting.

There is a DNR monitoring station (Station ID 133040) downstream of the amendment areas along the Yahara River at State Highway 113 that was last monitored in 2026. Average total phosphorus measurements from 2025 were 0.06 mg/L. Chloride data is not collected at this monitoring station.

Lake Mendota

Lake Mendota is the largest of the Yahara lakes with an average surface area of 9,842 acres. The Lake Mendota watershed is approximately 217 square miles (138,880 acres). The amendment areas comprise less than 1% of the total watershed area.

The lake levels for the Yahara Chain of Lakes, (Mendota, Monona, Waubesa and Kegonsa) are managed by Dane County as set forth in the lake level orders established in 1979 by the WDNR. The orders require lake level coordination of the entire chain of lakes as a system, including the City of Stoughton Dam. The target maximum water level for Lake Mendota is 850.10 feet, and the 100-yr flood elevation is 852.8 feet. The target minimum water level for Lake Mendota is 849.6 feet from the first spring runoff occurring after March 1st until October 30th.

Lake Mendota was listed on the WDNR 303(d) list of impaired water bodies for total phosphorus in 2012 and was last assessed in 2026. It is included in the broader Rock River Basin TMDL.

Cherokee Lake

Area #2 is located within the Cherokee Lake-Yahara River subwatershed. This subwatershed is approximately 28.5 square miles. Runoff from Area #2 drains south towards Cherokee Lake, a 193-acre lake fed by the Yahara River and its tributaries and draining to the Yahara River downstream. Data on the conditions of this lake were unknown at the time of this writing, and the natural community has not yet been identified under the state's Natural Community Determinations. There is a North Temperate Lakes Long-Term Ecological Research (NTL-LTER) program - Madison Area Lakes monitoring station (Station ID 10044183) downstream of Area #2, at the Yahara River estuary below the middle basin, that was last monitored in 2018. Average total phosphorus measurements from 2018 were 0.11 mg/L. Chloride data was not collected at the station.

There is no active USGS monitoring station on Cherokee Lake.

Springs

Springs represent groundwater discharge visible to the casual observer. The Wisconsin Geological and Natural History Survey (WGNHS) maintains an inventory of springs in Dane County and throughout the state. From 2014 to 2017, the WGNHS surveyed springs statewide that were expected to have flow rates of at least 0.25 cubic feet per second (cfs). There are no known springs in or near the proposed amendment areas.

Groundwater

In 2012, the WGNHS published a report, *Groundwater Recharge in Dane County, Wisconsin, Estimated by a GIS-Based Water-Balance Model* ([link to report](#)), estimating the existing groundwater recharge rates in Dane County based on the soil water balance method. The study estimates that the existing groundwater recharge rate in the proposed amendment area ranges from approximately 9 to 10 inches per year.

Endangered Resources

The WDNR Bureau of Endangered Resources maintains a database representing the known occurrences of rare plants, animals, and natural communities that have been recorded in the Wisconsin Natural Heritage Inventory ([link to website](#)). A screening review of this database conducted by CARPC staff for species designated as endangered, threatened, or of special concern identified two endangered species: one bee and one frog; two threatened species: one bird and one mammal; several species of special concern: two snake, one turtle, one fish, and one mammal; and one natural community within a 1- to 2-mile radius of the amendment areas. Therefore, prior to new construction, it is recommended that a formal Endangered Species Resources Review be conducted by the WDNR or one of their certified reviewers for potential impacts to endangered resources, and habitat protection measures to be implemented if species are found.

The entire amendment area is within the High Potential Zone (species likely present) for the federally endangered Rusty Patched Bumble Bee ([link to web map](#)). Section 7 of the Endangered Species Act requires consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service when any action that is carried out, funded, or permitted by a federal agency may affect a federally listed endangered or threatened species. The WDNR typically recommends that projects within the High Potential Zone include native trees, shrubs, and flowering plants (plants that bloom spring through fall) and the removal and control of invasive species in any habitat used for foraging, nesting, and overwintering. The USFWS developed a list of plants favored by Rusty Patched Bumble Bee ([link to list](#)). If any new development activity occurs in the future, consideration as to protection of this important species should be given. Implementing these conservation measures should be coordinated with the WDNR Endangered Resources Review Program as needed.

Soils and Geology

Area #1 is located within the Waunakee Moraines Land Type Association of Wisconsin. The Association classifies the surficial geology of this area as rolling till plain and irregular drumlins with scattered bedrock knolls, lake plains, and outwash plains. Area #2 is located within the Dane–Jefferson Drumlins and Lakes Land Type Association of Wisconsin. The Association classifies the surficial geology of this area as undulating complex of till plains with drumlins, outwash plains, lake plains, and muck deposits common.

Surface elevations within the amendment areas range from around 850 feet to 981 feet. There are no areas of steep (> 12%) and very steep (>20%) slopes associated within the amendment areas (see **Map 6**), though steep bluffs are present east of Area #2 and parallel Yahara River.

According to the General Soil Map of Dane County, the soils in Area #1 are in Dodge–St. Charles–McHenry association. These soils are well drained and moderately well drained, deep silt loams. Soils in Area #2 are in the Batavia–Houghton–Dresden association. These soils are well drained and poorly drained, deep and moderately deep silt loams and mucks that are underlain by silt, sand, and gravel. **Map 7** shows detailed classifications for soils in the amendment area and **Table 2** shows important soil characteristics for the amendment area.

There is one hydric soil within the amendment area (see **Map 7** and **Table 2**), which are good indicators of existing and former (drained) wetlands. According to the Soil Survey Geographic data for Dane County developed by the NRCS ([link to web soil survey](#)), the St. Charles soils (the 7243B map unit) are not hydric, but they do have a seasonal (April to June) zone of water saturation within 5 feet of the ground surface. The St. Charles soils are well drained and therefore do not pose a limitation for buildings with basements.

Table 2
Soils Characteristics

Characteristic	Soil Map Symbols (see Map 7)	% of Area
Prime Agricultural Soils	B7105B, 7243B	51.5
Hydric Soils (Indicates Potential / Restorable Wetlands)	M	25.4
Poorly Drained Soils with Seasonal High Water Table (< 5')	None	0
Soils Associated with Steep Slopes (> 12%)	None	0
Soils Associated with Shallow Bedrock (< 5')	823C2	0

Best Potential for Infiltration in Subsoils	7105B, 823C2, 7243B	74.1
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Source: Soil Survey Geographic data for Dane County developed by the USDA Natural Resources Conservation Service

Contamination

CARPC staff reviewed the DNR Remediation and Redevelopment Tracking System database ([link to database](#)) and Remediation and Redevelopment (RR) Sites Map ([link to map viewer](#)) for records of contamination within the amendment area. No records of investigation or cleanup activities were found.

Proposed Urban Services

Wastewater

Overview

Wastewater treatment will be provided by the Madison Metropolitan Sewerage District (MMSD). Sanitary sewer service will be provided to Area #1 through lateral connection to existing sewer main on Hope Court, owned by the Town of Westport Sewer Utility, and to Area #2 through connection to the existing MMSD Northeast Interceptor which runs through the rear of the parcel. Flows from Hope Court discharge to sewer main along River Road, then via conveyance along Riverview Road and Caton Lane, discharge to the same MMSD Northeast Interceptor (see **Map 8**). Wastewater from the amendment areas will flow via the MMSD Northeast Interceptor to Pump Station 14 within the MMSD system, and eventually to the Nine Springs Wastewater Treatment Facility.

The proposed development within Area #1 consists of approximately 0.7 acres of residential land uses contributing to wastewater flows. Area #2 consists of approximately 0.1 acres of residential land uses contributing to wastewater flows, currently treated by private septic systems. The Town's application provides that overall, the proposed and existing residential developments serve 2 single-family residential units. The amendment areas in total are estimated to generate an annual average of approximately 400 gallons per day (gpd) of wastewater, or 0.3 gallons per minute (gpm). This assumes 2 persons per dwelling unit and an average wastewater generation rate of 100 gallons per capita per day (gpcd) for residential land uses. The Town estimates that the amendment area will generate a peak daily flow rate of approximately 1,600 gpd (0.001 mgd), or 1.1 gpm (0.002 cfs), utilizing a peaking factor of 4.0 for residential land uses.

The receiving local and regional sewers are anticipated to have sufficient capacity for peak flows from the amendment area, as the cumulative additional loading from the amendment areas is negligible relative to existing loading. There are no wastewater collection capacity concerns.

Wastewater Treatment Facility

Madison Metropolitan Sewerage District (MMSD) will provide wastewater treatment for the amendment area. The amendment area will need to be annexed into the MMSD service boundary. The Nine Springs Wastewater Treatment Facility (WWTF) is located on Moorland Road, Madison. Treated effluent had been discharged to Badfish Creek within the Badfish Creek Watershed (Lower Rock River 8 Basin) and Badger Mill Creek within the Upper Sugar River Watershed (Sugar-Pecatonica Basin) since 1998; however, the discharge to Badger Mill Creek was conditionally approved to be discontinued in September of 2024 ([see DNR Letter DC-0238](#)) and has since ceased.

The rated monthly design flow capacity of the facility is 56.0 million gallons per day (MGD) and the maximum daily design flow capacity is 68.6 MGD. In the year 2024, the facility received an average monthly influent hydraulic loading of 40.0 MGD (72% of the 56.0 MGD design capacity), including infiltration and inflow, according to the 2024 Compliance Maintenance Annual Report (CMAR) ([link to 2024 CMAR](#)). It is expected to reach 90% of current hydraulic design capacity around 2026 based on current projected growth rate assumptions. This already occurs on occasion, although average flows did not exceed 89% design capacity for any month in 2024. MMSD completed a facility plan in 2017, titled Liquid Processing Facilities Plan, that recommended improvements to the liquid treatment processes at the plant, including the addition of hydraulic capacity. These improvements are being implemented in multiple phases between 2018 and 2030. For the 20-year planning period, treatment for this area is expected to remain at the existing wastewater treatment facility location with expanded capacity of the system as the need is foreseen. MMSD staff were contacted regarding the proposed development but did not provide comment.

MMSD did not have issues meeting its WPDES permit limits for the quality of effluent discharged to Badfish Creek and Badger Mill Creek, according to their 2024 CMAR. Permit limits referenced in the 2024 CMAR correspond to the facility's WPDES permit in effect from 2020 – 2025. The facility's new WPDES permit went into effect May 1, 2026, and the new permit limits will be referenced in the anticipated 2025 CMAR.

Water System

Overview

The two parcels in the amendment area are served by private wells. Currently, the Town does not intend to provide water service to the area. The overall domestic water demand within the amendment area is not changing.

Stormwater Management System

Overview

The amendment area by Tuggle Lane (Area #1) is within the Cherokee Lane – Yahara River (HUC 12: 070900020504) subwatershed and the amendment area by Hope Court (Area #2) is within the Lake Mendota–Yahara River (HUC 12: 070900020604) subwatershed (see **Map 5**). The amendment areas consist of existing residential land uses or vacant lands and there are no existing engineered stormwater management controls within the amendment areas. Nonetheless, it is recommended that any existing and/or proposed roof downspouts and impervious surfaces be directed to pervious surfaces onsite to promote infiltration and limit the potential for stormwater runoff discharge offsite. Rain gardens, water harvesting (e.g., rain barrels), and native vegetation are additional measures that can be taken within the amendment area to improve stormwater management.

Area #1

The proposed development consists of one (1) single-family residence. Based on the size of the lot and type of proposed development (assumed less than 20,000 square feet (sf) of imperviousness), a detailed stormwater management plan review and approval will most likely not be required prior to beginning construction.

Area #2

The site currently contains approximately 10,000 sf of existing impervious surfaces. Many of the existing improvements on the site were constructed prior to August 22, 2001, and are not subject to the Dane County stormwater ordinance. However, it appears some new impervious surfaces have been added since that time, and together with any future development resulting in a cumulative addition of 20,000 sf of impervious surface after August 22, 2001, will require stormwater control measures to be implemented in accordance with the Dane County stormwater ordinance. Although no redevelopment or new development is planned, small-scale stormwater practices can be implemented as a way of mitigating the existing pollution coming from the existing site.

Impacts and Effects of Proposal

Environmental Corridors

The proposed amendment area includes a total of approximately one (1) acre of Environmental Corridor (see **Map 9**). This will include the 1% annual chance floodplain, WWI-mapped wetlands with associated vegetated buffers, and vegetated buffers for the Yahara River, in accordance with the Environmental Corridor Policies and Criteria ([link to document](#)) adopted into the *Dane County Water Quality Plan* in 2008 (*Note: if future development or redevelopment activity occurs within the amendment area that is inconsistent with the*

general scope of work presented in this application, it may be subject to the most recent set of environmental corridor policy in effect at that time).

Estimated Environmental Corridors are required to be included in Environmental Corridors when those areas are added to the sewer service area. Protection Areas include natural resource features such as the 1% annual chance floodplain, waterbodies, streams and wetlands, plus their required vegetative buffers, riparian steep slopes, existing public lands, parks, and conservancy areas, and existing stormwater management facilities. These areas are mapped based on regionally available information, such as the Wisconsin Wetland Inventory data.

The proposed amendment area includes 0.2 acres mapped as Voluntary Environmental Corridor, including 0.2% annual chance floodplain and Natural Resource Area Boundary, of which zero (0) acres are proposed to be designated as Environmental Corridor with this amendment (see **Map 9**). Voluntary Environmental Corridors are natural resources that are not legally protected from development, but still provide important benefits to the region, and are advised to be considered for inclusion in Environmental Corridors, above the minimum requirements. This concept is described more in the [2050 Regional Development Framework](#) (Framework) and is aimed at achieving the goal of conserving water resources and natural areas. The Voluntary Environmental Corridor recommendations include natural resource features such as the 0.2% annual chance floodplain, potentially restorable wetlands, internally drained areas, hydric soils, current/potential Ice Age Trail Corridor, and Natural Resource Area boundaries identified in the Dane County Parks and Open Space Plan.

Surface Water & Groundwater Impacts

The requested amendment area is comprised of one (1) existing single-family residential parcel, currently on a private septic system, and one (1) vacant parcel intended for construction of a single-family residence. Connection to the public sanitary sewer system will eliminate any existing detrimental impacts on groundwater being caused by the existing septic system.

While there are potential detrimental impacts to surface and groundwater associated with typical residential development from the common use of fertilizers and pesticides, and the transition from natural vegetation to manicured turf lawns, this is a regional issue beyond the scope of this amendment. For individual homeowners, small improvements—such as downspout disconnection, use of rain barrels, limited and proper use of fertilizers and chemical lawn treatments, and conversion of turf grass to native vegetation—can collectively have a big effect. Other green infrastructure practices such as rain gardens, bioswales, and native prairie buffers are great options for not only better managing stormwater but also adding aesthetic appeal to a property. Together, these measures would help to promote

infiltration onsite and limit the potential for stormwater runoff, thereby improving stormwater management on the property and reducing any negative impacts currently occurring on downstream receiving waters.

Public Participation Comments

A public hearing before the Capital Area Regional Planning Commission was held on July 9, 2026. No comments have been received and no controversies have been noted as July 10, 2026. The Village of Waunakee and the City of Madison have been notified of the proposed amendment.

Conclusions and Staff Water Quality Recommendations

There is sufficient existing treatment plant system capacity at the MMSD-owned Nine Springs Wastewater Treatment Facility and sufficient existing capacity in the collection system to serve the proposed amendment area.

The proposed new development (single-family residence) is unlikely to trigger any stormwater management requirements; however, there is an opportunity to voluntarily install small-scale green infrastructure practices as a way of reducing stormwater runoff and improving downstream water quality in receiving surface waters.

It is CARPC staff's opinion that the proposed amendment is consistent with water quality standards under Wis. Stat. § 281.15, and the *Policies and Criteria for Sewer Service Area Amendments*, adopted into the *Dane County Water Quality Plan* on April 8, 2026. To ensure conformance with the *Dane County Water Quality Plan* and better improve water quality and environmental resource management, additional required and recommended actions have been enumerated below.

State and Local Requirements

CARPC staff recommend approval of this amendment in recognition of state and local requirements including the following:

1. Environmental Corridors are required to be delineated, and land use within shall be restricted, to meet the Environmental Corridor Policies and Criteria (dated 2/28/2008) adopted in the *Dane County Water Quality Plan*.

Note: *future development or redevelopment activity within the amendment area that is inconsistent with the general scope of work presented in this application will be subject to the most recent set of environmental corridor policy in effect at that time.*

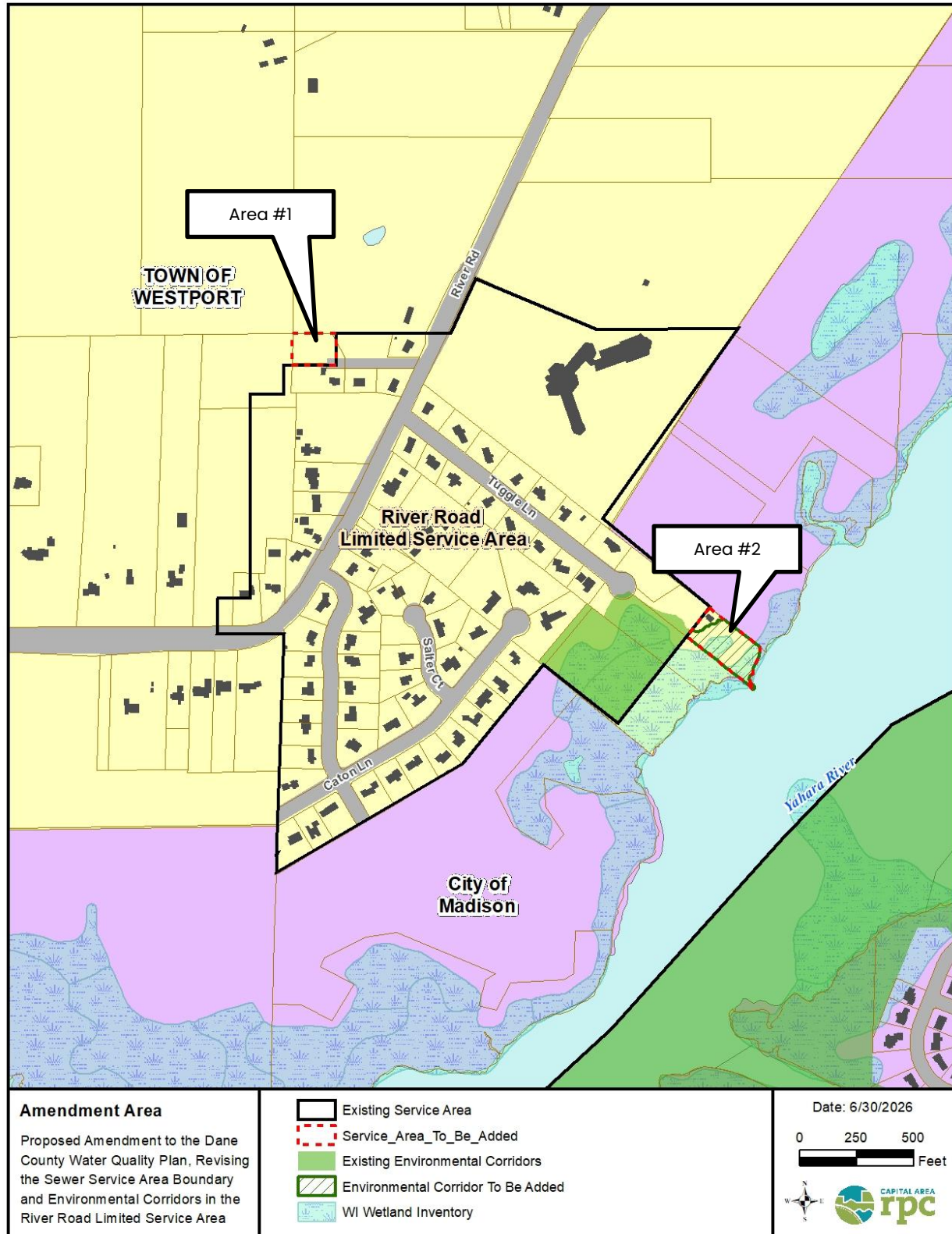
2. Sediment and erosion control practices are required to be installed prior to land disturbing activities.

Recommendations

It is recommended that the Town of Westport and parcel owners pursue the following to further improve water quality and environmental resource management:

1. Foster the responsible use of chlorides by reducing salt usage in winter ice management and household water softening applications (refer to [Wisconsin Salt Wise](#) for more information).
2. Consider implementation of various green infrastructure practices for stormwater management, such as rain barrels, rain gardens, downspout disconnection, and use of native plantings in lieu of turf grass.
3. Encourage the removal and control of invasives and the use of native flora in landscaping, where appropriate within the entire amendment area, and for all areas designated as Environmental Corridor.
4. Request a formal Endangered Resources Review by the WDNR prior to large land disturbing activities, due to the possible presence of endangered resources like rare plants, animals, and natural communities, and implement any recommended habitat protection measures.

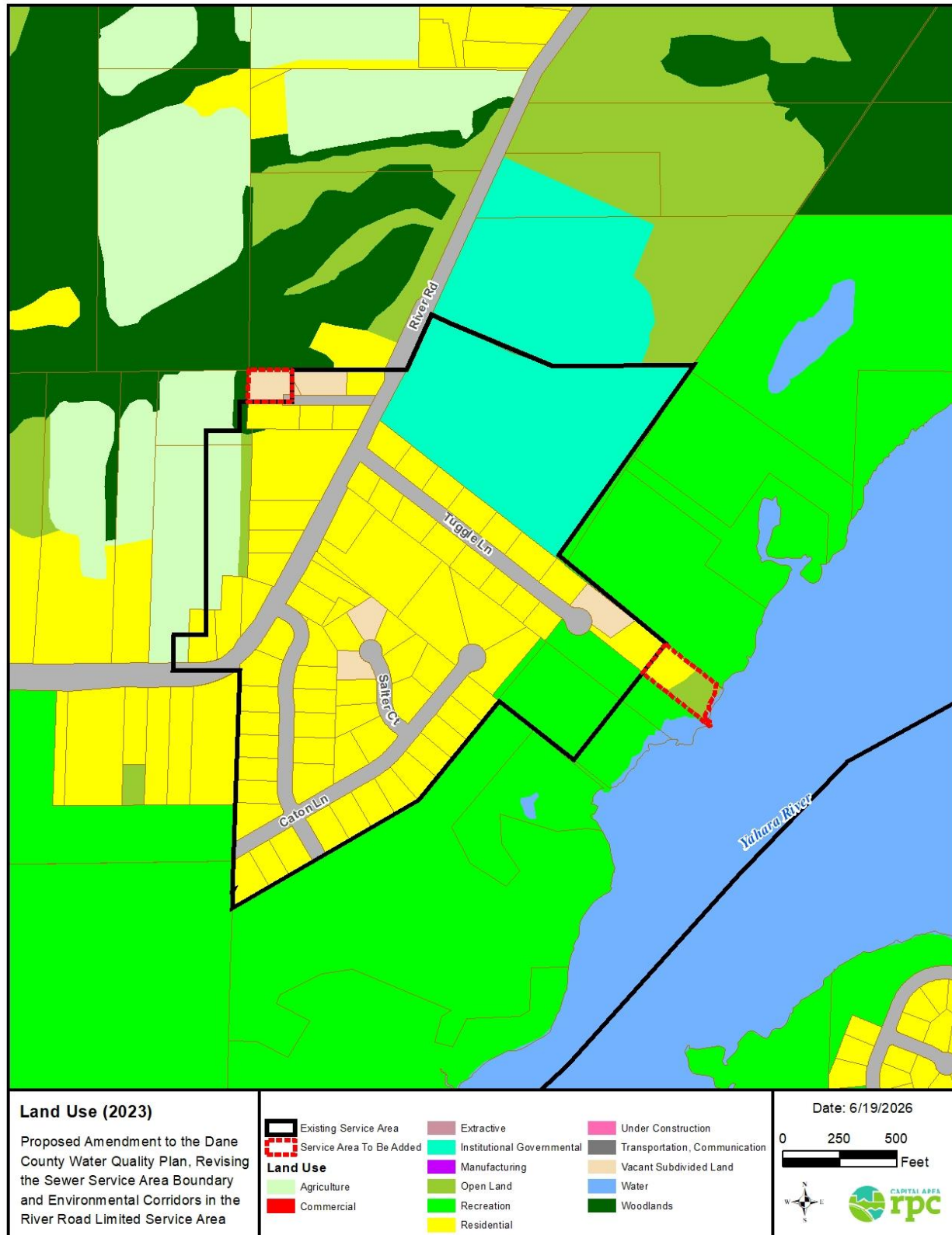
Map 1 - Amendment Areas



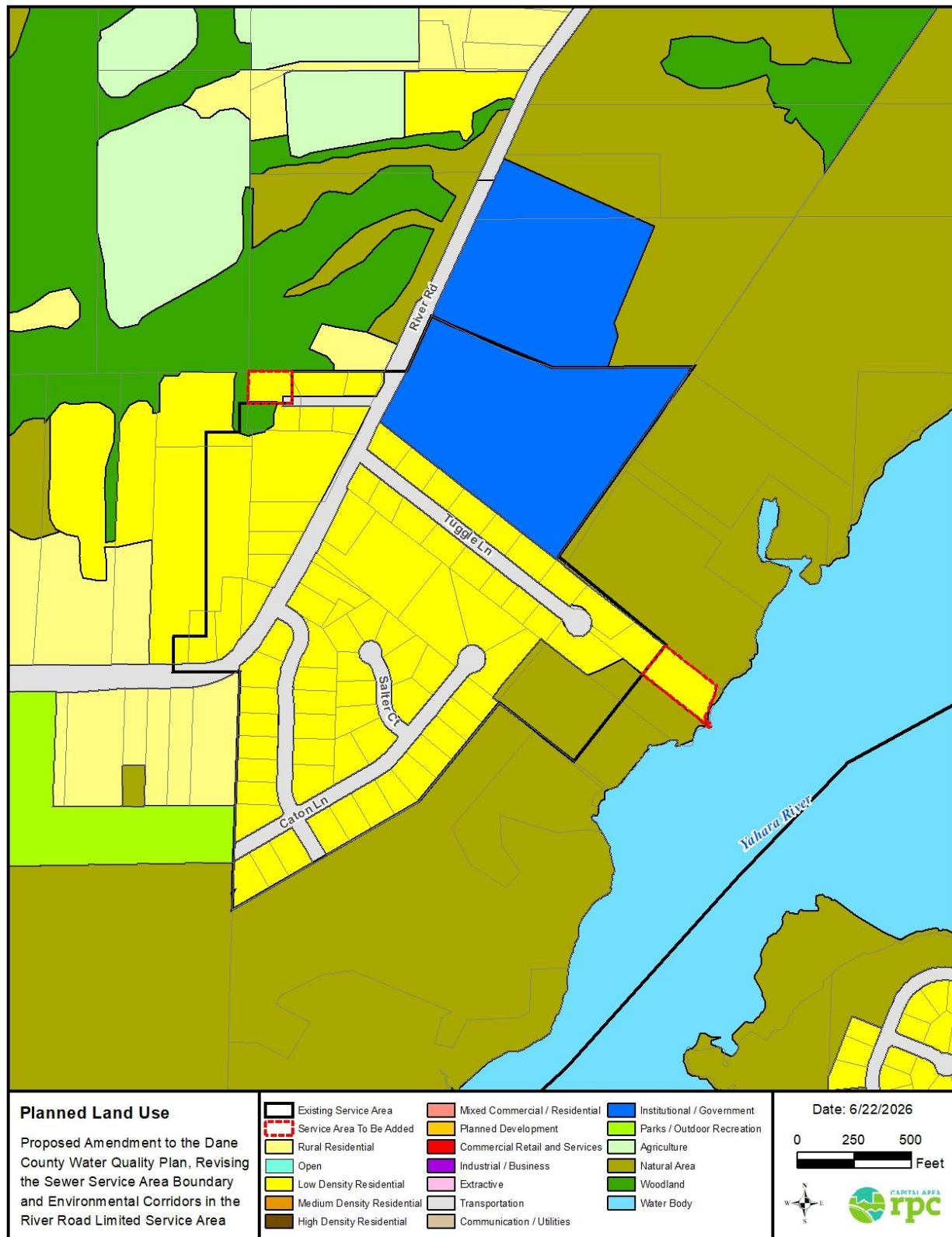
Map 2 – Aerial



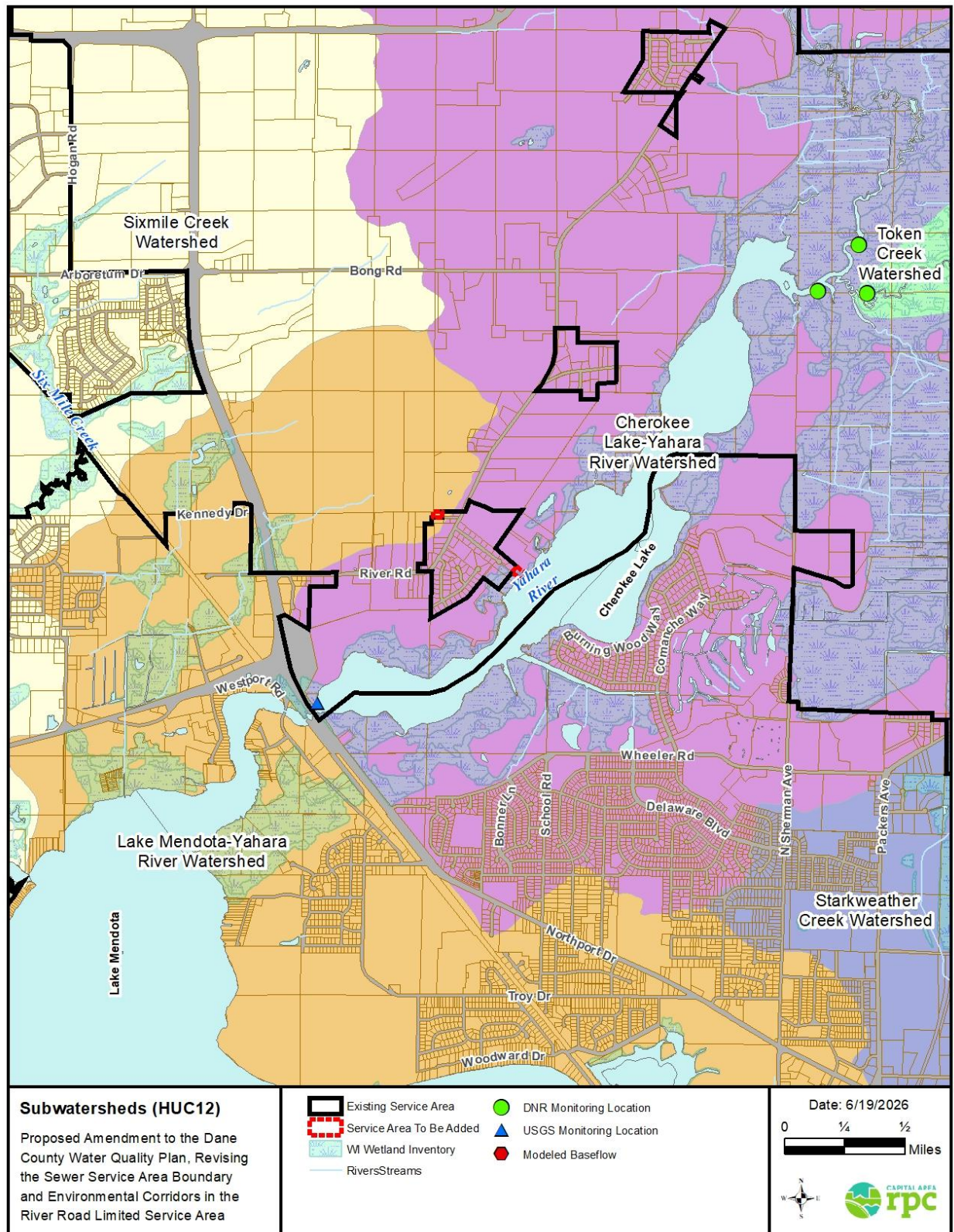
Map 3 – Existing Land Use



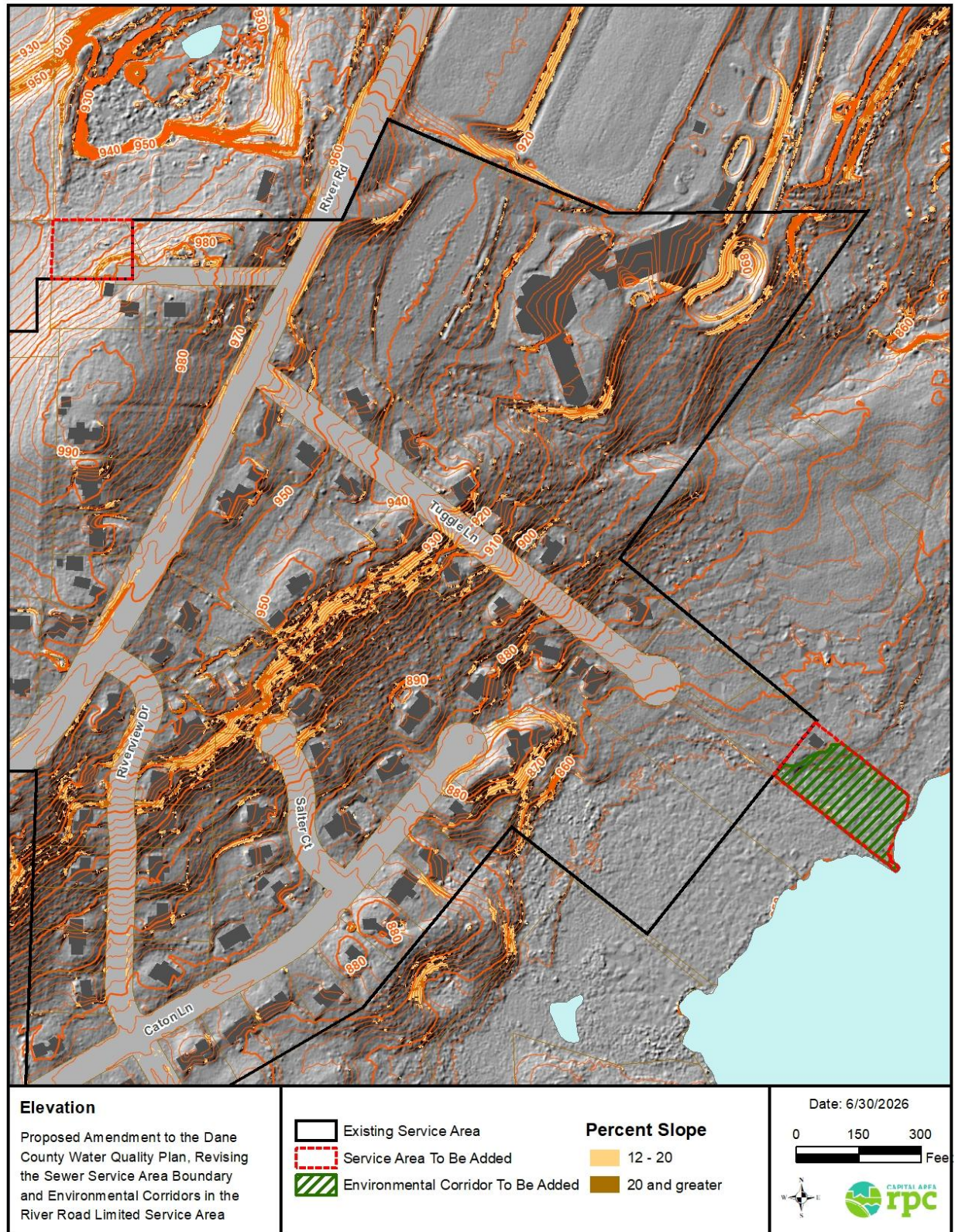
Map 4 – Planned Land Use



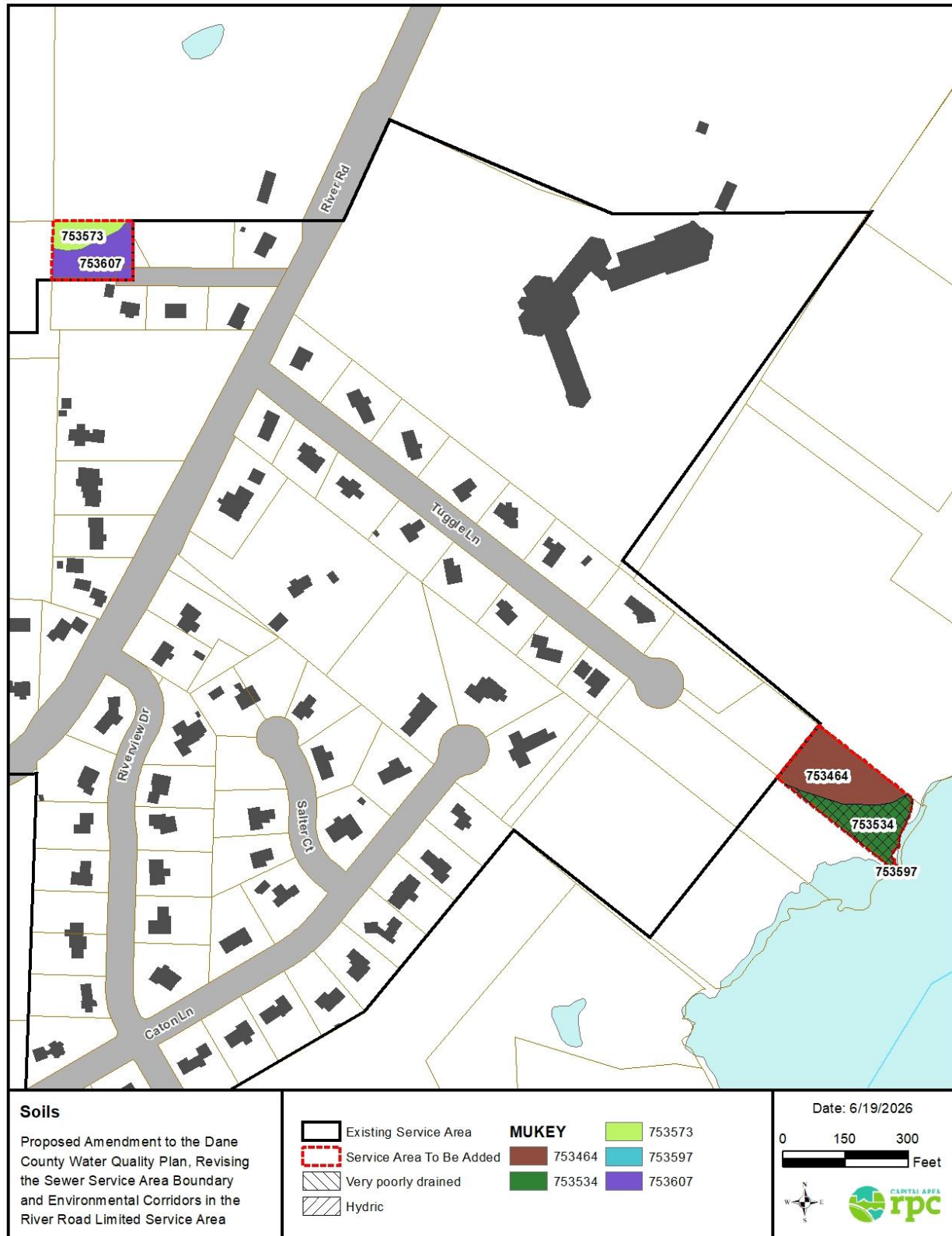
Map 5 – Subwatersheds



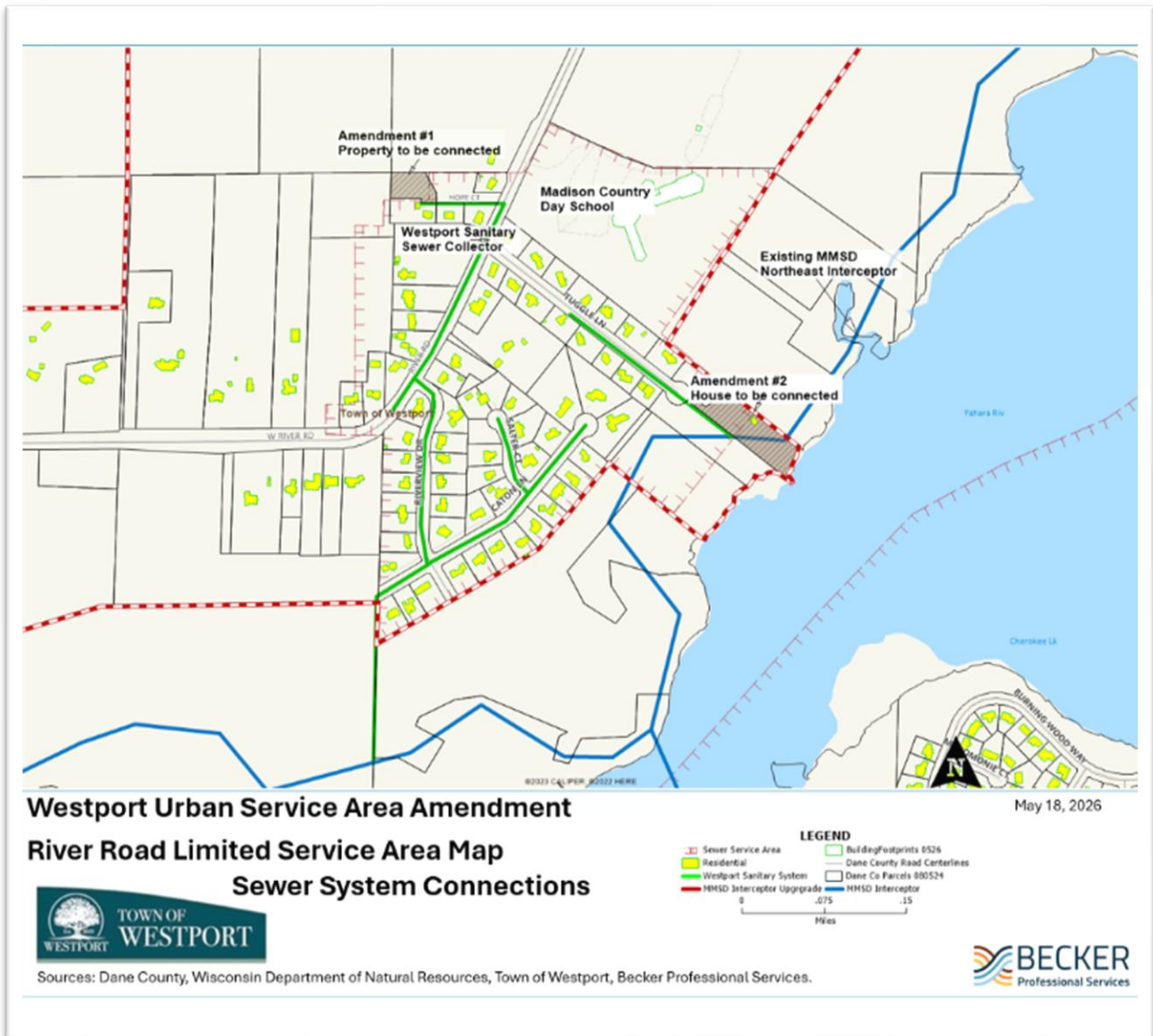
Map 6 – Elevation



Map 7 – Soils

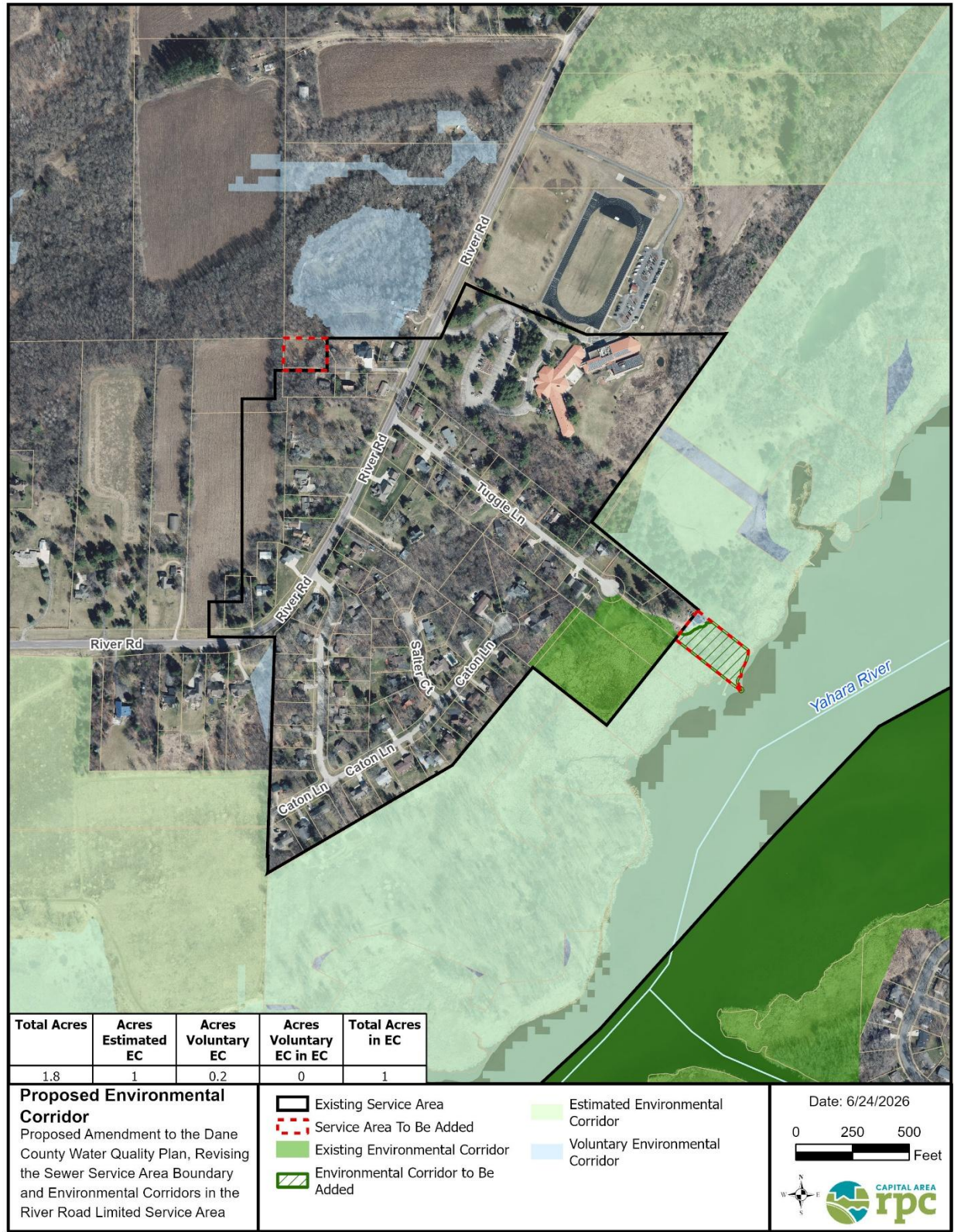


Map 8 – Proposed Sanitary Sewer



Source: Becker Professional Services (LSAA Application, June 2, 2026)

Map 9 – Proposed Environmental Corridor



Map 10 – Floodplain

