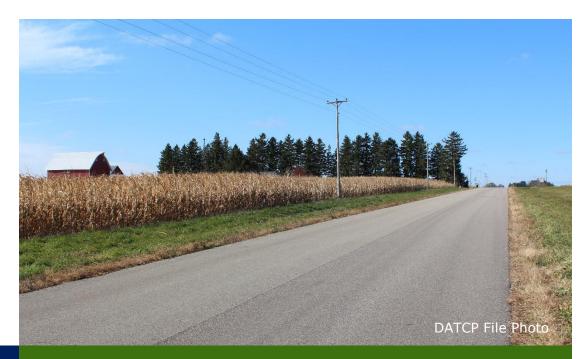
AGRICULTURAL IMPACT STATEMENT





CTH F: Reconstruction and Reconditioning (STH 78 – STH 39) Iowa County WisDOT # 5034-00-02



WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION PUBLISHED FEBRUARY 2, 2021 REVISED FEBRUARY 9, 2021 Page Blank

AGRICULTURAL IMPACT STATEMENT

DATCP #4372 CTH F: Reconstruction and Reconditioning (STH 78 – STH 39) Iowa County

WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

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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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The Wisconsin Department of Agriculture, Trade and Consumer Protection (the Department) has prepared Agricultural Impact Statement (AIS) #4372 for the proposed acquisition of land by the Wisconsin Department of Transportation (WisDOT) along a section of County Highway (CTH) F in the Town of Moscow in Iowa County, WI. This section of CTH F, running from Wisconsin State Highway (STH) 78 to STH 39 (Figure 1), is known to WisDOT to contain poor pavement structure, substandard curves, inadequate intersection sight distance and a narrow roadbed. In order to improve roadway safety along this section of CTH F, WisDOT has proposed to reconstruct and recondition this section of roadway (Appendix A: Figures 1a-1c).

WisDOT evaluated a total of four project alternatives, including a no-build alternative for a base line comparison to the other three alternatives. Based on the four alternatives WisDOT has selected an alternative, which calls for both the reconstruction and reconditioning of CTH F. WisDOT indicated the selected alternative addresses the project needs, while reducing potential construction costs and minimizing impacts to the surrounding landowners. Under the selected alternative, WisDOT will reconstruct the first 0.8 miles of CTH F beginning with a new intersection at STH 78 and then recondition the remaining 4 miles ending at STH 39 (Figure 1). As proposed, the selected alternative will impact 23.98 acres of agricultural lands and 20 agricultural landowners. WisDOT has indicated that they have entered into voluntary negotiations (absent a jurisdictional offer) to obtain portions of agricultural parcels owned by a single agricultural landowner. WisDOT also indicated they would withhold from negotiating with additional landowners until 30 days after AIS #4372 is published to prevent any potential conflicts under <u>Wis. Stat.</u> <u>§32.035(4)(d)</u>.

In accordance with <u>Wis. Stat. §32.035(3)</u>, WisDOT 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) impacted by the selected alternative. In accordance with <u>Wis. Stat. §32.035(4)(b)</u>, the Department has reviewed and analyzed WisDOT materials and comments from the affected agricultural property owner(s) and operator(s) of the selected alternative to assess the agricultural impacts of the proposed reconstruction and reconditioning of CTH F. Through the AIS analysis, the Department offers a set of recommendations and conclusions to WisDOT 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 sites.

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 5 with information on the project located in Section II. Information and conclusions on the agricultural setting of Iowa 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 #4372 contain additional project maps from WisDOT (Appendix A), information on the appraisal and compensation process (Appendix B), a copy of Wisconsin's agricultural impact statement statute (Appendix C) and various additional sources of related information for agricultural landowners and operators (Appendix D).

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

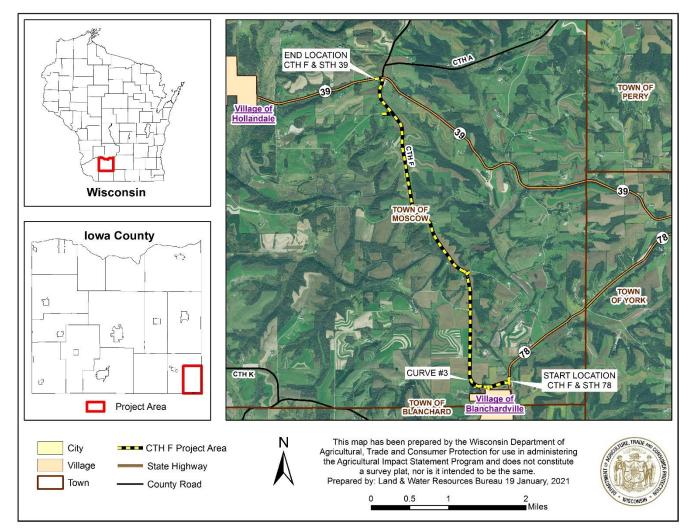


Figure 1: Start and end locations of the reconstruction and reconditioning of CTH F in the Town of Moscow in Iowa County.

AGRICULTURAL IMPACT STATEMENT RECOMMENDATIONS

The Wisconsin Department of Agriculture, Trade and Consumer Protection (the Department) has reviewed and analyzed the materials provided by the Wisconsin Department of Transportation (WisDOT) and comments from the affected agricultural property owner(s) and operator(s) regarding the proposed reconstruction and reconditioning of County Highway (CTH) F. In accordance with <u>Wis. Stat. §32.035(4)(b)</u>, the Department provides the following recommendations to WisDOT and agricultural land owner(s) and operator(s) to help mitigate impacts on agricultural lands and agricultural operations.

Recommendations to the WisDOT

- If there is adequate growing season for a crop to mature and be harvested after WisDOT acquires the impacted land, but before reconstruction and reconditioning of CTH F begins, WisDOT should allow the current agricultural operator(s) to harvest a crop for that season.
- During project design, WisDOT should consult with the Iowa County Conservationist to ensure that land restoration and planting of the landscape around CTH F proceeds in a manner that minimizes drainage problems, soil erosion and soil compaction on the remaining remnant agricultural lands as well as adjacent properties.
- WisDOT should consult with agricultural landowner(s) and operator(s) whom have historical knowledge of flooding and runoff problems, to ensure that new or replacement culverts, ditches, and other runoff management structures for CTH F are adequate for anticipated storm events.
- WisDOT should consult with the affected agricultural landowner(s) and operator(s) to ensure any relocated or newly established agricultural land access points are located in areas that provide safe and efficient access to remnant agricultural properties.
- WisDOT should provide agricultural landowner(s) and operator(s) advanced notice of acquisition and construction schedules so that agricultural activities can be adjusted accordingly.
- WisDOT should consult with agricultural landowners located along CTH F (between W. Moscow Rd and Mckenna Rd) to identify any nearby Conservation Reserve Enhancement Program (CREP) fields that could be impacted by the reconstruction and reconditioning of CTH F. If any CREP fields are identified, WisDOT should implement measures to mitigate any potential impacts to the nearby CREP field(s).

After construction is completed, WisDOT should carefully monitor for the emergence of drainage problems. If problems are observed that can be attributed to roadway construction, WisDOT and the landowner should work together to develop a mutually agreeable solution.

Recommendations to Agricultural Land Owners and Operators

- The affected agricultural landowner(s) should fully describe and discuss property improvements and agricultural operations with appraisers so that the appropriate value of the affected property can be established.
- Prior to the start of construction, landowners should identify for WisDOT where construction activities may interfere with farm operations, farm building/facilities or farming infrastructure including but not limited to drain tiles, wells, watering systems, drainage ditches, culverts, fencing, farm access roads, or grain bins.
- The affected agricultural landowner(s) along the entire CTH F reconstruction and reconditioning project corridor should inform WisDOT of any valid Conservation Reserve Enhancement Program (CREP) or Farmland Preservation (FP) agreements they hold and if a CREP or FP enrolled field could be impacted by the project.
- After construction is completed, landowners should carefully monitor for the emergence of drainage problems. If problems are observed that can be attributed to roadway construction, the landowner and WisDOT should work together to develop a mutually agreeable solution.

I. INTRODUCTION

The Wisconsin Department of Agriculture, Trade and Consumer Protection (the Department) has prepared Agricultural Impact Statement (AIS) #4372 in accordance with <u>Wis. Stat. §32.035</u> for the proposed reconstruction and reconditioning of County Highway (CTH) F in Iowa County, WI (Figure 1 and Figure 2) by the Wisconsin Department of Transportation (WisDOT). In Wisconsin, WisDOT is responsible for planning, building and maintaining Wisconsin's network of state highways and Interstate highway system. WisDOT also collaborates with counties to share the costs of building and operating Wisconsin's county highways. In order to achieve its responsibilities to the residents of Wisconsin, WisDOT may be required to draw upon its vested authority of condemnation granted under <u>Wis. Stat. §84.09</u>. Vested with the power of condemnation, WisDOT projects that impact agricultural lands are also subject to Wisconsin's Agricultural Impact Statement statute <u>Wis. Stat. §32.035</u>.

According to <u>Wis. Stat. §32.035</u>, the AIS is designed to be an informational and advisory document that describes and analyzes the potential effects of a proposed 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 any 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, WisDOT notified the Department that they have entered into voluntary negotiations (absent a jurisdictional offer) to obtain portions of agricultural parcels owned by a single agricultural landowner for this project. As the aforementioned voluntary negotiations precede any and all jurisdictional offer(s) by WisDOT for this project, the 30-day waiting period for the aforementioned contract negotiations under <u>Wis. Stat. §32.035(4)(d)</u> is not applicable. WisDOT also indicated they would withhold from negotiating with additional landowners until 30 days after AIS #4372 is published to prevent any potential conflicts under <u>Wis. Stat. §32.035(4)(d)</u>. If WisDOT actualizes its powers of condemnation at any point during the project through an jurisdictional offer(s), WisDOT would become a condemnor and the 30 days waiting period under <u>Wis. Stat. §32.035(4)(d)</u> would therefore apply.

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

The full text of <u>Wis. Stat. §32.035</u> is included in Appendix C. 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

Project Summary

Jewell Associates Engineering, on behalf of the Wisconsin Department of Transportation (WisDOT) has provided the Wisconsin Department of Agriculture, Trade and Consumer Protection (the Department) with an agricultural impact notification (AIN) and requested spatial materials for analysis for the proposed project (Jewell, 2020). The AIN and requested materials serve as the main reference documents for the project, the existing roadway, the project need and project alternatives. WisDOT has already selected its project alternative and the proposed project presented here represents WisDOT's selected alternative along the preferred route.

WisDOT has proposed to reconstruct and recondition a 4.83 mile corridor of County Highway (CTH) F, running from Wisconsin State Highway (STH) 78 to STH 39 in the Town of Moscow in Iowa County, WI (Figure 1, Appendix A: Figures 1a-1c). This section of CTH F is known to WisDOT to contain poor pavement structure, substandard curves, inadequate intersection sight distance and a narrow roadbed. Under the selected alternative, WisDOT will reconstruct the first 0.8 miles of CTH F beginning with a new intersection at STH 78 and then recondition the remaining 4 miles ending at STH 39 (Figure 1). As proposed, the selected alternative will impact 20 agricultural landowners and a total of 23.98 acres of agricultural lands through the use of temporary and permanent highway easements and warranty deeds. Land acquisitions are anticipated to begin in early 2021 and construction is expected to start in May of 2022. A full list of the impacted acres for each agricultural landowner is provided in Table 5 of Section IV: Landowner Impacts.

Project Design

WisDOT has denoted that the proposed reconstruction and reconditioning of CTH F will begin at the intersection of CTH F and STH 78, which is located within the municipal boundary of the Village of Blanchardville (the Village) (Figure 2). The existing intersection of CTH F and STH 78 runs for about 0.45 miles where it's known first as East Baker Street and then Mound street. WisDOT plans to shift the existing intersection of CTH F and STH 78 approximately 1,400 feet north from the existing intersection and include a right turn lane to improve safety. The proposed realignment of

the CTH F and STH 78 intersection will be outside of the Village's municipal boundary (Figure 2). As CTH F will no longer utilize Baker Street or Mound Street within the Village, these streets would undergo a jurisdictional transfer to reassign ownership of them from WisDOT to the Village of Blanchardville.

Shifting the intersection of CTH F and STH 78 north will require WisDOT to reconstruct and realign the first 0.8 miles of the CTH F from the new intersection of CTH F and STH 78 until proper realignment is achieved with the existing CTH F roadway. The proposed realignment of CTH F within this first 0.8 miles will also change the curvature of CTH F around parcel number 020-0720 (Figure 2). Altering the curvature of CTH F at this location (denoted as curve 3) will allow for the curvature speed limit to be increased to 50 MPH from the existing 30 MPH. The remaining 4.0 miles of existing CTH F will be reconditioned. Reconditioning will consist of pulverizing and removing the existing pavement and then relaying new pavement. Reconstructed and reconditioned driving lanes of CTH F through urban areas, will be 11 ft wide with 7 ft of additional width for paved shoulders (2 ft being concrete curb and gutter). Within rural areas, CTH F will have driving lanes that are 11 ft wide with 5 ft of additional width for shoulders (1 ft paved, 4 ft gravel).

CTH F intersects multiple other roadways (Horseshore Rd, West Moscow Rd, McKenna Rd, East Pecatonica Rd and STH 39) and driveways along the 4.0 mile section of CTH F that will be reconstructed and reconditioned. The intersections of CTH F and Horseshore Rd / West Moscow Rd / McKenna Rd / East Pecatonica Rd will remain in their existing locations with only minor changes to the vertical alignment to improve sight distance. A driveway that adjoins the intersection of CTH F and West Moscow Rd will be relocated to intersect with Ayen Road to improve safety. The project's end point is the intersection of CTH F and STH 39, which will remain at its existing location, however a right turn lane will be added to improve safety.

Existing ditches and culvert pipes along CTH F will be evaluated and upgraded as necessary to improve drainage and ensure that water leaving or intersecting the roadway flows properly. New ditches will be dug and culvert pipes will be installed along the 0.8 miles section of CTH F that will reconstructed and realigned. There will also be a sedimentation basin installed near the reconstructed intersection of CTH F and STH 78. These actions will require the clearing and grubbing of vegetation and trees at various locations along the easements within the CTH F project corridor to allow for the reshaping of ditches and improve drainage, as well as to improve roadway safety.

Project Right-of-Way (ROW)

In order to accommodate the reconstruction or reconditioning of driving lanes and shoulders along CTH F, new right-of-way (ROWs) will be acquired along the entire length of the project. The width of the ROW, measured from the proposed roadway centerline, will range from 40 to

75 ft. The width of ROW will vary to accommodate the variety of design factors along the proposed roadway including: intersection sight distance, curve realignments (vertical and horizontal) and drainage improvements near curvatures or near intersections. WisDOT will vacate the existing roadway area along curve #3 (Figure 2) that is realigned and no longer serves as roadway or shoulder. After construction is complete, WisDOT will return this vacated land to the adjacent property owner(s).

Existing Roadway

The existing 4.83 mile section of CTH F planned for reconstruction and reconditioning consists of 11 ft wide driving lanes that meet current design standards. However, the existing shoulders for this section are unpaved and vary in width from 2 to 5 ft. The existing pavement structure is in poor condition and exhibits signs of pavement distress including longitudinal cracking, transverse cracking and rutting. There are also several substandard horizontal and vertical curvatures along this section of CTH F.

Project Need

WisDOT has indicated the existing section of CTH F contains adequate driving lanes that meet current design standards. However, WisDOT has also found several inadequacies within this same section of CTH F that has led WisDOT to have several major concerns about the longevity and safety of the existing roadway. The concerns over the longevity and safety are the main motivation behind WisDOT's proposed reconstruction and reconditioning of this section of CTH F in Iowa County.

The foremost concern of WisDOT is driver safety. The existing 4.83 mile section of CTH F contains several substandard horizontal and vertical curves. These substandard horizontal and vertical curves, specifically curve #3 (Figure 2) require reduced speed as well as limiting sight distance throughout curve #3 and other curves along this section of CTH F. WisDOT believes these substandard corners have contributed to vehicle crashes. Vehicle crash data from the Traffic Operations and Safety (TOPS) laboratory supports WisDOT's concern that these substandard curves are in fact a safety concern. Between 2016 – 2020 there were three vehicle crashes specifically along CTH F at curve #3 (Figure 2).

In addition to substandard curves, WisDOT has several other safety concerns for this section of CTH F. WisDOT has indicated that side road intersections and some driveways along this section of CTH F do not contain an adequate amount of sight distance. While the 11 ft driving lanes may meet current design standards, WisDOT has stated that the unpaved shoulders with widths of 2 – 5 ft may also be contributing to roadway departure crashes throughout this section of CTH F. This section of CTH F also runs through a residential neighborhood in the Village of Blanchardville. As proposed, WisDOT would relocate CTH F outside of the Village boundary to avoid residential areas.

Jewell Associates Engineering stated they evaluated reconstructing CTH F along the existing roadway (East Baker St. and Mound St.) within the Village and determined the roadway would need to be widen in order for CTH F to meet current design standards including bicycle, pedestrian and parking considerations. However, there are several residential features along the existing roadway (East Baker St. and Mound St.) that are in close proximity to CTH F including multiple cemeteries (Calvary Cemetery and Graceland Cemetery) with existing headstones located as close as 18-inches off of the existing curb, residential dwellings and retaining walls that would impede widening CTH F.

The proposed reconstruction and reconditioning of this section of CTH F in Iowa County would address both the failing pavement structure, but more critically improve the overall safety. Second to addressing the immediate safety concerns of CTH F, is the roadways condition. WisDOT has indicated the pavement of this section of CTH F is in an overall poor condition. The pavement currently exhibits signs of pavement distress including longitudinal cracking, transverse cracking and rutting. These signs indicate the roadway is showing signs of failure and requires corrective actions.

Alternatives

As part of the agricultural impact notification (AIN) submitted to the Department (Jewell, 2020), WisDOT indicated and described all alternatives that were evaluated during the design process for the proposed project. During the design process, WisDOT evaluated a total of four alternatives (A, B, C, D), as described below, to address the safety and longevity concerns related to the existing 4.83 mile section of CTH F in Iowa County. Broadly speaking, WisDOT evaluated each alternative's ability to improve safety along this section of CTH F, address the pavement concerns of CTH F and reduce impacts to surrounding landowners. Through their analysis, the WisDOT selected alternative D "Reconstruction and Reconditioning" as their preferred alternative, as it addresses the needs of the project while minimizing the amount of permanent right-of-way required to complete the proposed project.

■ Alternative A: No-build Alternative

A "no-build" alternative was included for baseline comparison. WisDOT determined a nobuild alternative would only meet the basic maintenance needs of CTH F. As the no-build alternative did not address the substandard design elements, safety concerns or the poor pavement condition of CTH F, WisDOT determined the no-build alternative is not a viable alternative and eliminated it from further consideration.

■ Alternative B: Resurfacing

The resurfacing alternative would consist of the removal and replacement of the top few inches of deteriorated pavement. WisDOT stated the resurfacing alternative would only

address the poor pavement condition of a few sections of the proposed 4.83 mile project corridor and could not address the sections of pavement that contained severe rutting. The resurfacing alternative would also not address any of the following substandard design elements or safety concerns: which WisDOT's has attributed to vehicle crashes:

- 1) An existing narrow roadway with unpaved shoulders
- 2) Several substandard horizontal and vertical curves
- 3) Limited sight distance at intersections and driveways
- 4) Passage of CTH F through a residential neighborhood

As the resurfacing alternative does not meet the purpose and need of this project, WisDOT determined the resurfacing alternative was not a viable alternative and eliminated it from further consideration.

■ Alternative C: Complete Reconstruction

Under this alternative, WisDOT would completely reconstruct the existing 4.83 mile corridor of CTH F roadway of the proposed project area in Iowa County. The complete reconstruction of this section of CTH F would provide a new driving surface, address the substandard horizontal and vertical alignments, improve roadway safety and shift the CTH F & STH 78 intersection approximately 1,400 ft north and therefore out of the Village of Blanchardville. Furthermore, implementing the new horizontal and vertical alignments would meet design standards for a 60 mph roadway. All side roads along CTH F would be realigned to properly intersect with CTH F and all existing private, field, and commercial entrances would be reconstructed. WisDOT estimates 37.02 acres of permanent right-of-way (ROW) would be required for this alternative. While this alternative met the purpose and need of this project, WisDOT stated the alternative required a large amount of new ROW acquisitions and would greatly increase construction costs. Therefore, WisDOT believed the complete reconstruction alternative is not cost effective and eliminated it from further consideration.

Alternative D: Reconstruction and Reconditioning (Selected Alternative, see Figure 1, Figure 2, Appendix A: Figures 1a-1c)

Briefly, the reconstruction and reconditioning alternative would shift the existing CTH F & STH 78 intersection approximately 1,400 ft north, reconstruct and realign the first 0.8 miles of CTH F leading away from the CTH F & STH 78 intersection and recondition the remaining 4.0 miles of CTH F to the intersection of CTH F & STH 39. Full details for the reconstruction and reconditioning alternative are included above within Section II: Project Design. WisDOT stated the reconstruction and reconditioning alternative would address the needs of this project and improve the safety of this section of CTH F, while minimizing the amount of permanent ROW required and minimizing impacts to the surrounding landowners. For the

020 0706 Gordon Creek Existing Drainage Path and DNR Flowline TOWN OF MOSCOW THE RIS WIRE CTH 020 0713 CURVE #3 START LOCATION CTH F & STH 78 020 CTHE Sedimentation Pond 020 0728 108 0058.02 0696 CTH F Village of Blanchardville CTH EXISTING CTH F & STH 78 CTHF CTH F INTERSECTION Future CTH F Pavement Boundary This map has been prepared by the Wisconsin Department of State Highway N Agricultural, Trade and Consumer Protection for use in administering Warranty Deed County Highway the Agricultural Impact Statement Program and does not constitute a survey plat, nor is it intended to be the same. **DNR** Flowline Permanent Easement Prepared by: Land & Water Resources Bureau 2 February, 2021 Temporary Easement Tax Parcel ID 375 750 1.500 eet Village Boundary

aforementioned reasons, WisDOT selected Alternative D: Reconstruction and Reconditioning as the preferred alternative.

Figure 2: Realignment of the CTH F and STH 78 intersection and curve #3 in the Town of Moscow in Iowa County. The types of acquisitions (warranty deed, permanent or temporary) used by WisDOT are also shown.

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 agricultural lands for the reconstruction and reconditioning of CTH F reside within Iowa County, the agricultural setting of Iowa 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.

Land in Agriculture

Iowa County, with a population of 23,915 residents (DOA, 2020a) may more commonly be considered a rural county. Iowa county does not contain any urbanized areas or urban clusters (DOA, 2020b) which are defined as population clusters of at least 10,000 people or at least 50,000 people respectively. However, Iowa County has been designated as an "outlying" Metropolitan Statistical Area to the Madison-Janesville-Beloit MSA by the U.S Census Bureau (DOA, 2020c). Metropolitan Statistical Areas (MSA) or Micropolitan Statistical Areas are generally defined as areas with large population clusters or the adjacent counties that are socially and economically integrated with a large population cluster (Standards, 2010). As an outlying MSA, Iowa County is defined as a county where at least 25% of the workers living within the county will work within the adjacent Central MSA County (Standards, 2010). Here at least 25% of Iowa County's workforce would be expected to work within the central Madison-Janesville-Beloit MSA counties of either Dane, Rock or Sauk County.

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 Iowa County are exhibiting signs of urban pressure and development. In 2017, Iowa County had 360,134 acres of land in farms or 73.8% of the county, which is higher than the statewide average of 41.3% (USDA, 2017a). However, between 1997 and 2017 (1.8%) of agricultural lands within Iowa County were converted out of agricultural use, a proportion that is lower than the statewide average (3.9%) (Table 1) (USDA, 2017a). During this same time-period (1997 – 2017) Iowa County gained 182 farming operations (13.1% increase), which stands in stark contrast to the average 1.2% loss counties experienced across Wisconsin (Table 2) (USDA, 2017a).

Location	Acres of Agricult	Agricultural Land Converted (%)	
Location	<u>1997</u>	<u>1997</u> <u>2017</u>	
Iowa County	366,709	360,134	1.8%
Wisconsin	14,900,205	14,318,630	3.9%

Table 1: Agricultural land in production within Iowa County and Wisconsin (USDA, 1997; USDA, 2017a).

Table 2: Change in the number of farms between 1997 and 2017 within Iowa County and Wisconsin (USDA, 1997; USDA, 2017a).

Location	Number of Farr	ning Operations	Change in Farming	Percent Change	
Location	<u>1997</u>	<u>2017</u>	Operations	(%)	
Iowa County	1,394	1,576	182	13.1%	
Wisconsin	65,602	64,793	-809	-1.2%	

It is apparent from this analysis that agricultural lands within Iowa County are resilient and have only experienced half the rate of farmland conversion as compared to the state wide average over the 1997 – 2017 period. Likewise, the 13.1% growth in the number of farming operations over the same 20 year period in Iowa far exceeds the state wide averaged loss of 1.2%. Based on data between 2012 – 2017, the growth in the number of farming operations in Iowa County also appears to be specific to either small (1 – 49 acre) or large agricultural operations (500 + acres), while moderately sized (20 – 499 acre) have decreased (USDA, 2017a). This bimodal growth pattern may be indicative of both the consolidation of agricultural operations and the emergence of smaller specialty agricultural operations in Iowa County.

The pressures of urban development and urban population growth on farmland conversion are not readily apparent across Iowa County. Going forward, the Wisconsin Department of Administration (DOA) predicts that Iowa County will see a 14% population increase (3,303 persons) by 2040, which ranks 28th for growth by percentage within the state (DOA, 2013). Furthermore, the DOA projects that Iowa County will achieve its peak population in the year 2035 and expects population decline by 2040. However, as Iowa County is an outlying Metropolitan Statistical Area (MSA) to the Madison-Janesville-Beloit MSA there is still the potential for the pressures of urban development and urban population growth within Iowa County. In addition, while Iowa County may lack urbanized areas and/or urban clusters that drive population growth, there are incorporated municipal populations such as Dodgeville which is expected to see an 18% population increase by 2040 (DOA, 2013). Agricultural lands within the boundaries of these incorporated municipalities or nearest to the Madison-Janesville-Beloit MSA would be at the highest risk of future farmland conversion in Iowa County.

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 preformed 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 3. The average (\$ /acre) sale price for agricultural land sold for continued agriculture use between 2017 – 2019 in Iowa County was \$5,415. In comparison to the statewide averages, agricultural land sold for agricultural uses in Iowa County sold for 2.7% more than the state average sale price. Across the state, agricultural lands sales diverted for development to non-agricultural uses averaged sale values of \$10,005 per acre. However, over the same 2017 – 2019

time period Iowa County did not report any agricultural land sales diverted for development to nonagricultural uses.

The average sale price for agricultural lands sold for continued agriculture use in Iowa County is consistent with the statewide average price (Table 3). This would indicate a level of demand to sell farmland for agricultural uses that is on par with the rest of the state. Though, the lack of a single agricultural land sale for development to non-agricultural uses within Iowa County over the 2017 – 2019 time period may indicate other factors are at play. There may be a strong desire among agricultural land owners within Iowa County to resist the demands to sell agricultural land for non-agricultural uses or there may not be strong urban development pressures facing Iowa County; albeit the county's close proximity to the Madison-Janesville-Beloit MSA may make the later less likely.

Given Iowa County only has records for agricultural land sales for continued agricultural use, the estimate of agricultural land valuation in this analysis is based on the 2017-2019 statewide average sale price for agricultural lands sold for development. As such, the analysis has established an average valuation of \$10,005 per 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 and diverted to nonagricultural uses within Iowa County, WI. As the data used within the analysis is an average over the 2017 – 2019 time period and the analysis did not have records for agricultural land sales diverted for development to non-agricultural uses in Iowa County, it is likely the averaged sale valuation for agricultural lands sold for development to non-agricultural uses in 2021 for Iowa County is different than the estimate presented here.

Agricultural Land Sale* (\$ / acre)							
Location	2017		20:	2018		2019	
	Sold for Ag^{φ}	Diverted [∓]	Sold for Ag^{ϕ}	$Diverted^{T}$	Sold for Ag^{ϕ}	$Diverted^{T}$	
Iowa County	4,794	-	5,270	-	6,180	-	
Wisconsin Average	4,960	10,794	5,587	13,280	5,269	5,942	

Table 3: Agricultural land sales from 2017 – 2019 in Iowa County and the Wisconsin State average (USDA, 2018; USDA, 2019a; USDA, 2020).

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

 $\boldsymbol{\varphi}$ Agricultural land sold for continued agricultural use

Ŧ 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-

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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 ordinances and AEA's must also be certified by the Department of Agriculture, Trade and Consumer Protection (the Department). Landowners who are eligible in 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

Iowa County has maintained a Department certified farmland preservation (FP) plan since 1980 and the current plan was certified in 2016 (Iowa County, 2016). 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 Departments farmland preservation program participation map shows that Iowa County has certified FP zoning in the Town of Moscow (DATCP, 2020a).

Farmland preservation (FP) zoning throughout the Town of Moscow is administered by Iowa County and the A-1 Exclusive Agricultural District serves as the only certified FP zoning district in the town (Iowa County, 2016). A review of the Iowa County zoning map (Iowa County, 2019) shows that many of the impacted agricultural parcels are currently zoned as A-1 and are included within Iowa County's FP plan area. Under Wis. Stats. § 84.01(34), WisDOT funded projects possess a board exemption to Wisconsin's Farmland Preservation statute Wis. Stat. Chp. 91, unless the intended purpose of the project is to construct a building or facility for the motor vehicle emission inspection and maintenance program under Wis. Stats. § 110.20. As WisDOT's proposed reconstruction and reconditioning of CTH F is unrelated to the Wis. Stats. § 110.20, the proposed project is exempt from the FP zoning criteria under Wis. Stats. § 91.46(4). Hence, WisDOT may complete the necessary easements and warranty deed purchases of land zoned within Iowa County's A-1 district regardless if a conditional use permit or re-zone would have otherwise been required from Iowa County.

Agricultural Enterprise Areas

Agricultural enterprise areas (AEAs) 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 Departments AEA program shows that Iowa County does not contain a designated 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, 2019a). 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, 2019a). A review of the Departments interactive drainage district web map (DATCP, 2020c) indicated that no drainage districts are located within Iowa County.

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 programs 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, 2019b).

A review of the Departments CREP records indicates that there are several agricultural fields located along CTH F (between W. Moscow Rd and Mckenna Rd) enrolled within the CREP program and near the proposed project area. While, the Department believes the proposed project area will not directly impact a CREP field, there is the potential that construction activities may increase the potential for increased runoff, erosion and sedimentation to occur in these nearby CREP fields. Therefore, the Department advises WisDOT to work with landowners to identify nearby CREP fields that could be impacted in order to ensure measures are in place to mitigate any potential impacts to the CREP fields.

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 any of the impacted agricultural parcels are enrolled within the CRP program.

IV. AGRICULTURAL IMPACTS

In addition to being a key component of <u>Wis. Stat. §32.035</u>, 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 Jewell Associates Engineering, on behalf of the Wisconsin Department of Transportation (WisDOT) for this AIS and information gathered by the Department from agricultural landowner(s) to analyze the potential agricultural impacts of the reconstruction and reconditioning of CTH F in the Town of Moscow. The analysis of the agricultural impacts and conclusions drawn from the analysis form the basis of the Departments recommendations within the Agricultural Impact Statement Recommendation Section above.

Prime Farmland and Soils

As proposed by WisDOT, the reconstruction and reconditioning of CTH F will impact a total of 24.0 acres of agricultural lands and agricultural soils using a combination of temporary and permanent easements and warranty deeds. The soils impacted by the proposed project were cataloged by soil map unit and soil texture (Table 4) using the Departments 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 4). 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 4.

The vast majority of the agricultural lands (72% or approximately 17.2 acres) impacted by the CTH F project hold some level of Federal or State priority designation. Specifically, the USDA has designated approximately 6.8 acres as prime farmland, while the State of Wisconsin has designated approximately another 9.0 acres as farmland of statewide importance (Table 4). Across the impacted agricultural parcels, the soils consist primarily of silt loam textured soils of various soil series. Silt loam soils are medium-textured (Cornell, 2017) soils with good soil structure, possess an ideal ability to hold onto water without becoming excessively wet and are usually best suited for crop production (UW-Extension, 2005). This soils analysis shows that WisDOT's proposed reconstruction and reconditioning of CTH F has the potential to remove both high quality soils and prime farmland from production.

Soils Texture Acres		Prime Farmland* (acre)	Prime Farmland if Drained [°] (acre)	Farmland of Statewide Importance [∓] (acre)	Not Prime Farmland [¢] (acre)
Loam	1.5	0.0	0.0	0.0	1.5
Sandy Loam	0.1	0.0	0.0	0.0	0.1
Silt Loam	22.4	6.8	1.4	9.0	5.3
Tota	<i>ls</i> 24.0	6.8	1.4	9.0	6.8

Table 4: Agricultural soils impacted by the WisDOT reconstruction and reconditioning of CTH F from STH 78 to STH 39 in the Town of Moscow in Iowa County.

***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.

^oPrime farmland if drained, indicates that if farmland is drained it would meet prime farmland criteria.

^{*}**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.

*Not Prime farmland, indicates farmland is neither prime farmland nor of designated importance.

Landowner Impacts

The reconstruction and reconditioning of CTH F by the WisDOT will affect 51 parcels of agricultural property through a combination of temporary and permanent easements and warranty deeds. DATCP attempted to contact landowners whom had agricultural impacts of one or more acres as shown in Table 5. Several agricultural landowners were reached for comment. The following section will relay the comments received from agricultural landowners and provide the Department analysis of agricultural impacts to specific landowners and agricultural landowners in general.

Within the agricultural impact notice (AIN) to the Department, Jewell Associates Engineering stated they are working with the impacted landowners to ensure adequate access to all adjoining land is retained within the proposed project limits (Jewell, 2020). At a 2020 public involvement meeting, Jewell Associates Engineering stated that several landowners inquired about the project's impact to the drainage along their property and were pleased with the measures Jewell Associates Engineering is including to improve drainage. Furthermore, Jewell Associates Engineering stated that the persons present at the public involvement meeting were largely in favor of this project and the safety improvements it would bring (Jewell, 2020).

Terry and Karen Erickson

Terry and Karen Erickson operate on 550 acres of agricultural land, 270 acres of which they own. Their agricultural operation primarily consists of cropland for corn, soybeans and hay, but also includes pastureland and woodlands. 204 acres of the Erickson's farmland is enrolled within the Iowa County's certified FP farmland preservation (FP) program through the A-1 zoning district; therefore, there is the potential for WisDOT to impact the enrolled portion of the Erickson's farmland and remove FP zoned agricultural land from production. The Erickson's have also indicated their concerns over the severance of their field (tax parcel ID 020-0717) shown in Figure 2 and concerns for how the remnant fields will be impacted by the runoff from the realignment of CTH F.

As proposed, the realignment of CTH F through the Erickson's field (tax parcel ID 020-0717) will sever the field into two separate fields. The size of each remnant field would appear to allow for continued agricultural production that is economically viable. However, the realignment of CTH F through the field (tax parcel ID 020-0717) will remove the existing field access point along STH 78 utilized by the Erickson's. In order to accommodate field access to the remnant fields, the Department recommends that WisDOT work with the Erickson's to determine safe new access points to the two remnant fields. The Erickson's agricultural operation will also be losing approximately 4.6 acres of prime farmland or farmland of statewide importance. The Erickson's have stated the agricultural lands they are losing are highly productive lands that on average produce 25-30 bushels more per acre as compared to their other fields.

Irene Baker

Irene Baker owns and operates approximately 600 acres of agricultural land, some of which is rented to another agricultural producer. The Baker agricultural operation consists primarily of rotational cropland for corn, soybeans, hay and oats, as well as pastureland and agricultural woodlands. Irene also indicated that a portion of her farmland is enrolled within Iowa County's certified farmland preservation (FP) program through the A-1 zoning district; therefore, there is the potential for WisDOT to impact the enrolled portion of the Baker's farmland and remove FP zoned agricultural land from production. Irene's primary concern for the proposed CTH F project is the realignment of curve 3 (Figure 1 and 2) through field (tax parcel ID 020-00720) and how the realignment of curve 3 will impact drainage and field access.

The reconstruction and realignment of curve 3 (Figure 1 and 2) on tax parcel ID 020-0720 does have the potential to influence drainage on the Baker property. Aerial imagery and existing DNR Flowlines (Figure 2) would indicate the realignment of CTH F could impact the existing drainage pattern of tax parcel ID 020-0720 as it flows underneath CTH F, into tax parcel ID 020-0713 and then into a designated DNR Flowline. WisDOT also conducted a wetland delineation (Appendix A, Figure 2), which indicated the presence of wetlands on approximately the eastern half area of tax parcel ID 020-0720. The presence of the existing DNR Flowline on tax parcel ID 020-0713 and wetlands on tax parcel ID 020-0720 would substantiate Irene Bakers concerns for the projects impacts to the overland flow of water and drainage in the fields impacted by curve 3. The Department advises WisDOT to work within the bounds of Wis. Stat. § 88.87 to build adequate ditches, culverts, and other facilities to prevent obstruction of drainage, protect property owners from damage to lands caused by unreasonable diversion or retention of surface water, and

maintain, as nearly as possible, the original drainage flow patterns. Lastly, Jewell Associates Engineering also indicated they are working with Irene Baker to ensure the realignment of the driveway at West Moscow Road will provide for safe access.

Sigg Living Trust

Jay Sigg owns and operates approximately 400 acres of agricultural land. The Sigg agricultural operation consists primarily of a milking dairy and rotational cropland for corn, wheat, hay, and oats, as well as pastureland, fallow farmland and agricultural woodlands. Mr. Sigg has several concerns including the impacts to farmland fencing, retaining access to a critical cattle pass that cattle use to cross the road, retaining access to CTH F during construction to allow for the milk truck to access the property, and impacts to drainage structures.

Within the AIN to the Department, Jewell Associates Engineering addresses concerns relative to maintaining access to impacted properties during construction by stating that County F will be closed to thru traffic during construction, however access to all properties will maintained during construction. To address Mr. Sigg's concerns regarding drainage and drainage structures, the Department again advises WisDOT to work within the bounds of Wis. Stat. § 88.87 to mitigate the concerns the Sigg Living Trust has in regards to drainage and drainage structures. Under Wisconsin Eminent Domain Statute Wis. Stat. § 32.09, the impacted landowner shall be compensated for the cost of fencing reasonably necessary to separate land taken from remainder of land. While it's unknown at this time if condemnation will be exercised, Wis. Stat. § 32.09 establishes that the cost to construct or restore fencing should be borne by the WisDOT.

Richard Zachman

Richard Zachman owns and operates approximately 93 acres of agricultural land, some of which is rented to another agricultural producer. The Zachman agricultural operation consists primarily of rotational cropland for corn, soybeans and hay as well as pastureland and woodlands. Mr. Zachman has several concerns including the impacts to farmland fencing, retaining access to CTH F during construction, the need for a culvert under their driveway and deeper ditching to allow for proper drainage, and the loss of productive farmland. As Mr. Zachman's concerns are similar to concerns already addressed, please refer to the above paragraphs for analysis and information on fencing, access, and drainage.

Agricultural	Acres of Impacted Agricultural Land (acres)					
Landowner	<u>Warranty</u> <u>Deed</u>	<u>Permanent</u> <u>Easement</u>	<u>Temporary</u> <u>Easement</u>	<u>Total</u>		
Irene Baker	0.0	4.0	1.7	5.7		
Geoff Briggs	0.0	0.0	0.4	0.4		
Charlene Burkland	0.0	0.5	0.0	0.5		
Paul Cleary	0.0	0.7	0.1	0.7		
Terry Erickson	4.6	0.0	0.0	4.6		
Jason Gruenenfelder	0.0	0.1	0.4	0.5		
Erik Hanson	0.0	0.2	0.0	0.2		
Charles Hartley Jr.	0.0	1.3	0.0	1.3		
Michael Kolpien	0.0	0.1	0.0	0.1		
James McGhee	0.0	0.2	0.1	0.3		
Jennifer Miller	0.0	0.2	0.4	0.6		
Richard Retrum Jr.	0.0	1.2	0.4	1.5		
Runden Properties, LLC.	0.0	0.7	0.2	0.9		
Peggy Senf	0.0	0.0	0.1	0.1		
Sigg Living Trust	0.0	2.1	1.0	3.1		
David Swenson	0.0	0.2	0.0	0.2		
James Thompson	0.0	0.6	0.0	0.6		
Town of Moscow	0.0	0.1	0.0	0.1		
Richard Zachman	0.0	1.8	0.1	1.8		
Steven Zimmerman	0.0	0.5	0.2	0.7		
Project Totals	4.6	14.5	5.0	24.0		

Table 5: Acres of agricultural lands, listed by agricultural landowner impacted, by the WisDOT reconstruction and reconditioning of CTH F from STH 78 to STH 39 in the Town of Moscow in Iowa County.

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).

While the reconstruction and reconditioning of CTH F impacts a 4.83 mile corridor of CTH F, the overwhelming majority of new agricultural impacts will be concentrated on the few parcels where the CTH F and STH 78 intersection will be realigned as seen in Figure 2. Therefore the drainage and soil health analysis will focus on three agricultural tax parcel ID's 020-0713, 020-0717 and 020-0720 (Figure 2) impacted by the realignment of the CTH F and STH 78 intersection. WisDOT was also required to investigate these three tax parcels to determine if wetlands were present (Appendix A, Figure 2). WisDOT's wetland delineation indicated that the eastern half area of tax parcel ID 020-0720 does contain a drained wetland. As proposed, the realignment of CTH F would cross through these drained wetlands. Aerial imagery and topography would also indicate the realignment of CTH F would impact the existing drainage pattern of tax parcel ID 020-0720 as it flows underneath CTH F, into tax parcel ID 020-0713 and then into an a designated DNR flowline. The additional new impermeable roadway surfaces to tax parcel ID 020-0717 will also increase the potential for overland runoff that will funnel into the field.

Wis. Stat. § 88.87 of the Wisconsin Statutes requires highways to be built with adequate ditches, culverts, and other facilities to prevent obstruction of drainage, protect property owners from damage to lands caused by unreasonable diversion or retention of surface water, and maintain, as nearly as possible, the original drainage flow patterns. Refer to Appendix C for the statutes pertaining to drainage rights. Landowners whose property is damaged by improper construction or maintenance of highway facilities and highway drainage structures may file a claim with WisDOT within three years after the damage occurs.

It's apparent from this analysis that the realignment of the CTH F and STH 78 intersection has the potential to impact the drainage and soil health of the surrounding agricultural fields. The medium-textured silt loams soils that are located within agricultural tax parcel ID 020-0713 may help mitigate the potential increased runoff volumes, however the wetland area present in parcel 020-0720 may not be able to mitigate additional volumes of runoff. The application of salt to the roadway in the winter creates the potential for additional detrimental impacts to the health of the receiving agricultural soils, wetland and surface waters.

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