



Department of Planning & Community & Economic Development

Planning Division

Heather Stouder, Director

215 Martin Luther King Jr. Blvd. Ste 017
P.O. Box 2985
Madison, Wisconsin 53701-2985
Phone: (608) 266-4635
Fax (608) 266-6377
www.cityofmadison.com

February 1, 2022

Mike Rupiper, Director of Environmental Resources Planning
Capital Area Regional Planning Commission
100 State Street, Ste 400
Madison, WI 53703-2573

Dear Mr. Rupiper,

The City of Madison is requesting an amendment to the Dane County Water Quality Plan to expand the Central Urban Service Area (CUSA) to include 934 acres in the Yahara Hills Neighborhood located contiguous to the current CUSA.

On January 4, 2022, the City of Madison Common Council adopted a resolution that authorizes the City to submit a CUSA amendment application to the Capital Area Regional Planning Commission. The resolution includes a finding that the proposed use of the amendment area is consistent with the *City of Madison Yahara Hill Neighborhood Development Plan* and the *City of Madison Comprehensive Plan*.

The Town of Cottage Grove and Village of McFarland have been notified of this CUSA amendment application. They are the only other municipal jurisdictions adjacent to the proposed amendment area. The full range of urban services, including public sanitary sewer and water, will be provided to properties within the City of Madison. Properties not in the City will continue to receive services through the Town of Cottage Grove and Dane County.

Currently, about 765 acres of the amendment area are within the City of Madison, with the remaining 169 acres within the Town of Cottage Grove.

Summary information is attached in support of this request. If you have any questions or need additional information, please contact me at (608) 267-8732 or by email at jgreger@cityofmadison.com.

Sincerely,

Jeff Greger, Planner
City of Madison Planning Division

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Cc: Satya Rhodes-Conway, Mayor, City of Madison

Jael Currie, Alder District 16, City of Madison

Kim Banigan, Town Clerk, Town of Cottage Grove

Cassandra Suettinger, Village Clerk/Treasurer

Matt Wachter, Director, City of Madison Department of Planning & Community & Economic Development

Heather Stouder Director, City of Madison Planning Division

Brian Grady, Principal Planner, City of Madison Planning Division

Yahara Hills NDP 2022 CUSA EXPANSION

SUMMARY INFORMATION

This information is provided to support the City of Madison's request to expand the Central Urban Service Area (CUSA) to include approximately 934 acres in the Yahara Hills Neighborhood Development Plan planning area.

Prepared by:

City of Madison
Department of Planning & Community & Economic Development
Planning Division

February 1, 2022

DESCRIPTION OF THE PROPOSED CUSA EXPANSION AREA

Expansion Area

The proposed expansion area covers 934 acres and is located in the *Yahara Hills Neighborhood Development Plan* planning area. This application area is located in the City of Madison and Town of Cottage Grove with Highway AB dividing lands in the City and Town. The expansion area and is bordered on the west by the existing Central Urban Service Area (CUSA), to the south by City of Madison, and to the east by the Town of Cottage Grove. **See Map 1.** Of the 934 acres in the expansion area, 200 acres are existing environmental corridor while 261 acres are being converted from limited service area to full service area. This leaves 421.3 acres of developable land that will be added to the Central Urban Service Area. **See Table 1.**

Table 1: Expansion are and Developable Land

Type	Acres
Total CUSA Expansion	934
Environmental Corridor	200
Converting Limited to Full Service Area	261
*Future Environmental Corridor Upon Closure of Landfill	133
Environmental Corridor and Service Area	461
Right-of-Way	51.7
Net Developable Land with Right-of-Way	473
Net Developable Land without Right-of-Way	421.3

*Note: Acreage in Future Environmental Corridor Upon Closure of Landfill is included within Limited to Full Service Area Conversion acreage.

Municipal Jurisdiction

This expansion area is located in the City of Madison and Town of Cottage Grove. 765 acres are located in the City of Madison and 169 acres are located in the Town of Cottage Grove. **See Map 2.**

Need for the Expansion

The addition of the expansion area to the Central Urban Service Area would allow for orderly development as planned in the *Yahara Hills Neighborhood Development Plan* and the *City of Madison Comprehensive Plan*. Much of the developable land in the expansion area is planned for Industrial land uses with a small portion in the eastern section planned for Employment and Institutional. Currently, there is limited availability of developable industrial land in the City of Madison. This proposed expansion could provide nearly 100 acres of developable industrial land over time. A large portion of the land designated for employment is proposed to be a Dane County Solar Farm and Dane County East District Campus.

A Dane County Landfill is proposed on the eastern portion of the Yahara Hills Golf Course along Highway AB. The proposed landfill would serve nearly all communities within Dane County. The

existing Dane County Landfill north of Highway 12 & 18 is expected to reach its capacity within the next 10 years creating the need for a new landfill. The proposed Dane County Sustainability Campus, East District Campus and Landfill is illustrated in **Exhibit 6**.

Natural Features

The natural character of the proposed expansion area is defined by two distinctly different topographies. A relatively major northeast-southwest ridgeline divides the northern portion of the CUSA expansion area approximately in half, with small hills in the northwest and eastern portions of expansion area. The central part of the area is predominantly wetlands and is bordered on the south by the Dane County Landfill. The area south the Highway 12 & 18 is primarily home to the Yahara Hills Golf Course with a small pond and hydric soils. The small area east of Highway AB and South of Highway 12 & 18 is mostly farm land with a small wooded portion at the eastern edge of the CUSA expansion area.

Steep slopes (12% or greater) are located on the four drumlins in the expansion area with large sloped areas in the center just to the north of Femrite Drive.

A major ridgeline divides the expansion area, with the northern portion draining to the Lake Monona-Yahara River watershed and the southern portion draining to the Door Creek watershed.

Existing Land Uses

The proposed expansion area currently includes agricultural uses, several residences, small commercial and industrial areas, open land, woodland, and right-of-way. **See Table 2**.

Cultural Resources Review

Large areas of the proposed service expansion area have been surveyed for cultural resources, including the grounds of the Dane County landfill and areas south of the interstate on the Golf Course. With regard to archaeology and burial sites within the amended service area, five previously recorded archaeological/burial sites have been recorded. One is a human burial site, and the remaining four are small, non-diagnostic scatters of knapping debris or isolated finds of tools. Minimal archaeological survey has taken place within the proposed expansion area, primarily at the location of the uncatalogued human burial site, along Femrite Drive at the far eastern and western portions of the proposed expansion area, and along I-90 and Buckeye Road.

- Site DA-1068 is a small scatter of prehistoric flint knapping debris, marking a small camp or place where stone tools were refurbished. The age of this site is unknown. The condition of the site is unknown.
- Site DA-1069 is a small scatter of prehistoric flint knapping debris, marking a small camp or place where stone tools were refurbished. The age of this site is unknown. The condition of the site is unknown but testing in 2012 failed to relocate it, and the author of that report suggested that the site had been badly disturbed or destroyed.

- Site DA-1070 is an isolated find of a fragment of a broken prehistoric spear or dart point. The age of this site is unknown. The condition of this site is unknown.
- Site DA-1071 is an isolated find of a flint chip that was used as an expedient tool. The age of this site is unknown. The condition of this site is unknown.
- Site DA-0034 (Schimming Mound) is the location of a known linear burial mound. Surface indications of the mound have been destroyed, but monitoring of soil borrowing at the site location in 2020 identified a large Late Woodland pit feature (ca. AD 750-1200) containing charred materials and artifacts, at or near the former position of the mound. The feature was not excavated, and representatives of the Ho-Chunk Nation have requested that the feature be preserved in place. The pit feature almost certainly represents a grave or other ceremonial feature associated with the mound. This site is currently codified as 'uncatalogued' (receiving lesser protection) since human remains were not directly observed and surface indications of the mound have vanished. The southern half of the site area is exempt from protection because that half of the drumlin has been quarried away. No ground disturbance may take place within the northern half of this site (where the drumlin remains intact) without prior authorization from the Wisconsin Historical Society, per Wis. Stats. 157.70.

The State Historic Preservation Office recommends that additional survey take place within sensitive portions of the expansion area – all areas on and near drumlins and along the ancient shore of Glacial Lake Yahara and the later marsh system of Lake Waubesa, particularly within parcels not subject to long-term cultivation. There is no need for any survey in areas already surveyed, or on the golf course. **See Exhibit 7.**

Proposed Land Uses

The *Yahara Hills Neighborhood Development Plan* (NDP) recommends a variety of land uses in the expansion area. Industrial uses are recommended for areas along Femrite Drive and Meier Rd. Employment and institutional uses are recommended along Highway AB to the north of the intersection with Highway 12 & 18 although much of this area is proposed to be the Dane County Solar Farm and East District Campus. Park and open space is recommended for the area south of Highway 12 & 18 and west of Highway AB which is currently the Yahara Hills Golf Course. This area is expected to be developed as the Dane County Sustainability Campus and Landfill. Development of the initial portions of the landfill is expected to begin in 2025 extending to 2045, with expansion continuing to the west between approximately 2045 and 2100. Due to environmental corridor land not recommended for Industrial in the northern portion of the expansion area is recommended for stormwater and open space. There are also areas recommended for stormwater on the western side of Highway AB and the far eastern side of the C&L Investment Partnership property. **See Table 3 and Map 4.**

Table 2: Existing Expansion Area Data

Existing Land Use	Existing Development (Acres)
Housing Mix 1	17
Commercial	6.4
Industrial	8.2
Recreation	236
Open Land	483.5
Agriculture	110
Woodlands	15.2
Water	5.5
Right-of-Way	52.2
Total	934

Table 3: Proposed Expansion Area Data

Proposed Land Use (acres)	Acres	Environmental Corridor	Estimated Avg. Units per Acre	Estimated Housing Units
Employment (without Solar Farm)	36.7	--	--	--
Industrial	96.4	--	--	--
Institutional	28.6	5.6	--	--
Parks and Open Space	234.1	6.2	--	--
Stormwater and Other Open Space	403.5	180.1	--	--
Right-of-Way	70	2.9	--	--
Dane County Solar Farm	64.7	5.2	--	--
Total	934	200	--	0

Future Environmental Corridor (upon closure of existing landfill)	133.4	133.4	--	--
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Parks

A large portion of the Yahara Hills Golf Course is included in the expansion area and is planned to be developed as the Dane County Landfill and Sustainability Campus beginning in 2025.

Recommended Environmental Corridors

The size and configuration of the environmental corridor areas illustrated on the submittal maps will be refined when detailed site plans are developed for the properties in the expansion area. It is recommended that the following areas and facilities, at a minimum, be designated as environmental corridor:

- The large wetland south of Femrite Drive and north of the Dane County Sanitary Landfill
- Stormwater management areas recommended in the northern portion of the expansion

- area on the Blatterman property
- Stormwater management areas recommended on the Meier Road LLC property
- Stormwater management areas recommend on the 12 X 12 Partners LLC property
- Stormwater management areas recommended north of the existing landfill on the McAllen Properties 120 LLC, Suter's Southeast Storage LLC, Steven R Suter and Margaret M Suter Rev Tr properties
- Stormwater management areas recommended for the far eastern portion of the expansion area on the Dane County parcel
- Stormwater management areas recommended on the C&L Investment Partnership east of the Yahara Hills Golf Course
- The wooded area and major ridgeline on the 12X12 Partners LLC property
- The eastern side of the ridgeline and southern portion on the Meier Road LLC property
- The wetland, woodland, and Hydric Soil area of the northernmost Blatterman LLC property
- The pond / hydric soil area in the northeast corner of the existing Yahara Hills Golf Course property
- The wooded area in the eastern portion of the C&L Investment Partnership property
- The floodplain area on the far eastern portion of the CUSA south of Femrite Drive
- The wetland in the far eastern portion of the expansion area south of Femrite Drive

The total acreage for the proposed environmental corridors is 200 acres. There is land designated as Future Environmental Corridor which will be designated as such when the northern portion of the existing Dane County Landfill ceases operation. This Future Environmental Corridor covers 133.4 acres.

Development Phasing

It is anticipated that development north of the existing landfill would occur to the north and east of the intersection of Femrite Rd and Meier Rd within the expansion area (areas identified in the *Yahara Hills NDP* as phasing areas A & B). These properties are expected to develop in the next five to eight years.

The Dane County Sustainability Campus and proposed Landfill are anticipated to begin development by 2025 accounting for nearly all of the development south of Highway 12 & 18 within the CUSA. The Dane County Solar Farm is expected to be built within the next few years covering a large portion of the land to the east of Highway AB along Luds Ln to the west of Femrite Drive. Utilities are located adjacent to the amendment area and are planned to be extended into the amendment area as soon as 2022. **See map 5.**

TRANSPORTATION RECOMMENDATIONS

Roadways

The expansion area will include two new roadway cross sections, as proposed in the *Yahara Hills Neighborhood Development Plan*, extending north off of Femrite Drive and will serve

future proposed industrial use. Construction of a Highway AB and Highway 12 & 18 interchange is planned to begin in the fall of 2022. **See Map 4**

Pedestrian-Bicycle Facilities

A bicycle lane is proposed on Femrite Drive extending from the intersection of Femrite and Highway AB to the east to Interstate 90. This route is important due to crossing of the Interstate and connection to programmed and planned grade-separated crossings of USH 12/18. Bicycle lanes are also proposed on Meier Road and Highway AB for the entire length of the expansion area. Shared-use paths are also proposed along Meier Road and Highway AB with a portion of the path running off street along the environmental corridor in the Elaine Gundlach property. A shared-use path and overpass of USH 12/18 will be constructed concurrently with frontage road (connecting Millpond Road and CTH AB) project. This is part of the WisDOT-sponsored CTH AB-USH 12/18 grade separated interchange project. A map of pedestrian/bicycle facilities can be found in the *Yahara Hills NDP*.

Transit Service

The expansion area falls outside this defined transit service area, using the stops and schedules maintained by Metro Transit under its current operating budget. The closest bus stops with regularly scheduled transit service through most of the day are located on Vondron Road.

DESCRIPTION OF PROPOSED FUTURE URBAN SERVICES DELIVERY

The full range of City of Madison urban services, including public sewer and water, are provided to the adjacent developed areas and are available for extension into the expansion area. **See Map 5.**

Sanitary Sewer Service

It is anticipated that development in the expansion area will generate an average of 228,965 gallons of wastewater per day (gpd) or 159 (gpm). This estimate is based on the assumptions below. Utilizing a peaking factor of 4, the expansion area would generate a peak of 915,860 gpd or 636 gpm. The proposed Dane County Landfill and Sustainability Campus and East District Campus account for 40,548 gpd of the overall total.

- **Employment:** 426 employees at 15 gpd per employee. Note: The City typically estimates 15 gallons per employee for industrial and office. Industrial is difficult to estimate because it can vary depending on the type of industrial use. 13 gallons/person- day is the projected wastewater flow/employee in the Wisconsin Administrative Code.
- **Industrial:** 1,050 employees at 15 gpd per employee
- **Ho-Chunk Casino:** 40,522 gpd
- **Existing Landfill**
 - Landfill 1 (Scale Site) = 1,442 gpd
 - Landfill 2 (Clean Sweep)= 501 gpd
 - Landfill 3 (Generator building) = 2 gpd
 - Landfill 4 (Flat Rate Meter) = 120,810 gpd (leachate based upon based landfill pump run time data)

- **Proposed Landfill**

- Dane County East District Campus: 548 gpd
- Dane County RNG Plant: 3,000 gpd
- Dane County Sustainability Campus / proposed landfill: 40,000 gpd *

*The majority of the 40,000 gpd from the Dane County Sustainability Campus / proposed landfill will be leachate discharge.

Currently, the expansion area is served by an 18-inch MMSD Southeast Interceptor/ Blooming Grove Extension that crosses Interstate 90. This sewer has a capacity of 2.16 MGD. The City of Madison Connects to this MMSD Sewer immediately north of Interstate 90 adjacent to the Ho-Chunk Madison Casino property and also at the intersection of Long Drive/ Millpond Road.

Development on the western side of the expansion area will be served by a 12-inch main extending from the corner of Meier Road and Old Meier Road south to the corner of HWY 12 & 18 and the southwest corner of the Dane County Sanitary Landfill property. This will serve the 15,750 gpd estimated effluent from the recommend industrial land use. The section of the main north of Femrite Drive has a flow rate of 4.09 cfs and the section of main south of Femrite Drive has a flow rate of 1.68 cfs. The main has a 1,090,909 GPD capacity.

The expansion area contains only Industrial and Landfill land uses. Future amendment areas to the north will include a residential land use component. It is anticipated that bulk of future expansion area north Femrite Road will be provided sewer service through a pumping station located at the intersection of Femrite and County Highway AB. The pressure sewer main (force main) will likely extend south along CTH AB and connect to the sewer improvements located on the County site.

Potential gravity mains are planned along Highway 12 & 18, Femrite Drive, and Meier Rd.

Stormwater Management

The expansion area is in two watersheds with the northern portion draining to the Monona-Yahara River watershed and the southern portion draining to the Door Creek watershed.

The watershed study process will begin for the Door Creek Watershed in 2022. It is expected to be completed by the end of 2023. During the watershed study process, a hydrologic and hydraulic computer model of the watershed is created. The model is used to understand the causes and extents of flooding in the watershed. The model is then used to evaluate flood mitigation measures that will reduce the flood risk of areas of the watershed.

Public Stormwater management areas (ponds, infiltration area, greenway or conveyance channels, etc and the public storm sewer network) are all maintained by the City of Madison (when inside the City's municipal boundaries) unless a specific agreement is requested to otherwise have the maintenance go to a private entity, which is very rare. Any Stormwater management or piping on private properties to serve only private uses, are the maintenance of

the property owners. The City's Engineering Division oversees maintenance of the public Stormwater and drainage system.

All Stormwater management requirements for new development and redevelopment will follow Chapter 37 of the Madison General Ordinances, WDNR or ACEO standards and permitting. The City's standards generally dictate Stormwater detention, rate and volume controls, TSS, infiltration and oil and grease control measures in addition to requirements for meeting erosion control standards. Erosion control measures are also dictated by the WDNR if greater than 1 acre of area is disturbed. If a project is not within the City's jurisdiction the requirements fall to Dane County and WDNR. WDNR and ACOE have oversight on wetlands and other permitting and FEMA has oversight on flood plains and flood ways.

Public Water Service

Based on current water demand projections, annual average daily water demand for the estimated 15 housing units within the expansion area having an estimated population of 40 will be 2,468 gallons per day (gpd). The proposed Dane County Sustainability Campus, proposed landfill, and East District Campus will have a water demand of 15,825 gpd. The Dane County RNG Plant has an estimated water demand of 3,000 gpd. The total water demand for the expansion area is 29,335 gpd. The estimates of the landfill and sustainability campus are shown below.

- Dane County East District Campus: 4,575 gpd
- Dane County RNG Plant: 3,000 gpd (peak demand = 40,000 gpd 1-2 weeks per year twice a year)
- Dane County Sustainability Campus: 11,250 gpd
- Proposed landfill: 0 gpd

Pressure Zone 4 currently has an average day demand of approximately 1.6 million gallons per day (gpd). Current peak hourly demand is 233,333 gallons per hour (gph) with a peaking factor of 3.5. This area will be primarily supplied with water from Unit Well 31 (4901 Tradewinds Parkway), which has three booster pumps each capable of 2,700 gallons per minute (gpm).

As development occurs, larger water mains will be extended along the primary roads, with smaller water distribution mains constructed along local streets developed within the expansion area. Currently, there is a single water main extension in this expansion area; as demand increases and development allows, Madison Water Utility plans to extend additional infrastructure to "loop" water mains in this area for added system redundancy.

Maximum day demand is projected to be 102,596 gpd; the maximum day ratio used is 1.76. Peak hourly demand is projected to be 8,501 gph with a peaking factor of 3.5. These projections are based on recent system-wide usage analyses over a ten year period and information provided by Dane County for their facilities, however usage will still be variable. The RNG Plant, for example, is only expected to operate at a demand as high as 40,000 gpd semiannually for a period of 1-2 weeks.

The current maximum capacity of the Water Utility's total system is 67.5 million gpd, to supply the system-wide average day demand of approximately 31 million gpd. System-wide maximum day demand is currently 55 million gpd. For this CUSA application, the Water Utility evaluated the water system in this area and determined that it is capable of providing 3,500 gallons per minute for 3.0 hours for firefighting purposes.

Police Protection Services

The expansion area is part of the Police Department's East District. The East District operates out of a station located on South Thompson Drive near its intersection with Cottage Grove Road just west of Interstate 39/90/94. The station is about 1.6 miles from the expansion area.

Fire Protection and Emergency Medical Services

The City of Madison Fire Department provides fire protection including suppression, inspection, community education and emergency medical services to the lands within the City of Madison and other surrounding contracted areas. The closest Madison Fire Station to the expansion area is Station #14 located at 3201 Dairy Dr approximately 1.4 miles away from the expansion area.

Streets and Sanitation Services

For lands within the City of Madison, the Madison Streets Division will provide collection of solid waste, large items, recyclable materials, yard waste, brush, and leaf collection. The Streets Division will also provide street repair, street cleaning and snow and ice control. Currently, these services are provided to the area from the East Side Streets Division Facility located on Sycamore Avenue.

ADDITIONAL INFORMATION

Comprehensive Plan and Purpose of the Proposed Expansion




The City of Madison is requesting this expansion to the CUSA in order to be able to extend the full range of urban public services, including sanitary sewer service. Beginning urban development in this portion of the Yahara Hills Neighborhood Development Plan at this time is consistent with the long-range growth recommendations in the *City of Madison Comprehensive Plan*. The proposed expansion is consistent with the land use recommendations of the *Comprehensive Plan*, which recommends General Commercial, Institutional, Industrial, and Stormwater and Open Space for the expansion area.




Agricultural Loss Mitigation

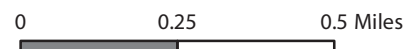
The expansion area does not contain a significant amount of agricultural land.

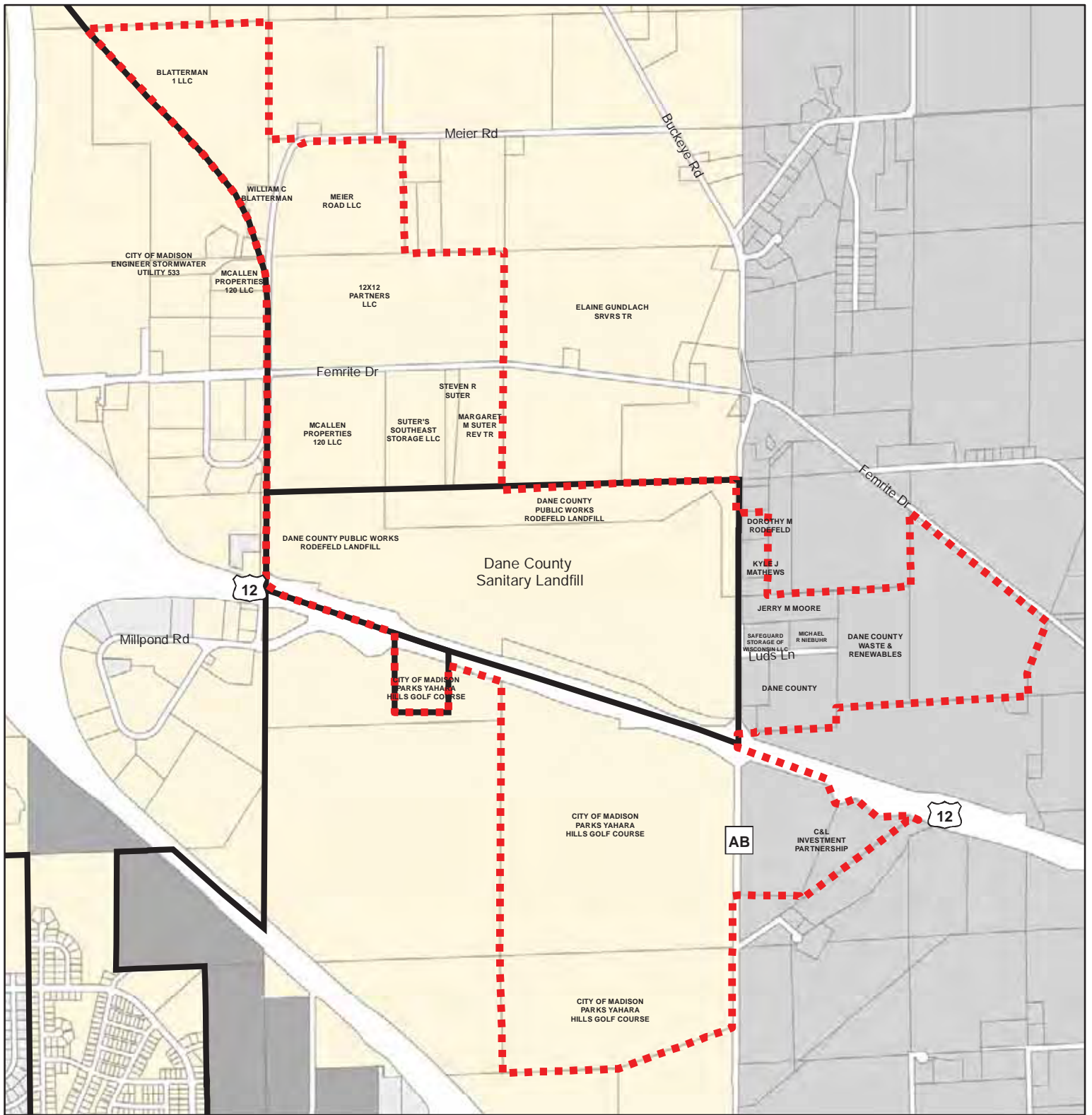


Map 1: Expansion Area
City of Madison CUSA Expansion
November 2021

-  Central Urban Service Area
-  Expansion Area
-  Existing Environmental Corridor

-  Proposed Environmental Corridor
-  Future Environmental Corridor Upon Closure of Landfill
-  Convert Limited to Full Service Area











Map 2: Jurisdiction and Ownership

City of Madison CUSA Expansion

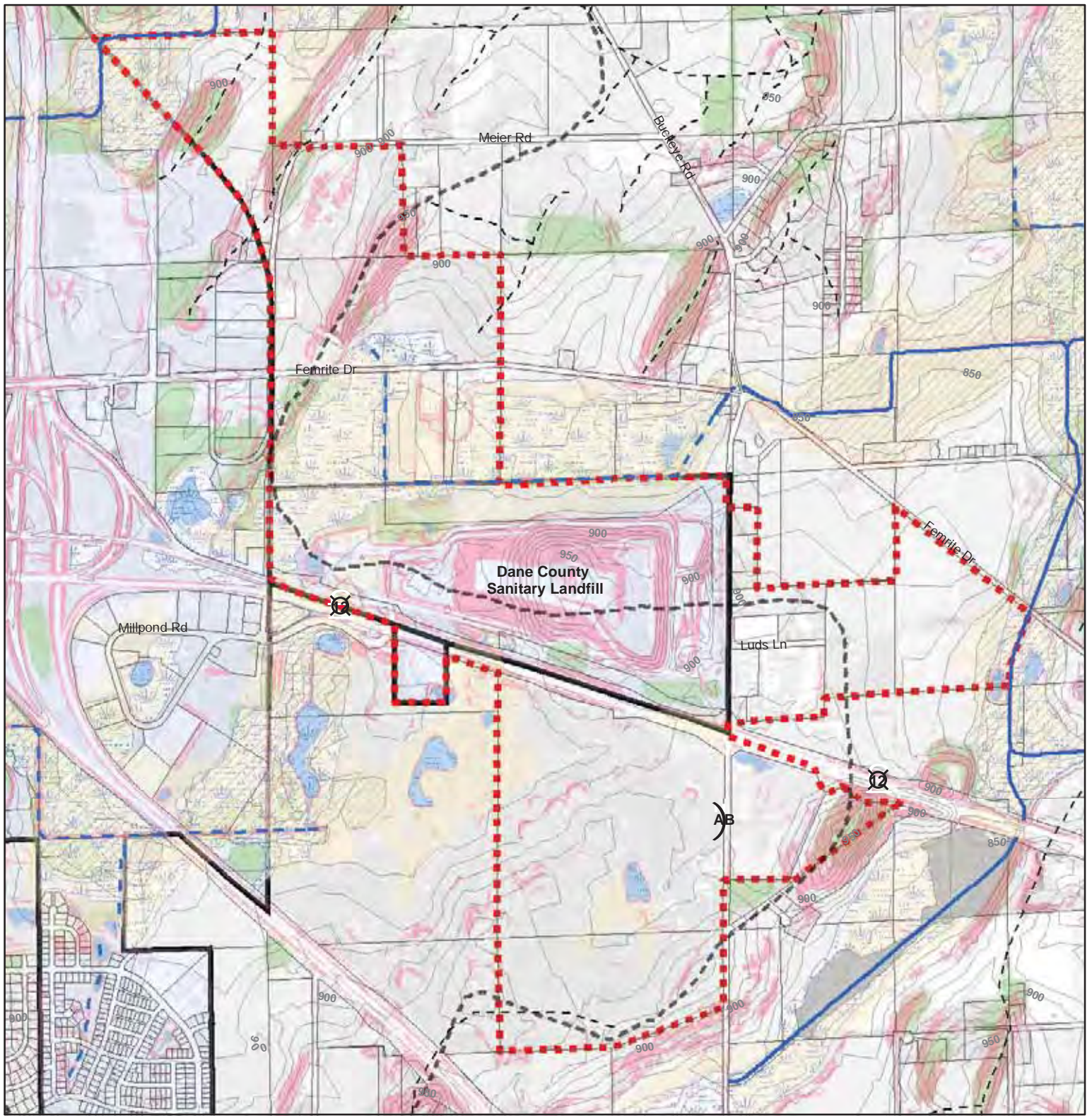
November 2021

-  Central Urban Service Area
-  Expansion Area



-  City of Madison
-  Town of Blooming Grove
-  Town of Cottage Grove
-  Village of McFarland







0 0.25 0.5 Miles




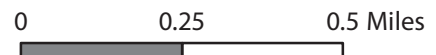


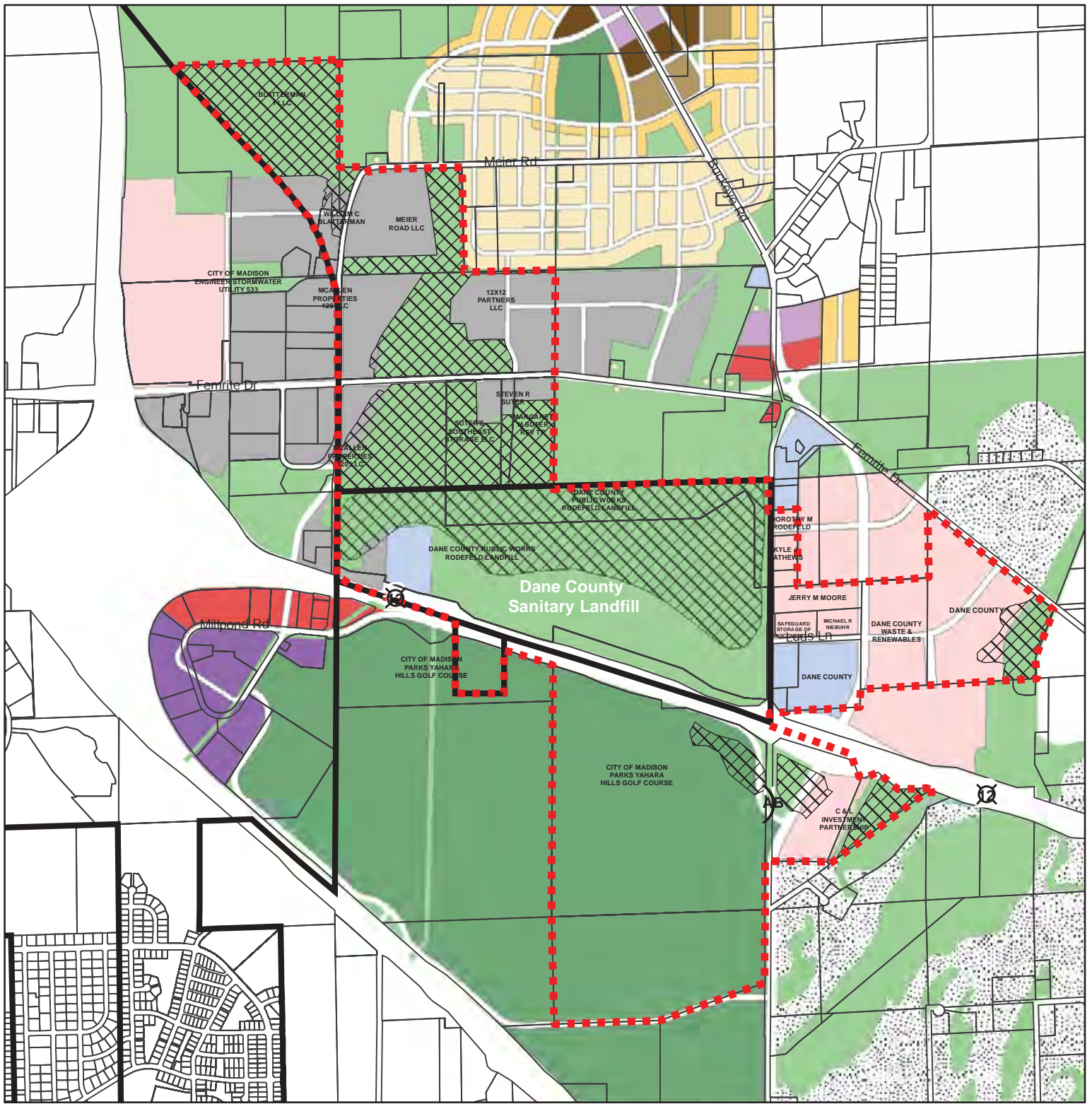
Map 3: Natural Features
City of Madison CUSA Expansion
November 2021

 Central Urban Service Area
 Expansion Area

-  Perennial Stream
-  Intermittent Stream
-  Major Ridgeline
-  Minor Ridgeline
-  10 Foot Contours
-  Slope 12% or Greater

-  Hydric Soils
-  Woodland
-  Open Water
-  Wetlands
-  Floodplain

















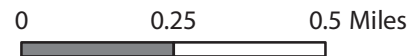
Map 4: Land Use and Street Plan

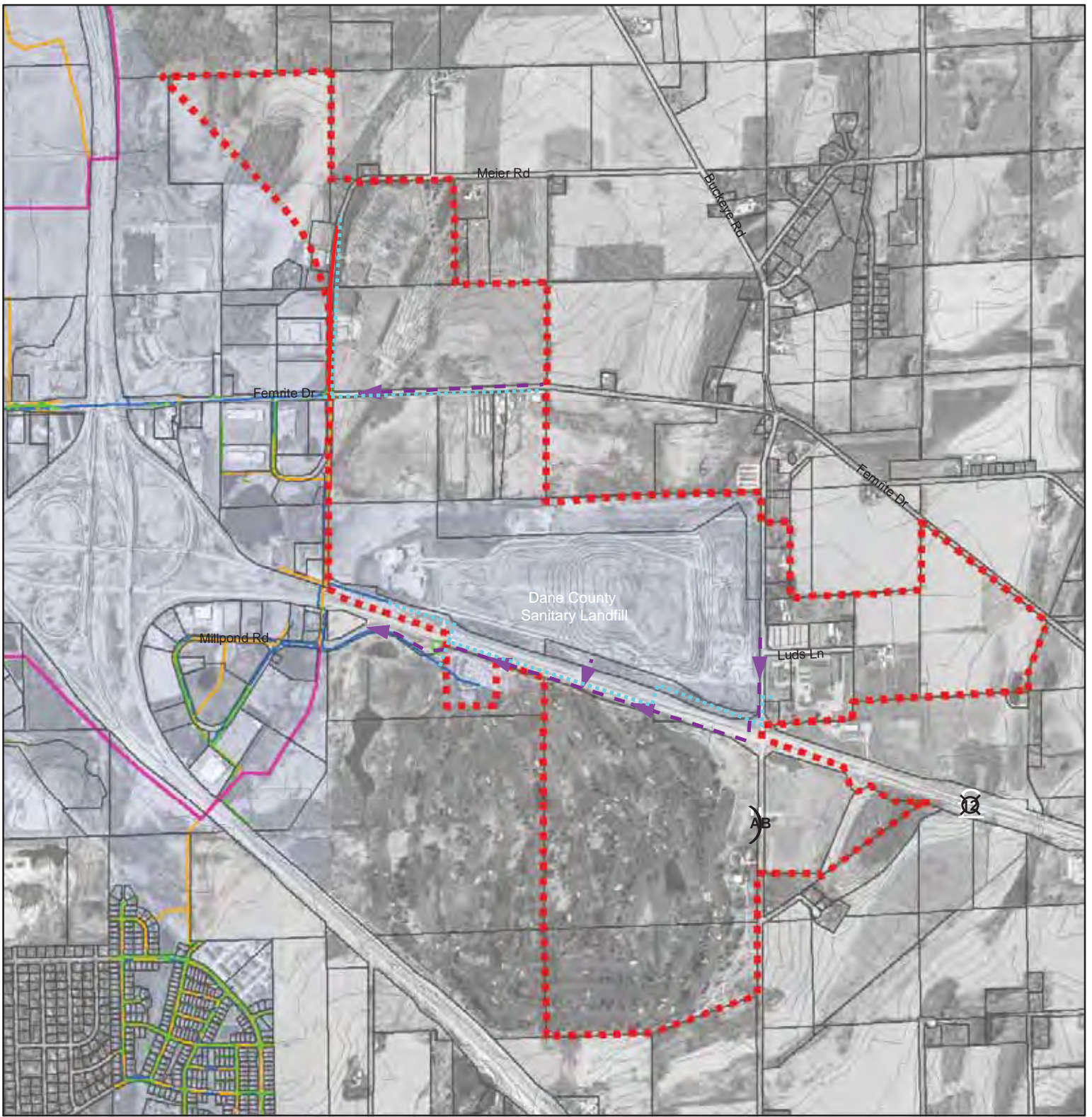
City of Madison CUSA Expansion November 2021

-  Central Urban Service Area
-  Expansion Area
-  Existing/Proposed/Future Environmental Corridor
-  2 Foot Contours

-  Housing Mix 1 (0-8 du/ac)
-  Housing Mix 2 (9-20 du/ac)
-  Housing Mix 3 (21-40 du/ac)
-  Housing Mix 4 (40-70 du/ac)
-  Employment
-  Commercial - General


-  Mixed Use Neighborhood
-  Mixed Use Community
-  Institutional
-  Parks and Open Space
-  Other Open Space and Stormwater Management
-  Industrial





Map 5: Utilities

City of Madison CUSA Expansion
November 2021

 Central Urban Service Area

 Expansion Area


 10 Foot Elevation Contour

 Water Main

 Sanitary Main

 Stormwater Pipe

 MMSD Sanitary Interceptor

 Future Sanitary Sewer Gravity Main

 Future Water Main

0 0.25 0.5 Miles