

# AGRICULTURAL IMPACT STATEMENT



**DATCP  
#4358**

**City of Mondovi Wastewater  
Treatment Plant  
City of Mondovi  
Buffalo County**



**WISCONSIN DEPARTMENT OF AGRICULTURE,  
TRADE AND CONSUMER PROTECTION**  
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DATCP #4358  
City of Mondovi Wastewater Treatment Plant  
Buffalo County

## **WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION**

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# MISSION STATEMENT

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Dear Reader,

In the 1970's, Wisconsin farmers and many local governments located between Green Bay and Milwaukee overwhelmingly opposed the planned creation of Interstate 43 (I-43). As originally planned, the I-43 project would run about 2 miles west of and parallel to Hwy-57 and be constructed primarily on farmland, as opposed to utilizing the existing Hwy-57 right of way. These farmers organized and staged protest rallies on the Wisconsin State Capitol grounds, including bringing cows to graze on the capital lawn. The strong opposition these farmers and local governments demonstrated prompted a compromise that would relocate the interstate to run along the US 141 corridor between Milwaukee and Manitowoc. This same opposition also prompted the Wisconsin legislature in 1978 to establish the Agricultural Impact Statement (AIS) statute, Wis. Stat. § 32.035, as part of Wisconsin's Eminent Domain law.

Holding onto the spirit and purpose of the farmer led protests of the 1970's, the mission of the AIS program is ***to provide agricultural landowners and operators an opportunity to be heard in matters that impact their lands and an opportunity to voice for alternatives in order to preserve farmland under the framework of Wis. Stat. § 32.035***. Through the AIS program, agricultural landowners have the opportunity to provide feedback, document impacts, and advocate for alternative solutions any time agricultural lands are significantly affected by an entity with the potential powers of eminent domain. The AIS program also provides affected landowners the time to gather information in order to make well informed decisions before the potential project begins. Lastly, the AIS program makes suggestions and recommendations to project initiators to promote project alternatives and management practices that would reduce the potential impacts to agricultural lands and operations.

The AIS program has responsibilities to both the impacted landowners and the project initiator. The AIS program serves as an advocate to the affected agricultural landowners and will contact each affected landowner and operator in order to listen, learn and document the impacts the project poses to their agricultural lands and operations. Based on this feedback, the program will also identify and recommend project alternatives, best management & oversight practices and remediation practices to the project initiator, landowner(s) and operator(s) to reduce potential agricultural impacts. The AIS program serves the needs of the project initiator by conducting the AIS analysis and publishing the statement within a timely manner as required by Wis. Stat. § 32.035. In addition, the AIS program provides a continuing presence throughout project development and oversight processes in order to advocate for agricultural landowners and support the statewide priority to preserve prime farmland.

The Agricultural Impact Statement program and the WI Department of Agriculture, Trade and Consumer Protection are honored to provide this essential state service to the agricultural landowners and operators of the state.

Thank you

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# SUMMARY OF AGRICULTURAL IMPACT STATEMENT

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The Wisconsin Department of Agriculture, Trade and Consumer Protection (the Department) has prepared Agricultural Impact Statement (AIS) #4358 for the acquisition of land by the City of Mondovi (the City) in Buffalo County, WI. The City has proposed this project in order to construct a new wastewater treatment plant (WWTP) as a replacement for its existing WWTP (Figure 1). The existing WWTP is currently meeting all water quality based effluent limitations (WQBEL's) and complies with the existing standards of its Wisconsin Pollutant Discharge Elimination System (WPDES) permit.

While the existing WWTP is meeting its WPDES permit treatment standards, the facility plan specifies that the Wisconsin Department of Natural Resources (DNR) plans to change the facility's WPDES permit. The DNR plans to change the WPDES permit to comply with the U.S. Environmental Protection Agency (EPA) designation of the Buffalo River as a 303(d) impaired waterbody, which requires the enforcement of Total Maximum Daily Load (TMDL) discharge limitations for point source discharges (DNR, 2018). As the City's WWTP discharges to the Buffalo River, it will be required to meet the future new lower total phosphorus discharge limitation. However, the City's facility plan (CBS Squared, 2019) specifies that the existing WWTP, with its existing phosphorus removal system, cannot meet the 92.5% reduction in total phosphorus as required by the DNR to meet the TMDL.

The City evaluated a total of three project alternatives, including a no-build alternative for a base line comparison to the other two alternatives. Based on the three alternatives, the City selected the alternative to replace the existing WWTP at a new location and to relocate the outfall. Working from the selected alternative, the City evaluated and ranked a total of three potential locations to locate the new WWTP. From this analysis, the City selected an area comprised of two agricultural parcels owned by Schmidtknecht Farms LLC as the location to site the proposed approximate 6.7 acre boundary of the WWTP (Figure 1). The City of Mondovi and Schmidtknecht Farms LLC have already indicated that they have completed a voluntary contract, prior to any jurisdictional offer, to purchase or acquire easements on the portions of agricultural parcels impacted by the proposed WWTP.

In accordance with [Wis. Stat. §32.035](#), the City has provided the Department with the necessary information and materials to conduct an AIS. The Department has also contacted the agricultural property owner(s) and operator(s) of the site affected by the City's selected alternative. In accordance with [Wis. Stat. §32.035\(4\)\(b\)](#), the Department has reviewed and analyzed the City's materials and comments from the affected agricultural property owner(s) and operator(s) of the selected site to assess the agricultural impacts of the City's proposed WWTP. Through the AIS



analysis, the Department offers a set of recommendations and conclusions to the City and the agricultural land owner(s) and operator(s) to help mitigate current and future impacts on agricultural lands and agricultural operations at the selected site.

The set of recommendations are located within the Agricultural Impact Statement Recommendation Section beginning on page 3. The Agricultural Impact Statement analysis begins on page 4 with information on the project located in Section II. Information and conclusions on the agricultural setting of Buffalo County and impacted area can be found in Section III. The agricultural impacts of the project on the impacted land, landowner(s) and operator(s) in Section IV. Appendices for AIS #4358 contain information on the appraisal and compensation process, a copy of Wisconsin’s agricultural impact statement statute and various additional sources of related information for agricultural landowners and operators.

If the City deviates from the selected alternative or the selected site, the City shall re-notify the Department. The Department shall review the re-notification for new potential impacts to agricultural lands and may determine it is necessary to generate an addendum to this AIS.

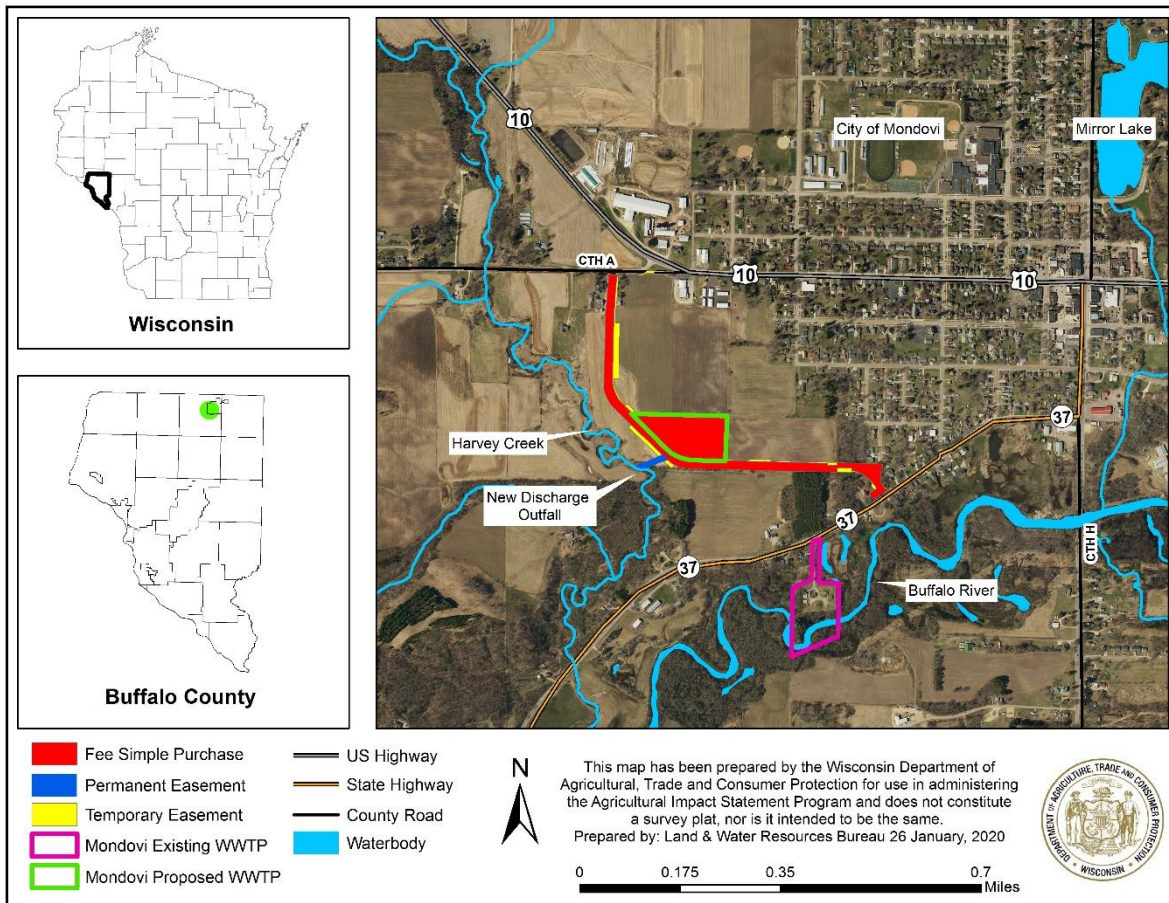


Figure 1: Location of the City of Mondovi’s existing and proposed new wastewater treatment plants. The proposed new location represents the City’s selected alternative at the selected site within the City limits of the City of Mondovi.

# AGRICULTURAL IMPACT STATEMENT RECOMMENDATIONS

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The Wisconsin Department of Agriculture, Trade and Consumer Protection (the Department) has reviewed and analyzed the materials provided by the City of Mondovi (the City) and comments from the affected agricultural property owner(s) and operator(s) regarding the City's proposed wastewater treatment plant (WWTP). In accordance with [Wis. Stat. §32.035\(4\)\(b\)](#), the Department provides the following recommendations to the City and agricultural land owner(s) and operator(s) to help mitigate impacts on agricultural lands and agricultural operations.

## Recommendations to the City of Mondovi

- If there is adequate growing season for a crop to mature and be harvested after the City acquires the land, but before construction of the proposed wastewater treatment plant begins, the City should consider formalizing a rental contract with the current agricultural operator to harvest a crop for that season.
- During project design, the City should consult with the Buffalo County Conservationist to ensure that land restoration and planting of the landscape around the facility proceeds in a manner that minimizes drainage problems, soil erosion and soil compaction on the remaining remnant agricultural lands as well as adjacent properties.
- The City should consult with the affected landowners to ensure any relocated or newly established points of access to agricultural lands are placed in areas that provide safe and efficient access to the remnant agricultural property.
- The City should consider negotiating an adaptive management contract under Wis. Adm. Code NR 217.18 with the affected agricultural landowner. As mentioned within the City's WWTP facility plan, utilizing adaptive management on agricultural lands such as the affected property, has the potential to help the City achieve its' water quality based effluent limitations (WQBELs). Additionally, establishing adaptive management on the remnant agricultural fields would both benefit the affected agricultural landowner and promote the City's long term and continual priority of protecting economically productive farmlands as outlined within the City's 2008 – 2028 Comprehensive plan.
- During winter months, the City should consider designating Schmidtknecht road as a non-salt route road or limit the amount of road salt applied to the minimum practical application rate in order to mitigate potential detrimental impacts to the health of the receiving agricultural soils, wetlands and surface waters.

# AGRICULTURAL IMPACT STATEMENT

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## I. INTRODUCTION

The Wisconsin Department of Agriculture, Trade and Consumer Protection (the Department) has prepared Agricultural Impact Statement (AIS) #4358 in accordance with [Wis. Stat. §32.035](#) for the proposed City of Mondovi Wastewater Treatment Plant (WWTP) (Figures 1 and 2). WWTPs operate as municipal utilities that service the public welfare by collecting and treating municipal wastewater from residential, commercial, and industrial sources. Once municipal wastewater is properly treated, it's no longer acutely toxic and is released into the environment. Both Federal and State laws and regulations govern the release of treated municipal wastewater in order to mitigate the negative impacts its release has to the environment, wildlife, and public.

The AIS is an informational and advisory document that describes and analyzes the potential effects of the project on agricultural operations and agricultural resources, but it cannot stop a project. The Department is required to prepare an AIS when the actual or potential exercise of eminent domain powers involves an acquisition of interest in more than 5 acres of land from any agricultural operation. The term agricultural operation includes all owned and rented parcels of land, buildings, equipment, livestock, and personnel used by an individual, partnership, or corporation under single management to produce agricultural commodities.

The AIS reflects the general objectives of the Department in its recognition of the importance of conserving vital agricultural resources and maintaining a healthy rural economy. The Department is not involved in determining whether or not eminent domain powers will be used or the amount of compensation to be paid for the acquisition of any property.

Prior to the release of this AIS, the City of Mondovi notified the Department that they had completed voluntary contracts, prior to any jurisdictional offer, to purchase or acquire easements for the portions of agricultural parcels impacted by the proposed WWTP. As the voluntary contract preceded any jurisdictional offer by the City, the 30-day waiting period for contract negotiations under [Wis. Stat. §32.035\(4\)\(d\)](#) is not applicable.

The City's WWTP facility plan (CBS Squared, 2019) also contains two other potential proposals: 1) to create a new industrial park by acquiring the entirety of the agricultural parcels impacted by the WWTP and several other agricultural parcels in the surrounding area and 2) to create an aerobic digester on an adjoining agricultural parcel to the WWTP. The City informed the Department that these two project were potential projects only for future consideration and asked the Department to omit them from AIS #4358. Therefore, the Department has determined that the potential plans for an industrial park and aerobic digester are beyond the scope of AIS #4358. If the City of Mondovi proceeds with the acquisition of additional agricultural lands for either an industrial park or

an aerobic digester, the City shall re-notify the Department in accordance with Wis. Stat. §32.035(3).

The full text of [Wis. Stat. §32.035](#) is included in Appendix B. Additional references to statutes that govern eminent domain and condemnation processes and other sources of information are also included in Appendices B and C.

## II. PROJECT DESCRIPTION

### The Project

The City of Mondovi, in Buffalo County, WI (the City) has proposed to construct a new wastewater treatment plant (WWTP) at a new location to replace the existing facility that services the City. The City's WWTP currently provides services to mostly domestic customers and some commercial and light industrial customers within the municipal boundaries of the City of Mondovi.

The City has recently completed a long-range WWTP facility plan that will guide City WWTP operations and planning over the next 20 years (CBS Squared, 2019). The City has provided a copy of the WWTP facility plan as well as an agricultural impact notification and related spatial materials to the Department. The City's facility plan (CBS Squared, 2019) and agricultural impact notification were analyzed as part of the AIS and serve as reference documents for the project, its existing facility, the project need and project alternatives. The City's proposed project represents its selected project alternative at its selected location. The proposed WWTP facility would be located within the municipal boundaries of the City of Mondovi (Figure 1) on six parcels of agricultural land shown in Figure 2. The City has already acquired the land to construct the proposed WWTP facility and the new city road required to provide access to the WWTP through the combination of a voluntary fee-simple acquisition, permanent easement and temporary easements totaling approximately 14.5 acres of agricultural lands. A full list of the impacted acres for each agricultural landowner is provided in Table 6 of Section IV: Landowner Impacts.

The City originally considered three locations within the municipal boundaries of the City of Mondovi to site the potential new WWTP. These three sites were evaluated based on their proximity to residential, commercial, or industrial structures and ability to connect to the existing wastewater collection system. From this analysis, the City selected the Schmidtknecht Farms LLC parcels ID's 251-00542-0000 and 251-00564-0010 as the location to site the proposed approximate 6.7 acre boundary of the WWTP seen in Figure 2. At the selected location, the discharge outfall location (Figure 1) would now be located on Harvey Creek, which is a smaller tributary waterbody to the Buffalo River. As a smaller waterbody, the new outfall location on Harvey Creek would have more stringent water quality based effluent limitations (WQBELs) as compared to the existing outfall location on the Buffalo River.

In order to comply with the WQBELs, the Buffalo River TMDL and increased sewerage loading from a potential new industrial park, the City evaluated several alternatives. The City's selected alternative wastewater treatment system would consist of fine screen and grit removal, UV disinfection, a new bio-solids handling process and an activated sludge sequencing batch reactor (SBR) with an advanced biological nutrient recovery (ABNR) tertiary treatment for phosphorus removal. In addition to the structures needed for wastewater treatment system, a combined office/lab building and garage would also be constructed within the WWTP boundary.

As the selected alternative relocates the WWTP onto agricultural lands with no existing road access, the City is also proposing to construct a new City road called "Schmidtknecht" road. Schmidtknecht road would connect County Road A to Wis. State Highway 37 by running north-south through parcel ID 251-00562-0010 and then turning east-west through parcel ID 251-00542-0000 (Figure 2). The City has also proposed an additional new lift station located along the existing right of way (ROW) of the existing WWTP and a new force main pipe that will redirect untreated wastewater away from the existing WWTP and redirect it to the proposed new WWTP. The new force main pipe would be cited within the existing ROW of Wis. State Highway 37 and the new ROW created by Schmidtknecht road.

### **Existing Facility**

According to the facility plan (CBS Squared, 2019), the City's existing WWTP became operational in 1970, underwent modifications in the 1980's and added a ferric chloride system for phosphorus removal in 2006. The existing WWTP is currently operating under the Wisconsin Pollutant Discharge Elimination System (WPDES) permit WI-0020591-10-0 that was issued on September 1, 2018 and expires on June 30<sup>th</sup>, 2023. The existing WWTP is located in the southwest corner of the municipal boundary of the City of Mondovi on a 1.6 acre parcel owned by the City at 649 West Riverside Drive (Figure 1). This WWTP provides sanitary sewer service to an estimated 2,772 people (DOA, 2019a) within the City of Mondovi municipal boundary and discharges its treated effluent into the Buffalo River.

Broadly speaking, the treatment process at the existing WWTP consists of a rotating biological contactor process that includes chemical phosphorus removal (CBS Squared, 2019). The facility plan (CBS Squared, 2019) also lays out the full treatment process as follows:

- The incoming untreated sewerage, referred to as influent, is first screened to remove the large materials and objects that are incompatible with later treatment processes.
- The screened influent then moves into a primary clarifier (i.e large pool) that allows particles to settle to the bottom of the clarifier. These particles form into the primary sludge, which is collected and removed.

- The liquid wastewater coming out the primary clarifier flows through the rotating biological contactor where ferric chloride is added. The addition of ferric chloride promotes the binding of very small particles that would otherwise not settle to the bottom, into larger particles that can settle to the bottom of two secondary clarifiers and form a chemical sludge that can be collected and removed.
- In addition to particle binding, the ferric chloride also traps phosphorus within the chemical sludge, leading to a lower concentration of phosphorus within the treated wastewater referred to as effluent.
- After the liquid wastewater leaves the secondary clarifiers, it passes through a chlorine contact tank for seasonal disinfection.
- After the chlorine tank, the wastewater treatment process is complete and the treated effluent is discharged into the Buffalo River. The primary and chemical sludge are both pumped into an aerobic digester where the sludge is stored and periodically transported to the West Central Wisconsin Biosolids Facility.

Under the City's selected project alternative, the existing WWTP (Figure 1) would be decommissioned. However, the facility plan does not specify how the existing WWTP facility will be decommissioned nor detail what will happen to the property once decommission is complete. The facility plan states that much of the equipment at the existing WWTP is obsolete, currently out of service, or would be incompatible with the new treatment processes proposed within the selected project alternative (CBS Squared, 2019). Therefore it's unclear what if any equipment or technologies at the existing WWTP would be utilized by the new facility.

## Project Need

An evaluation of the City's facility plan (CBS Squared, 2019) indicates the existing WWTP is currently meeting all water quality based effluent limitations (WQBEL's) monitored by the Wisconsin Department of Natural Resources (DNR) in accordance with the facility's WPDES permit. While the existing WWTP is meeting WPDES permit treatment standards at this time, the facility plan does specify that the DNR plans to change the facility's WPDES permit. The planned changes to the WPDES permit are the driving force behind the proposed project, as these changes have the potential to take the WWTP out of compliance in the future.

The DNR currently considers the Buffalo River to be an impaired waterway based on the amount of total phosphorus within the river. As an impaired waterway, the DNR has listed the Buffalo River on the current 303(d) list as a category 5A, indicating that the waterway requires a Total Maximum Daily Load (TMDL) in accordance with the U.S. Environmental Protection Agency (EPA) (DNR, 2018). As the City's existing WWTP discharges to the Buffalo River, the pending Buffalo River TMDL will force the DNR to impose a new stricter six month averaged total phosphorus limit of 0.075

mg/L upon the City's WWTP. The City's WWTP is currently permitted through its current permit to discharge total phosphorus at a monthly average concentration of 1.0 mg/L until June 30<sup>th</sup>, 2023. In order for the City to comply with the new lower total phosphorus restrictions in 2023, the City's existing WWTP would need to reduce the amount of phosphorus it discharged by 92.5%.

The City's facility plan (CBS Squared, 2019) specifies that the existing WWTP, with its existing phosphorus removal system, cannot meet the 92.5% reduction in total phosphorus as required by the DNR to meet the TMDL. Therefore, in order to comply with the pending stricter total phosphorus limit, the facility plan states that the WWTP would need to either:

- a) Add additional tertiary treatment at the existing WWTP
- b) Construct a new WWTP with the proper treatment system

When considering the addition of tertiary treatment systems to the existing WWTP, the City's facility plan (CBS Squared, 2019) also detailed the known deficiencies that would likely prevent such an additions from being feasible. The plan goes on to state that most of the existing WWTP systems have either reached the end of their service life or are no longer seen as practical treatment techniques. The addition of the new tertiary treatment systems as well as the replacement of old systems would require major investments to the existing facility. Under the Wis. Admin. NR 110.15 *General Requirements for Sewerage treatment Facilities*, an investment of this size to the existing WWTP at the existing location would not be permissible. Under Wis. Admin. NR 110.15(3)(d) a WWTP of this design shall maintain a minimum setback distance of 500 feet from of commercial establishments and residential dwellings, yet the existing WWTP is located in close proximity (< 500 feet) to several residential dwellings just to the north of the WWTP. Furthermore, the existing WWTP is located within a 100-year floodplain. Under Wis. Admin. NR 110.15(3)(b) an existing WWTP applying to expand or upgrade above 50% of the value of the facility would be denied if the facility is located within a floodway. The close proximity of the existing WWTP to residential dwellings and location within a 100-year floodplain are two significant factors that could provide the DNR grounds to deny future potential expansion to the existing WWTP.

## Alternatives

As part of the City's draft facility plan and agricultural impact notification submission to the Department, the City evaluated three main alternatives (A, B, C) and proposed three separate variations of alternative C (C1, C2, C3) (CBS Squared, 2019). A common scope was developed for the evaluation, such that, each alternative must a) include a phosphorus reduction treatment system to comply with future DNR WQBEL limits, b) expand WWTP loading capacity and c) consider additional industrial customers. The City's analysis of the alternatives consisted of an assessment of WWTP expansion phasing, a review of potential energy reductions, an economic analysis, a nonmonetary analysis and an environmental impact analysis. The City also created a decision matrix that evaluated and ranked the alternatives on their a) capital cost b) present worth

value c) environmental concerns and d) social concerns. Through their analyses, the City chose the highest ranked alternative from the decision matrix, alternative C2, as the selected alternative and parcel IDs (251-00542-0000 and 251-00564-0010) as the selected location.

- *Alternative A: No-build Alternative*

The City's alternatives analysis concluded the existing WWTP could not achieve compliance with the upcoming WPDES permit change in 2023, requiring a six month average total phosphorus limit of 0.075 mg/L at the Buffalo River outfall. In addition, the existing WWTP couldn't treat the projected future increased sewerage loading, assumed as part of the scope of the alternatives, in accordance with current WPDES standards. Therefore, the City did not pursue the no-build alternative.

- *Alternative B: Upgrade and Expand Existing WWTP with Existing Outfall*

Under this alternative, the City would upgrade and expand the existing WWTP to achieve compliance with the upcoming change to the WPDES permit total phosphorus limit in 2023 and to meet the potential for increased sewerage loading. The City decided not to pursue this alternative, in brief, due to the location of existing WWTP on a floodplain, close proximity of existing WWTP to residential dwellings, lack of adequate space to expand WWTP and the poor condition of existing WWTP infrastructure. Section II, *Project Need* contains expanded rationales used by the City to determine not to pursue alternative B.

- *Alternative C: Replace Existing WWTP at a New location, Relocate Outfall*

Under this alternative, the City would construct a new WWTP on new land and relocate the discharge outfall location. At the selected location, the discharge outfall location would now be located on Harvey Creek, which is a smaller tributary waterbody to the Buffalo River. As a smaller waterbody, the new outfall location on Harvey Creek would have stricter WQBELs, namely a six month averaged total phosphorus limit of 0.057 mg/L as compared to the 0.075 mg/L limit for the Buffalo River. In order to meet the future WQBELs, the Buffalo River TMDL and potential increased sewerage loading, the City evaluated three wastewater treatment systems for the new selected location, denoted as C1, C2 and C3 below.

- *Alternative C1: Oxidization Ditch based WWTP with Reactive Sand Filtration*

The treatment system under this alternative would include fine screen and grit removal, controls linked to a supervisory control and data acquisition (SCADA) system, energy savings initiatives, UV disinfection, septage receiving and monitoring, a new bio-solids handling process, reactive sand filtration (RSF) tertiary treatment for phosphorus removal.



- *Alternative C2: Activated Sludge Sequencing Batch Reactor based WWTP with Advanced Biological Nutrient Recovery (Selected Alternative seen in Figure 2)*

The treatment system under this alternative would include fine screen and grit removal, controls linked to a SCADA system, energy savings initiatives, UV disinfection, septage receiving and monitoring, a new bio-solids handling process and an activated sludge sequencing batch reactor (SBR) with an advanced biological nutrient recovery (ABNR) tertiary treatment for phosphorus removal.

- *Alternative C3: Bio-loop WWTP with ABNR Tertiary Treatment*

The treatment system under this alternative would include fine screen and grit removal, controls linked to SCADA, energy savings initiatives, UV disinfection, septage receiving and monitoring, a new bio-solids handling process and a modified Bio-Loop oxidization ditch with an ABNR tertiary treatment for phosphorus removal.

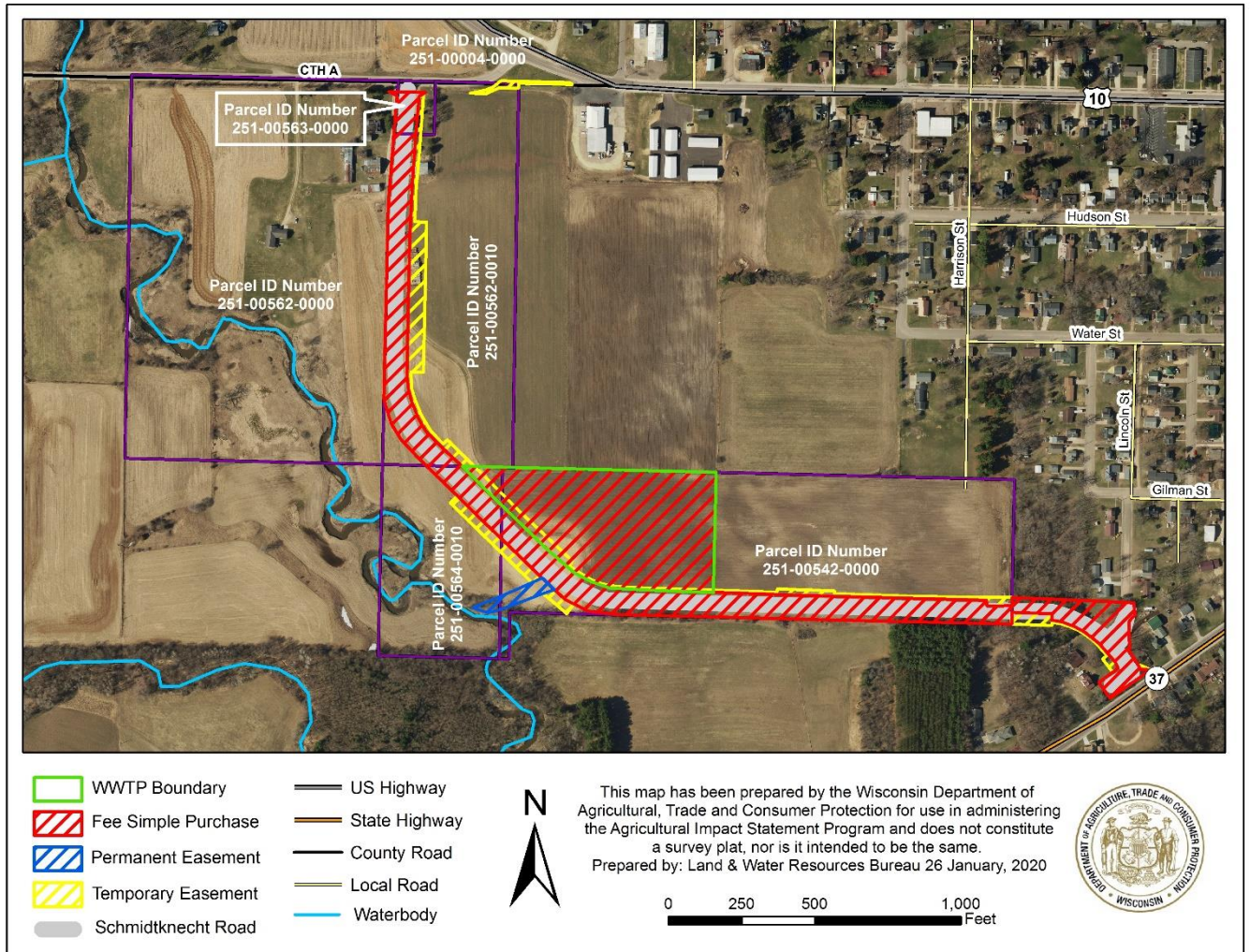


Figure 2: Location and types of land acquisitions for the proposed new wastewater treatment plant and access road for the City of Mondovi in Buffalo County, WI at the selected location and impacted land parcels and parcel numbers.

### III. AGRICULTURAL SETTING

The agricultural setting of a county has the potential to broadly impact agricultural land valuations. For example, counties with productive lands and/or urban counties with increased developmental pressures are generally known to result in higher sale prices for agricultural lands (Borchers *et al.*, 2014; Nantel, 2020). As the impacted lands for the City’s WWTP reside with Buffalo County, the agricultural setting of Buffalo County will be analyzed to provide baseline information to assess the productivity and valuation of agricultural lands within the County. Section IV, *Agricultural Impacts* will analyze and discuss the potential impacts of the project on impacted agricultural lands.

#### Agricultural Productivity

In 2017 the U.S. Department of Agriculture (USDA) Census of Agriculture determined that Buffalo County had 966 farm operations on 293,130 acres of agricultural lands (USDA, 2017). Reviewing Buffalo County’s crop yield data can assess the general agricultural productivity of the county’s farm operations. The most recent crop yield data from the USDA Wisconsin Agricultural Statistics Bulletin (Table 1) shows that Buffalo County, over a three year period (2016 – 2018) has consistently produced average crop yields that are near or below the state average for corn grain, soybeans and oats (USDA, 2017a; USDA, 2018; USDA, 2019a). However, over the same time-period Buffalo County has consistently harvested near or above average crop yields for alfalfa (Table 1). The crop yield data from Buffalo County would indicate that the agricultural operations as a whole are nearly as productive as the state average and may exceed state average crop yields depending on the crop (Table 1).

Table 1: Crop yields for selected crops (2016 to 2018) in Buffalo County and the Wisconsin State average yield (USDA, 2017a; USDA, 2018; USDA, 2019a).

Crop	Crop Yield per Acre					
	2016		2017		2018	
	Buffalo Co.	State Avg	Buffalo Co.	State Avg	Buffalo Co.	State Avg
Corn Grain (bushels)	169.5	178.0	167.8	174.0	169.5	172.0
Soybeans (bushels)	52.7	55.0	47.1	47.0	45.2	49.0
Oats (bushels)	57.5	66.0	NA	59.0	40.0	61.0
Alfalfa (tons)	3.3	3.2	3.5	3.0	2.5	2.4

\* NA = data not published

#### Land in Agriculture

Buffalo County, with a population of 13,707 residents (DOA, 2019b) would commonly be considered a rural county. Buffalo County does not contain any urbanized areas or urban clusters (DOA, 2019c) which are defined as population clusters of at least 10,000 people or at least 50,000

people respectively (Standards, 2010). Buffalo County is also not known to the U.S. Census Bureau to be affiliated with any Metropolitan Statistical Area or Micropolitan Statistical Area (DOA, 2019c), which are areas with large population clusters or the adjacent counties that are socially and economically integrated with a large population cluster.

Urban development pressures on agricultural lands are known to increase the rate of farmland conversion and increase agricultural land sale values (Azadi *et al.*, 2010; Borchers *et al.*, 2014). The following analysis will identify if agricultural lands within Buffalo County are exhibiting signs of urban pressure and development. In 2017, Buffalo County had 293,130 acres of land in farms or 68.2% of the county, which is higher than the statewide average of 41.3% (USDA, 2017b). However, between 1997 and 2017 (5.0%) of agricultural lands within Buffalo County were converted out of agricultural use, a proportion that is higher than the statewide average (3.9%) (Table 2) (USDA, 2017b). During this same time-period (1997 – 2017) Buffalo County lost 3.4% of its’ farming operations, which is almost 3 times higher than the average loss experienced across Wisconsin (Table 3) (USDA, 2017b).

Table 2: Agricultural land in production within Buffalo County and Wisconsin (USDA, 1997; USDA, 2017b).

Location	Acres of Agricultural Land (acres)		Agricultural Land Converted (%)
	<u>1997</u>	<u>2017</u>	
Buffalo County	308,581	293,130	5.0%
Wisconsin	14,900,205	14,318,630	3.9%

Table 3: Change in the number of farms between 1997 and 2017 within Buffalo County and Wisconsin (USDA, 1997; USDA, 2017b).

Location	Number of Farming Operations		Change in Farming Operations	Percent Change (%)
	<u>1997</u>	<u>2017</u>		
Buffalo County	1,000	966	-34	-3.4%
Wisconsin	65,602	64,793	-809	-1.2%

It is apparent from this analysis that Buffalo County is losing farming operations at a higher rate, almost 3 times faster, than the statewide average. However, the rate of agricultural land conversion is occurring at a similar, but higher rate (1.3 times) than the statewide average. The loss of farming operations within the County is also not occurring evenly across all sizes of operations. Between 2012 - 2017, farming operations lost within Buffalo County all came from small to mid-sized (1 – 499 acre) operations, while the number of large operations (500 + acres) increased (USDA, 2017b). The consolidation of agricultural operations seen in Buffalo County could be one explanation for the high rate of farming operation losses, yet a lesser rate of agricultural land conversion.

The pressures of urban development and urban population growth on farmland conversion are not readily apparent across Buffalo County. As a whole, the WI-DOA (2013a) predicts that Buffalo County will see the ninth greatest population decline (-4.3% or -587 persons) by 2040 across all Wisconsin Counties. Furthermore, the WI-DOA (2013a) projected that Buffalo County achieved its peak population in the year 2010 and is only expected to experience population declines by 2040. While Buffalo County does lack urbanized areas and/or urban clusters that drive population growth, there are incorporated municipal populations that are growing even though the county as a whole is projected to experience population declines. For example, the population of the City of Mondovi is expected to remain stable through the year 2040, with an expected population increase of 1.2% (DOA, 2013b). Agricultural lands within the boundaries of these incorporated municipalities would be at the highest risk of farmland conversion, as Buffalo County does not have zoning authority to restrict agricultural land conversion within municipal boundaries.

## Property Valuation

The valuation of agricultural lands is a key component of a county's agricultural settings. This valuation broadly serves as an indicator for the demand of agricultural land as well as its market value. Circumstances that impact the land such as agricultural productivity, urban development pressures and the intended future use of the land also factor into agricultural land valuation. Nonetheless, market conditions for agricultural land sales may vary from year to year and may not be apparent at the local scale.

The analysis of agricultural land value performed here encompassed agricultural land sales for both continued agricultural use and agricultural land diverted to other land uses, at the county scale over a three year time-period. The results of the agricultural land sale value analysis are shown in Table 4. The average (\$ /acre) sale price for agricultural land sold for continued agriculture use between 2016 – 2018 in Buffalo County was \$ 4,159. In comparison to the statewide averages, agricultural land sold for agricultural uses in Buffalo County sold for 20.9% below the state average sale price. Across the state, agricultural lands sold for development to non-agricultural uses averaged sale values of \$10,544. However, Buffalo County agricultural land sales for development to non-agricultural uses were 60.5% lower than the state average, at \$4,162.

The average sale price for agricultural lands sold in Buffalo County seems to remain consistent regardless if the land is sold for agriculture or diverted to another purpose (Table 4). The average sale price for agricultural lands in Buffalo County is also well below the state averaged sale prices. The below average sale prices for agricultural land, regardless if the land is diverted from agriculture, could indicate a strong level of demand to keep land within agriculture and/or a low demand to develop agricultural lands. Given the City proposes to develop the impacted agricultural lands, the estimate of agricultural land valuation in this analysis is based on the 2016-2018 average sale price for agricultural lands sold for development within Buffalo County. As such, the analysis has established an average valuation of \$4,162 (\$ / acre) for agricultural land sold for

development in this area. The estimated valuation proposed within this analysis is not a valuation of any particular agricultural land or property and is only intended to establish an estimated average valuation for agricultural lands sold to non-agricultural uses within Buffalo County, WI. As the data used within the analysis is an average over the 2016 – 2018 time period it is likely the average sale valuation for agricultural lands sold for development to non-agricultural uses in the year 2020 has changed.

Table 4: Agricultural land sales from 2016 – 2018 in Buffalo County and the Wisconsin State average (USDA, 2017a; USDA, 2018; USDA, 2019).

Location	Agricultural Land Sale* (\$ / acre)					
	2016		2017		2018	
	Sold for Ag <sup>φ</sup>	Diverted <sup>‡</sup>	Sold for Ag <sup>φ</sup>	Diverted <sup>‡</sup>	Sold for Ag <sup>φ</sup>	Diverted <sup>‡</sup>
Buffalo County	3,959	5,137	4,198	3,100	4,319	4,250
Wisconsin Average	5,221	7,558	4,960	10,794	5,587	13,280

\*Sales based on "arms length" transactions, not including sales outside of market conditions (e.g. family sales or foreclosures)

φ Agricultural land sold for continued agricultural use

‡ Agricultural land sold and diverted to other use outside of agriculture

### Farmland Preservation

Wisconsin’s Farmland Preservation (FP) Program provides local governments and landowners with tools to aid in protecting agricultural land for continued agricultural use and to promote activities that support the larger agricultural economy. Through this program, counties adopt a state-certified farmland preservation plan that maps areas identified as important for farmland preservation and agricultural development based upon reasonable criteria. Based on the plan local governments may choose to adopt a FP zoning ordinance or designate Agricultural Enterprise Areas (AEAs) to achieve further land protections and ensure that farmland covered by the plan is eligible for farmland preservation tax credits. Such an ordinance must also be certified by the Department of Agriculture, Trade and Consumer Protection (the Department). Landowners who are eligible in either or both AEAs and FP zoning areas and claim the tax credit are required to follow the state soil and water conservation standards to protect water quality and soil health.

#### Farmland Preservation Zoning

Buffalo County has maintained a Department certified FP plan since 1983 and the current FP plan was revised in 2018 (Buffalo, 2018a). Lands that are planned for farmland preservation by the county and included in a certified zoning district are afforded land use protections intended to support agriculture, and are eligible for the farmland preservation tax credit. A review of the Department’s FP Program participation map shows that Buffalo County has FP zoning in the Town of Mondovi (DATCP, 2020a).

Administered by the county, FP zoning throughout the Town of Mondovi is covered under Agricultural/Natural Resource-40 (ANR-40) (Buffalo, 2018b). However, Buffalo County's FP plan doesn't have authority over incorporated areas (villages and cities) within the county, leaving the authority to zone for agriculture with the incorporated areas. The City of Mondovi does administer its own zoning ordinance that includes an agricultural (A) district (Mondovi, 2020). The impacted parcels at the selected site of the selected alternative are currently zoned within the City's A district. As the City's A district does not explicitly list a wastewater utility or a similar utility as either an authorized or conditional permitted use, the City would need to rezone the impacted parcels and update the City's comprehensive plan to allow for the construction of the WWTP (Mondovi, 2020).

### *Agricultural Enterprise Areas*

AEA are community-led efforts to establish designated areas important to Wisconsin's agricultural future. This designation highlights the importance of the area for local agriculture and further supports local farmland preservation and agricultural development goals. Designation as an AEA also enables eligible landowners to enter into farmland preservation (FP) agreements. Through an FP agreement, a landowner agrees to voluntarily restrict the use of his/her land to agriculture for fifteen years in exchange for eligibility for the farmland preservation tax credit. A review of the Department's AEA program shows that Buffalo County does not contain an AEA (DATCP, 2020b).

### **Drainage Districts**

Drainage districts are local governmental entities governed under Wis. Stat. Ch. 88 and organized under a county drainage board and for the primary purpose of draining of lands for agricultural use (DATCP, 2019b). Landowners who benefit from drainage pay assessments to cover the cost to construct, maintain, and repairing the district's drains. According to the Department, approximately 176 active districts exist within 31 of Wisconsin's 72 counties (DATCP, 2019b). A review of the Department's interactive drainage district web map (DATCP, 2020c) indicated that no drainage districts are located within the City or Town of Mondovi. Furthermore, Buffalo County only has a single drainage district, the Cochrane, which is located entirely within the boundaries of the Town of Belvidere.

### **Conservation Programs**

Voluntary conservation programs such as the USDA Conservation Reserve Enhancement Program (CREP) and the USDA Conservation Reserve Program (CRP) are financial incentive programs to help agricultural landowners meet their conservation goals. The USDA and the Department jointly administer the CREP program in Wisconsin. The CREP program pays eligible agricultural landowners enrolled within the program to install filter strips along waterways or to return continually flooded fields to wetlands while leaving the remainder of the adjacent land in agricultural production. To be eligible for CREP payments, a recipient must have agricultural lands in crop production that are

within 150 ft of a stream or water body or 1,000 from a grassland project area (DATCP, 2019a). A review of the Department's CREP records indicated that none of the three agricultural sites the City evaluated, when picking a site for the selected alternative (Alternative C), are enrolled within the CREP program.

The CRP program is a land conservation program administered by the Farm Service Agency of the USDA. In exchange for a yearly rental payment, eligible agricultural landowners enrolled in the program agree to remove highly erodible land from agricultural production and plant resource-conserving plant species such as grasses or trees that will improve environmental health and quality (USDA, 2019b). Eligible agricultural landowners must possess lands with the potential for long-term improvements to water quality, prevent soil erosion or establish beneficial wildlife habitats according to the USDA Environmental Benefits Index (USDA, 2019b). CRP enrollment information is privileged to the USDA and CRP program participants. The Department is therefore unable to determine if the impacted agricultural parcel is enrolled within the CRP program.

## **IV. AGRICULTURAL IMPACTS**

In addition to being a key component of [Wis. Stat. §32.035](#), documenting the agricultural impacts of a project provides the project initiator and the agricultural landowner the opportunity to better understand the project in its own right as well as learn how the project will impact agriculture. Furthermore, the documentation of agricultural impacts by agricultural landowners and operators creates the opportunity for them to advocate for alternatives that may reduce impacts to agricultural lands. In order to promote the opportunity for alternatives, the Department has used information provided by the City of Mondovi (the City) for this AIS and information gathered by the Department from agricultural landowner(s) to analyze the potential agricultural impacts of the City's WWTP at its selected location. The analysis of the City's agricultural impacts and conclusions drawn from the analysis form the basis of the Department's recommendations within the Agricultural Impact Statement Recommendation Section above.

### **Prime Farmland and Soils**

The City's proposed WWTP and acquisition of approximately 14.5 acres of agricultural lands will impact farmland and agricultural soils. The soils impacted by the proposed project were cataloged by soil map unit (Figure 3) and soil texture (Table 5) using the Department's 2016 prime farmland soils GIS layer. These soils were analyzed for impacts to soils designated as prime farmland, prime farmland if drained or farmland of statewide importance (Table 5). Prime farmland is designated by the USDA according to section 622.3 of the National Soil Survey Handbook (USDA, 2017c) and is based on the ability of the land and soil to produce crops. Definitions of prime farmland, prime farmland if drained and farmlands of statewide importance are provided under Table 5.

The majority of agricultural lands (approximately 12.3 acres) impacted by the City's proposed WWTP are tillable agricultural lands well suited for crop production, while the remaining 2.2 acres consist of a dwelling, several agricultural outbuildings, and land for animal feed storage (Figure 3). The USDA has designated the majority (approximately 73% or 9.0 acres) of these tillable agricultural lands as prime farmland. Across the impacted agricultural parcels, the soils primarily consist of sandy loam textured soils of various soil series. Sandy loam soils are course-textured (Cornell, 2017) porous soils that aren't able to hold onto water as well as medium or fine textured soils and may require irrigation to best suit crop production (UW-Extension, 2005). This soils analysis shows that the City's proposed WWTP has the potential to remove both high quality soils and prime farmland from production.

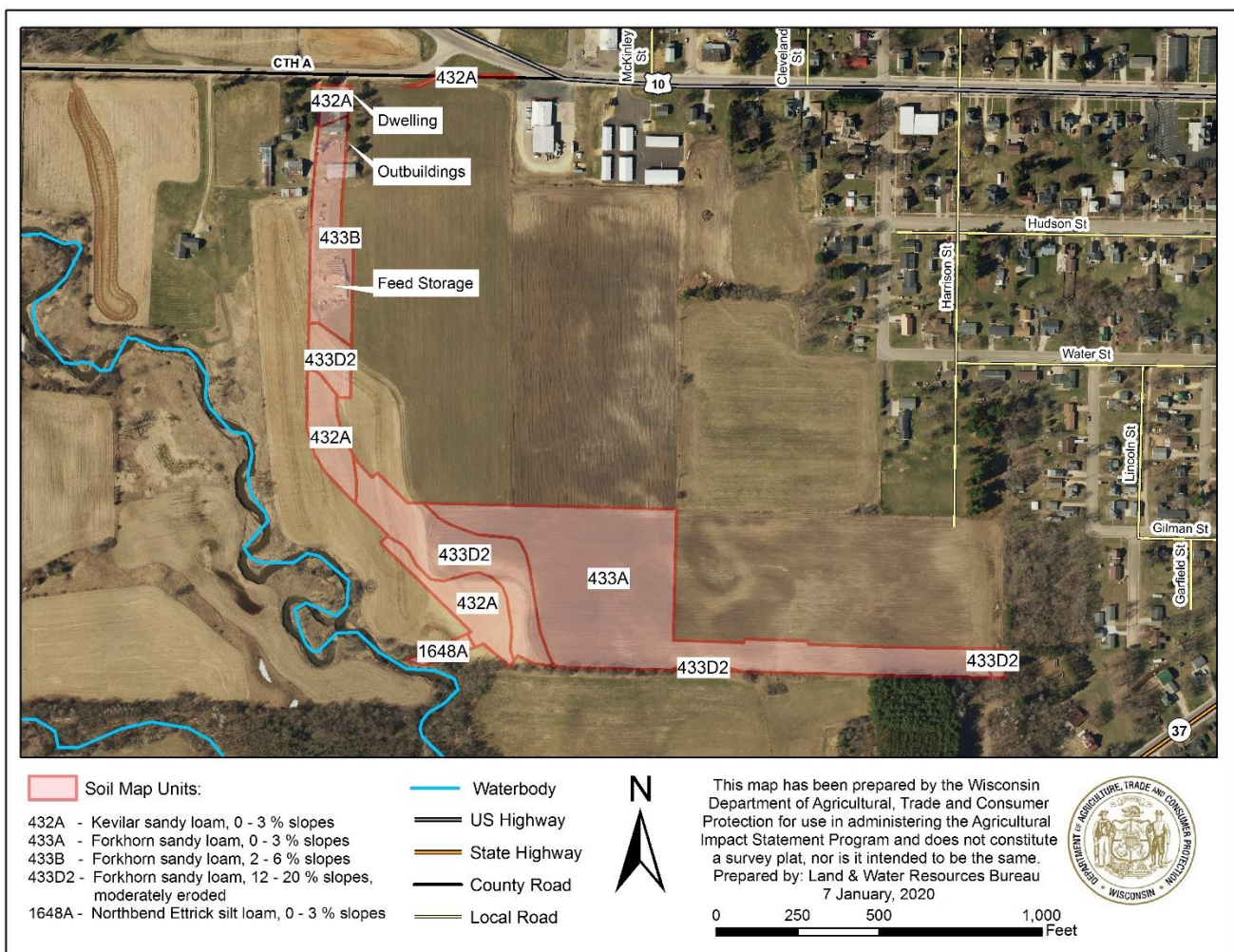


Figure 3: Soil map units and location of structures impacted by the proposed wastewater treatment plant.



Table 5: Soils impacted by the proposed City of Mondovi wastewater treatment plant.

<u>Soils</u>		<b>Prime Farmland*</b> <b>(acre)</b>	<b>Farmland of Statewide Importance<sup>‡</sup></b> <b>(acre)</b>	<b>Not Prime Farmland<sup>‡</sup></b> <b>(acre)</b>
<i>Texture</i>	<i>Acres</i>			
Sandy Loam	14.3	11.2	0.0	3.1
Silt Loam	0.2	0.0	0.0	0.2
<i>Totals</i>	14.5	11.2	0.0	3.3

\***Prime farmland** is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and may be utilized for cropland, pastureland, rangeland, forest land, or other lands excluding urban built-up land or water. It has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management.

**Prime farmland if drained**, indicates that if farmland is drained it would meet prime farmland criteria.

<sup>‡</sup>**Farmlands of statewide importance** are set by state agency(s). Generally, these farmlands are nearly prime farmland and economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce yields high as prime farmlands under proper conditions.

<sup>‡</sup>**Not Prime farmland**, indicates farmland is neither prime farmland nor of designated importance.

## Landowner Impacts

The City’s proposed WWTP facility and land acquisition has affected the six parcels of agricultural land owned by the Schmidtknecht Farms LLC seen in Figure 2. DATCP contacted Schmidtknecht Farms LLC, owning all of the impacted agricultural land as shown in Table 6, for comment. They declined to provide feedback on the City’s voluntary land acquisition or the proposed WWTP.

Table 6: Acres of agricultural land impacted by the City of Mondovi WWTP, listed by agricultural landowner.

<b>Agricultural Landowner</b>	<b>Acres of Impacted Agricultural Land (acres)</b>			
	<i>Fee-Simple*</i>	<i>Permanent Easement</i>	<i>Temporary Easement</i>	<i>Total</i>
Schmidtknecht Farms LLC	12.5	0.3	1.7	14.5
<b>Project Total</b>				14.5

\***Fee-simple** is to purchase full ownership and exclusive rights to a property

The City’s proposed WWTP facility and acquisition of agricultural lands will create a range of impacts for the Schmidtknecht Farms LLC agricultural operation. The most prominent impact will result from the placement of Schmidtknecht road. As proposed, Schmidtknecht Road will cross through several structures owned by the Schmidtknecht operation and thus require the demolition of a dwelling, several agricultural outbuildings and feed storage. The loss of the agricultural dwelling and agricultural outbuildings that are vital to the Schmidtknecht Farms LLC operation may leave the agricultural operation no longer viable. As proposed, Schmidtknecht Road will also sever Schmidtknecht Farms LLC fields and create the potential for wasteland areas specifically below the

southwest corner of Schmidtknecht Road. Severance caused by new road construction such as Schmidtknecht Road, has the potential to generally create wastelands when large economically productive lands are subdivided into smaller remnant fields which may no longer be economically viable to farm due to their inadequate size and/or irregular shape that are difficult to maneuver with large agricultural equipment. The Schmidtknecht Farms LLC agricultural operation will also lose approximately 12.3 acres of primarily prime agricultural tillable soils for agricultural crop production.

Schmidtknecht Farms LLC also owns other agricultural parcels that abut the impacted parcels and there is the potential for continued agricultural operations. The potential for continued agricultural operations creates the opportunity for mutually beneficial collaboration between the City and Schmidtknecht Farms LLC. The adaptive management program, as administered by the DNR under Wis Adm. Code NR 217.18, is a compliance option that allows point and non-point sources that discharge phosphorus to surface waters to work together and collectively reduce phosphorus discharges in order to comply with water quality based effluent limitations (WQBELs). In general terms, a point source (i.e the City WWTP) would pay a non-point source (i.e agricultural operation) to implement certain conservation practice(s) to reduce the amount of phosphorus leaving an agricultural field and entering a specific surface water body (DNR, 2020). As mentioned within the City's WWTP facility plan (CBS Squared, 2019), utilizing the adaptive management program on agricultural lands such as the affected property, has the potential to help the City achieve its' WQBELs. The remnant Schmidtknecht Farms LLC agricultural parcels are in close proximity and/or directly border the same surface water source (i.e Harvey Creek) that the City's proposed WWTP will discharge into. Therefore, the remnant Schmidtknecht Farms LLC agricultural lands would be ideal candidates for collaborative adaptive management partnership with the City. Given the impacts to the Schmidtknecht Farms LLC operation, establishing an adaptive management plan between the City and Schmidtknecht Farms LLC would provide an additional source of assistance and promote the continued operation of Schmidtknecht Farms LLC.

### **Drainage and Soil Health**

Maintaining proper field drainage and preserving soil health is vital to the success of an agricultural operation. If drainage is impaired, water can settle in fields and cause substantial damage, such as reducing soil health, harming or killing crops and other vegetation, concentrating mineral salts, flooding farm buildings, or causing hoof rot and other diseases that affect livestock. Soil structure, texture, organic matter and microorganisms are all important factors that influence soil health (Wolkowski and Lowery, 2008). The winter application of sodium chloride (salt) to roadways and the salt rich runoff that leaves the roadway can have potentially detrimental impacts to the health of nearby soils, ecosystems and surface waters (Richburg *et al.*, 2001; Kelly *et al.*, 2008; Corsi *et al.*, 2010).

The City’s proposed WWTP facility and construction of Schmidtknecht Road has the potential to impact drainage and soil health of the surrounding agricultural fields and wetlands. As shown in Figure 4, the southwest corner of Schmidtknecht Road, at its closest point, is within approximately 100 feet of a designated wetland, which is connected to Harvey Creek. Furthermore, the southwest corner of Schmidtknecht Road is located along an area of agricultural land with an average slope of approximately 13% descending from Schmidtknecht Road across agricultural lands and into the wetland (Figure 4). The impermeable surfaces from the roadway and other structures at the WWTP will increase the potential for overland runoff that will funnel down towards the southwestern corner of Schmidtknecht Road and impact the downslope agricultural lands and wetland.

The coarse textured soils, which contain a higher capacity for infiltration, that are located within the impacted agricultural lands may help mitigate the potential increased runoff volumes from Schmidtknecht Road. However, the application of salt to the roadway in the winter creates the potential for detrimental impacts to the health of the receiving agricultural soils, wetland and surface waters. In order to mitigate the potential detrimental impacts of roadway salt, the City should consider designating Schmidtknecht road as a non-salt route road or limiting the amount of road salt applied to the minimum practical application rate.

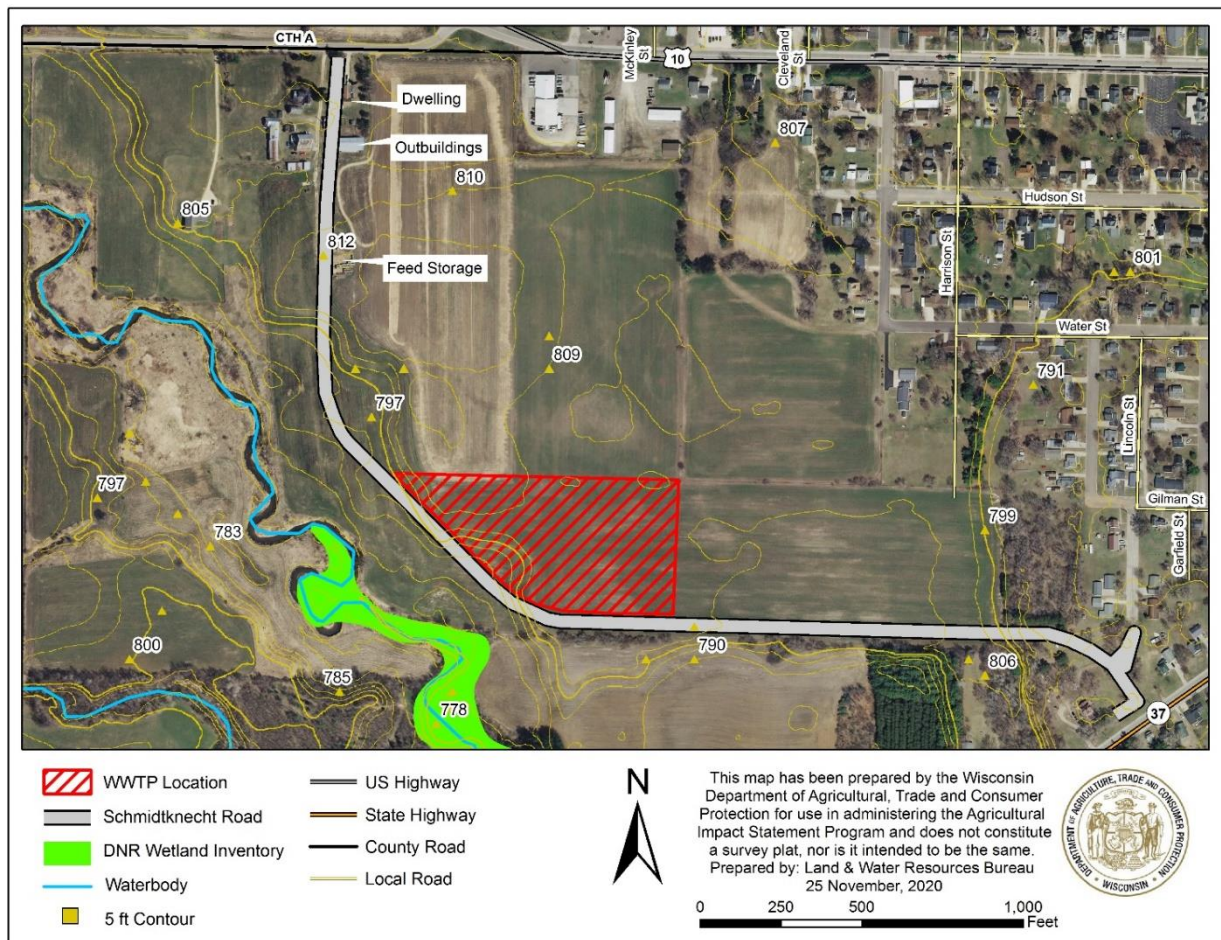


Figure 4: Wetlands and topography of land for the City of Mondovi’s proposed wastewater treatment plant.

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Town of Mondovi Clerk – Roxann Halverson

### City of Mondovi

City of Mondovi Mayor – Brady Weiss

City of Mondovi Clerk – Dawn Moy

### Universities

University of Wisconsin-Extension: Buffalo County

## **News Media, Public Libraries and Repositories**

### Public Libraries

Mondovi Public Library

### Newspapers

Buffalo County News

Agri-View Newspaper

Country Today Newspaper

### Wisconsin Document Depository Program

### The Library of Congress

## **Interest Groups, Entities and Individuals**

Toni Schmidtknecht

CBS Squared, Inc.

Jon Strand

Dani Spang





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**WISCONSIN DEPARTMENT OF AGRICULTURE,  
TRADE AND CONSUMER PROTECTION**

**DIVISION OF  
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**Agricultural Impact Program**

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