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MANKATO/NORTH MANKATO AREA PLANNING ORGANIZATION

BLUE EARTH COUNTY

CITY OF EAGLE LAKE
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Mankato/North Mankato Area Planning Organization (MAPO)

CSAH 27 Pedestrian Connectivity Study Final Report

Eagle Lake, Minnesota
December 2022

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I. Introduction

The Mankato/North Mankato Area Planning Organization (MAPO), with assistance from Blue Earth County and the City of Eagle, is examining the segment of Agency Street (CSAH 27) in Eagle Lake between Thomas Drive and 211th Street to consider safe, multimodal options that provide more travel opportunities for people living and working in the area (Figure 1). This road is an essential connection between the existing Eagle Lake pedestrian circulation network and future residential developments south of Thomas Drive. At this time, there are no continuous pedestrian facilities between the study area and the institutional, civic, and commercial land uses in Eagle Lake, nor are there any continuous connections to the greater MAPO bicycle and pedestrian trail network. This project is the result of MAPO, Blue Earth County, and the City of Eagle Lake's desire to define a comprehensive vision for bicycle and pedestrian connections along CSAH 27 in preparation for future street reconstruction projects. The study included:

- Defining the issues and potential opportunities along the corridors
- Establishing a corridor vision and goals
- Developing and evaluating potential multimodal infrastructure improvement alternatives
- Developing an implementation plan in preparation that identifies potential projects and cost estimates

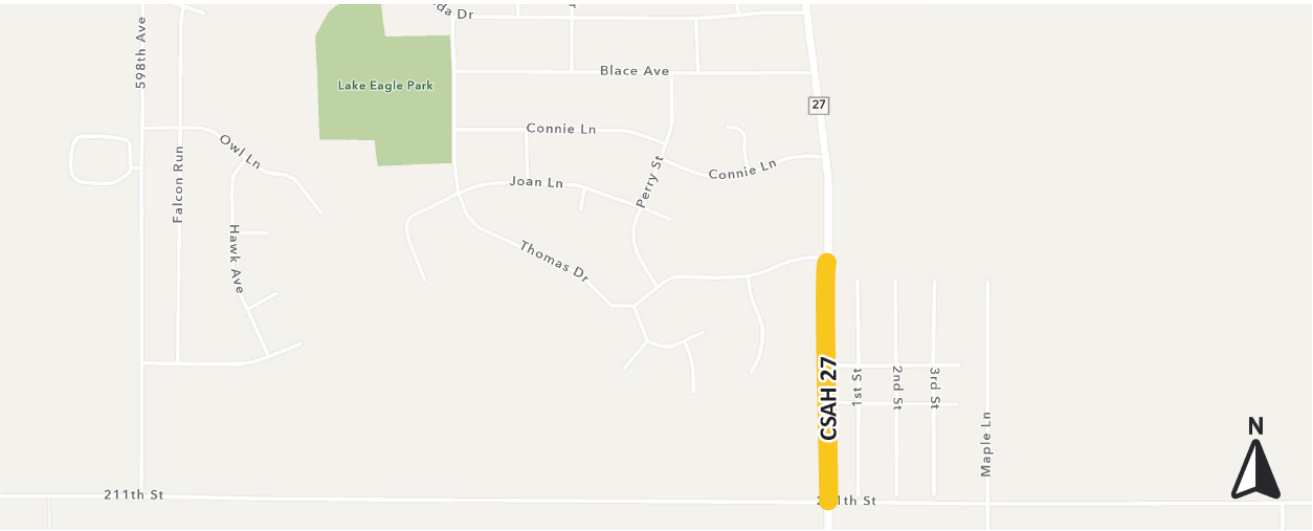

Figure 1. Corridor Study Area

II. Study Partners

The South Bend Safe Routes to Multimodal study was a joint effort between:

- MAPO
- Blue Earth County
- The City of Eagle Lake

These agencies served as the project management team (PMT) and met throughout the study process to review project materials, discuss study progress, and develop technical deliverables.

III. Public Involvement

Public involvement was an integral part of the CSAH 27 Pedestrian Connectivity Study. Input from property owners, interested citizens, elected officials and other corridor users was critical to understanding issues and needs and to vet improvement concepts and priorities. A technical memo that provides a detailed summary of public involvement undertaken for this study is included in **Appendix A** for reference.

The following methods were used to promote public involvement during the study:

1. *Public Informational Meetings* – A public informational meeting was held on July 26th, 2022. This meeting presented four alternatives for multimodal improvements along CSAH 27, and gathered input from stakeholders on issues, needs, and opportunities based on these alternatives. The summary of this public meeting is included in **Appendix A.**
2. *City Council Updates* – Study staff provided formal and informal updates throughout the study process. A planned formal update and presentation to the city staff was given by project staff on August 1st, 2022. Council members were provided with a notated presentation which documented study progress up to date and included a range of alternatives that were shared at the July 26th Open House.
3. *MAPO Updates* – forthcoming. Meetings will occur in late October and early November.

IV. Existing Conditions

Existing conditions were documented for CSAH 27 with a focus on previous studies, land use, traffic operations, safety, access, pedestrian and bicycle accommodations, and environmental resources. This information served as the basis for developing improvement goals for CSAH 27 into the future and was also the basis for the technical study analysis. A detailed Existing Conditions technical memo was prepared and is included in **Appendix B** for reference.

Early in the development of the study, the project team identified several specific environmental and anthropological factors along the project corridor that might present environmental justice issues. This study conducted a preliminary Environmental Justice analysis following guidance set by the Environmental Protection Agency (EPA) and the National Environmental Policy Act (NEPA). The results of this initial analysis were compiled into a technical memo and included in **Appendix C** of this report.

Additionally, a Purpose and Need Framework was developed based on study findings and is included in **Appendix D** for reference. This document has been developed to aid in any future NEPA documentation that may be required based on project impacts and funding opportunities.

Key elements of existing CSAH 27 conditions are as follows:

A. Transportation System Characteristics

In the context of the overall transportation system, CSAH 27 is a major collector near the eastern border of Eagle Lake. The roadway has two 12-foot travel lanes and is posted at 40 miles per hour, with eight-foot paved shoulders on both sides of the roadway. The roadway also has steep embankments on both sides, which are used for drainage. As previously mentioned, the roadway has long functioned as the de facto eastern border of the community, and as a result is the terminus for many east-west roads in Eagle Lake. CSAH 27 is the most direct route for people living south of Thomas Drive to access most of Eagle Lake's key destinations, such as institutional

uses between La Sueur Avenue and CSAH 17 (Parkway Avenue), Eagle Lake Elementary, and Eagle Lake City Park. CSAH 27 currently has no pedestrian infrastructure south of Thomas Drive. CSAH 27 is also the sole access point to the Eagle Lake Regency Manufactured Home Park, and the primary access to existing residential development along 211th Street.

B. Traffic Operations

The study corridor has an estimated average annual daily traffic (AADT) of less than 1,000 vehicles per day (VPD), as per MnDOT's Traffic Mapping Application. The volume of traffic along the study portion of CSAH 27 is projected to nearly double to 1,900 vehicles per day by 2045, as per the MAPO 2045 Long Range Transportation Plan Update. While this increase in traffic volume will not impact segment or intersection level of service, it could have impacts on pedestrian and bicycle level of traffic stress and level of service. The high roadway speeds along the corridor and lack of signed crossings or dedicated facilities are not conducive to bicycle and pedestrian trips, especially for more vulnerable road users, such as children or the elderly. Traffic counts from 2021 reported that the roadway has about 35 daily heavy commercial vehicles, representing less than a single percent of daily vehicle trips.

C. Traffic Safety

Automobile crash data from 2017 – 2021 was analyzed at the key intersections and along the CSAH 27 study area, and bicycle and pedestrian crash data from 2012 to 2021 was also analyzed. There were four property damage only crashes along CSAH 27. None of the intersections in the study area had a crash rate above the normal/expected range of crashes, and none of the segments in the study area had a crash rate above the normal/expected range of crashes. There were no bicycle or pedestrian crashes reported in the ten-year period examined for this study. It is unclear if the lack of bicycle and pedestrian crashes in the study area is due to the lack of bicycle and pedestrian trips, or is indicative of the facilities being adequately safe for the community needs.

D. Pedestrian and Bicycle Connections

There are no sidewalks present in the study area, and there are no signed or marked crosswalks. The CSAH 27 reconstruction project north of Thomas Drive installed a new westside sidewalk that connects the area to the greater Eagle Lake pedestrian circulatory network.

E. Future Development

The farm field parcel on the east side of CSAH 27 north of Thomas Drive is the site of the Fox Meadows development. The development will add 228 units of housing to Eagle Lake over the course of three phases development, taking place over several years. This development will be a mixture of multi- and single-family homes, and proposed plans include a sidewalk connection to the existing facilities on CSAH 27 north of Thomas Drive. The increase in housing will have a commensurate increase the number of trips along CSAH 27. During the open house, members of the community stated that there is potential (but no established plans) for more housing development within the project study area, especially to the north of 211th street, west of CSAH 27. Providing connections to existing and future housing construction was considered as part of the design alternatives created as part of this study.

V. Key Transportation Issues

An important element of the study was the identification of key transportation issues. The following information provides a summary of issues identified by existing conditions analysis and public input. This information is also documented in **Appendix D** in more detail.

Issues were identified as primary and secondary issues. Primary issues are vital to the success of a potential project in making the required improvements needed. Secondary issues are also important but were not considered to set the framework for potential improvements. They may relate to items that can be addressed regardless of the alternative selected from this study.

A. Primary Issues

1. Lack of Bicycle and Pedestrian Connectivity

This study was conducted to examine conditions for bicyclists and pedestrians along a segment of CSAH 27 and propose improvements that would address the lack of bicycle and pedestrian connectivity along CSAH 27 between Thomas Drive and 211th Street. Currently, there are no dedicated bicycle or pedestrian facilities in the study area. Pedestrians and cyclists must use the paved shoulder to make connections to the existing sidewalk north of Thomas Drive. Input collected from the PMT and the study's public engagement indicated there is community desire for increased pedestrian connectivity throughout the study area.

A primary issue is the lack of bicycle and pedestrian connectivity throughout and across the study area. This lack of connectivity reduces the rate at which active transportation trips are made, but this should not be interpreted as a total lack of bicycle and pedestrian trips along the corridor. Input from the open house indicated that people regularly walk and bike along the shoulder to reach destinations in Eagle Lake. Public engagement and findings from the environmental justice analysis indicated that the Autumn Wind townhomes and the Eagle Lake Regency manufactured housing development have a large school-aged population. The children living in these areas could walk or bike to school given adequate facilities. The segment of CSAH 27 north of Thomas Drive was identified as a gap in the 2015 Eagle Lake Safe Routes to School Plan, and the plan recommended developing and planning for increased safe crossings along CSAH 27 as the boundaries of the community expand past CSAH 27.

2. Lack of Comfortable Crossings

In addition to the lack of bicycle and pedestrian facilities, the study area also has a lack of comfortable pedestrian and bicyclist crossings across the corridor, further reducing connectivity. The lack of safe crossings suppresses active transportation throughout the corridor, especially for more vulnerable populations, such as young children or the elderly. Feedback from the open house indicated that actual motorist speeds exceed the posted speed limit of 40 miles per hour, and the slight vertical curve present south of 211th Street reduces sight lines for northbound motorists. This study did not collect any traffic speeding data to confirm these conditions.

B. Secondary Issues

Public engagement and discussions with the PMT also identified a variety of secondary issues in the study area, including:

- Steep embankments along the sides of the roadway used for drainage, with private properties close to the right-of-way that could be impacted by improvements. Findings from the study engagement indicated that the ditches along CSAH 27 are prone to flooding. Stormwater issues will likely inform any future bicycle and pedestrian infrastructure.
- Safety and maintenance. The MAPO 2045 Long Range Transportation Plan identified CSAH 27 between the northern MPO border and the intersection of CSAH 28 as having poor pavement condition. Poor pavement condition is associated with more property damage and injury crashes.
- Speed along the roadway heading into Eagle Lake. Members of the public during project engagement stated that motor vehicles tend to speed along this segment of CSAH 27 and

discussed a desire for roadway elements that indicate to motorists the change of CSAH 27 from rural road to neighborhood connector with mixed traffic.

- Supporting connections to existing and future residential developments along 211th Street. There is already multiple existing or planned housing developments along 211th Street, and future Eagle Lake developments may rely on 211th Street and CSAH 27 for access to goods and services. The three residential developments south of Thomas Drive have no direct connection to the dedicated pedestrian facilities north of the study area.

VI. Study Objectives and Goals

Following the identification of issues and needs in the CSAH 27 study area through both a technical and public process, study partners developed the following objectives for the Corridor Study:

- Safely accommodate all users (vehicles, transit, pedestrians, bicycles)
- Provide infrastructure improvements compatible with the natural environment
- Develop a financially responsible implementation plan

The objectives developed for this study are consistent with the key performance goals discussed in the MAPO 2045 Long Range Transportation Plan including: Accessibility and reliability, economic vitality, safety, and multimodal transportation. The goals from the MAPO 2045 Long Range Transportation Plan were used to identify and evaluate the trade-offs between the improvement options presented in this study.

VII. Identification and Evaluation of Alternatives

The study area had two segments where alternatives were considered, which are within the right-of-way of CSAH 27, and an off-street shared use path east of the Autumn Wind Townhomes and Eagle Lake Regency Manufactured Home Park. Multiple improvement alternatives were identified and evaluated based on the existing conditions analysis, issues and need framework, and public, agency, and stakeholder involvement. Full copies of the alternative drawings discussed within this report are available in **Appendix E.**

An evaluation matrix was used to compare the benefits and tradeoffs between alternatives as compared to the study's goals, but only as a technical exercise, and did not produce long-term implementation plans for improvements. It was assumed that all of these alternatives are tentative and will be iterated and refined upon a reconstruction of CSAH 27. Alternatives shared with the public during engagement were presented using pros/cons, which are included in this report, versus scoring of technical metrics. This evaluation matrix can be seen in **Appendix G**.

Each alternative's probable costs are based on MnDOT 2021 statewide average bid prices. To develop planning-level opinions of probable costs, it was necessary to make some assumptions about construction. The opinions of probable costs include typical construction materials and costs such as excavation, grading, base, pavement, pavement markings, and signing and markings.

Each alternative includes a range for the opinions of probable costs. The high end of the range includes an allowance for design and engineering. Each opinion of probable cost also includes a 20% contingency that may account for unexpected costs or unknown project-specific cost items at this planning-level phase. These opinions of probable costs also include lump sum allowances for construction cost incidentals such as landscaping/turf establishment, drainage/utilities, and erosion and sediment control. Individual project costs may vary; these opinions of probable costs are only intended to be used at a planning level and should be refined throughout project

development.

Thomas Drive to 211th Street

The segment of CSAH 27 between Thomas Drive and 211th Street contains the entirety of the study area and is the sole access to the Eagle Lake Regency Manufactured Home Park at Terrance Drive and Andrea Drive. CSAH 27 is also the primary access for existing residential development along and to the south of 211th Street. All alternatives that were developed and analyzed as a part of this study provided a connection to the existing pedestrian facilities north of Thomas Drive. Bike connections were provided either via a paved shoulder or a shared use path. Other issues in this area include spot safety improvements at the intersections of CSAH 27 and 211th Street and CSAH 27 and Thomas Drive, as well as facilities improvements relating to the embankments along either side of the right-of-way, and flooding issues.

The typical roadway width throughout the study area is 40 feet, with two twelve-foot travel lanes and eight-foot-wide shoulders on either side of the right-of-way (Figure 2). Roadway right-of-way is a consistent width of 100 feet throughout the corridor.

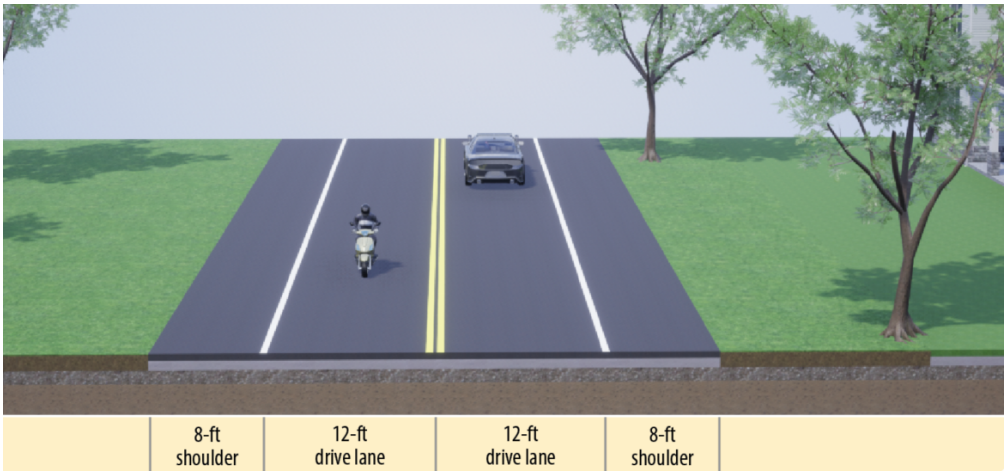

Figure 2. Study Corridor Existing Conditions

Alternative 1 - West Side Sidewalk with Boulevard

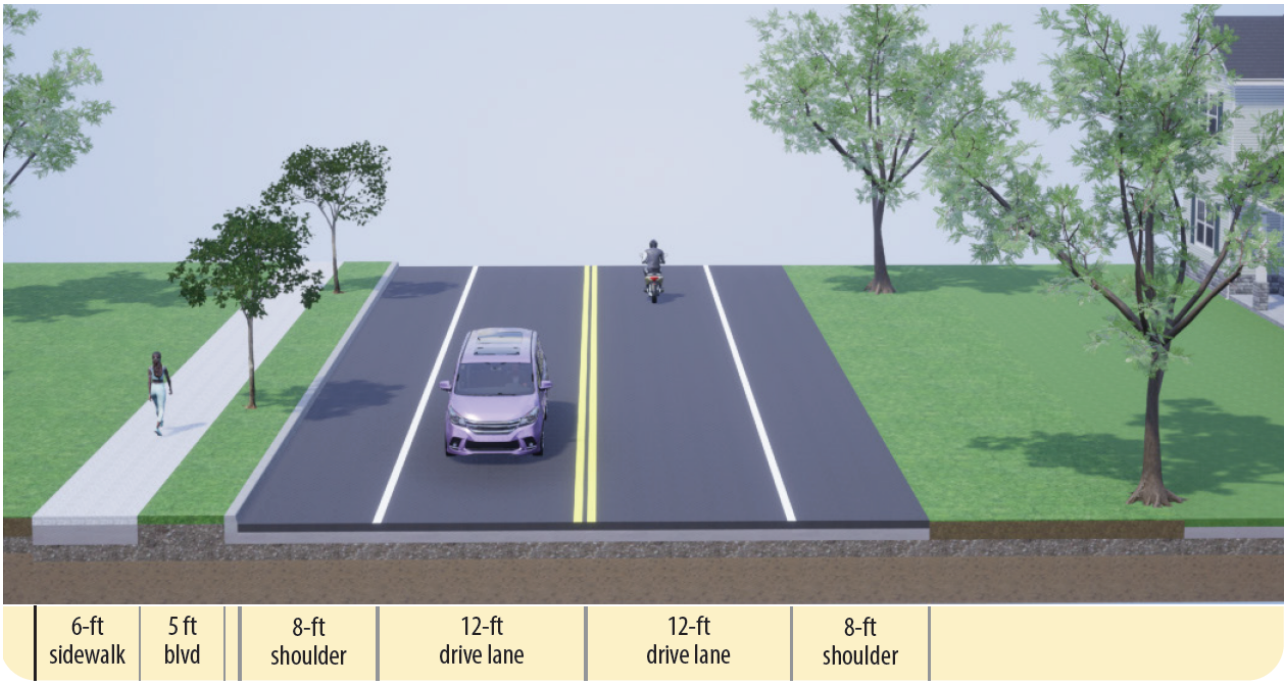

Figure 3. West Side Sidewalk with Boulevard

Alternative 1 Overview:

This concept would install a six-foot wide sidewalk with five-foot boulevard on the west side of CSAH 27 (Figure 3). There would be no impact to the existing roadway alignment, as the additional space needed for sidewalk and boulevard would fit within the existing right-of-way. A signed pedestrian crossing would be installed at the intersection of CSAH 27 and 211th Street. This alternative prioritizes the extension of the existing sidewalk north of Thomas Drive, but at the cost of a higher stress crossing CSAH 27 at 211th Street. This alternative would have no roadway impacts and could support future development west of CSAH 27 north and south of 211th Street.

Pros:

- Linear connection to the existing sidewalk north of Thomas Drive.
- Conflict points are limited to intersections of CSAH 27 and 211th Street and CSAH 27 and Thomas Drive.

Cons:

- Bike facilities are not separated from the roadway
- Potential impacts to wetlands and tree canopy
- No direct access for residents of Eagle Lake Regency or Autumn Wind Townhomes

Alternative 1 Opinions of Probable Costs

The planning-level opinions of probable costs to implement Alternative 1 are $530,000-$640,000. The estimate includes the cost of adding curb and gutter, adding a sidewalk, ADA-compliant curb ramps, drainage system, grading, striping, signing and marking, site restoration, and a 20% contingency for unexpected costs. The higher end of the opinions of probable costs range includes the costs for roadway design and engineering. More information on the opinions of probable costs

is provided in **Appendix F**.

Alternative 2 - East Side Sidewalk with Boulevard

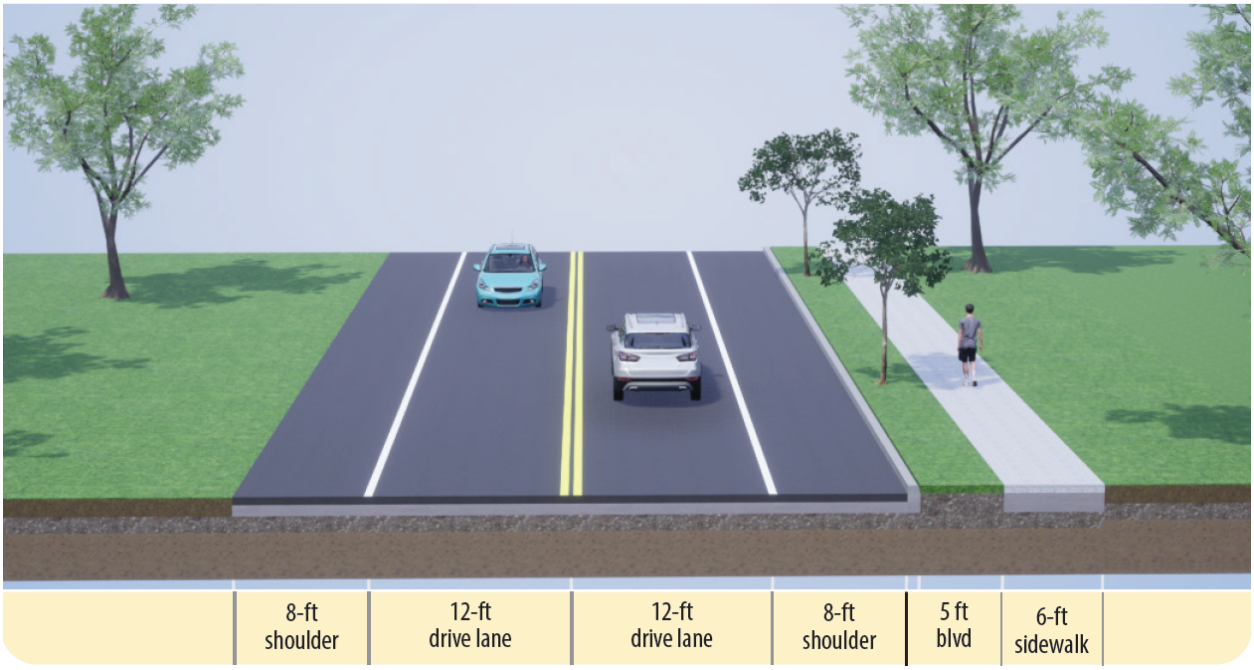

Figure 4. East Side Sidewalk with Boulevard

Alternative 2 Overview:

This concept would install a six-foot wide sidewalk with five-foot boulevard on the east side of CSAH 27 (Figure 4). There would be no impact to the existing roadway alignment, as the additional space needed for sidewalk and boulevard would fit within the existing right-of-way. A signed pedestrian crossing would be installed at the intersection of CSAH 27 and Thomas Drive. This alternative prioritizes a direct connection to people living along the corridor but might encounter some issues with grading and drainage that were detailed in the summary of engagement. Like others, this alternative would have little to no impact to the existing roadway or its capacity. There would be a signed pedestrian crossing at the intersection of Thomas Drive and CSAH 27, and two unmarked crossings at Terrance Drive and Andrea Drive, which connect the Eagle Lake Regency Manufactured Home development to CSAH 27. This alignment would support the pedestrian network of the forthcoming Fox Meadows development.

Pros:

- Connection to planned Fox Meadow development east of CSAH 27 at Thomas Drive.
- Direct access for residents of Eagle Lake Regency

Cons:

- Conflict points with Eagle Lake Regency Manufactured Home Park's access roads: Terrance Drive and Andrea Drive
- Impacts to the drainage ditch and culverts along CSAH 27
- Bike facility is not separated from the roadway

Alternative 2 Opinions of Probable Costs

The planning-level opinions of probable costs to implement Alternative 2 are $460,000-$560,000. The estimate includes the cost of adding curb and gutter, adding a sidewalk, ADA-compliant curb ramps, drainage system, grading, striping, signing and marking, site restoration, and a 20% contingency for unexpected costs. The higher end of the opinions of probable costs range includes the costs for roadway design and engineering. More information on the opinions of probable costs is provided in **Appendix F**.

Alternative 3 - East Side Shared Use Path

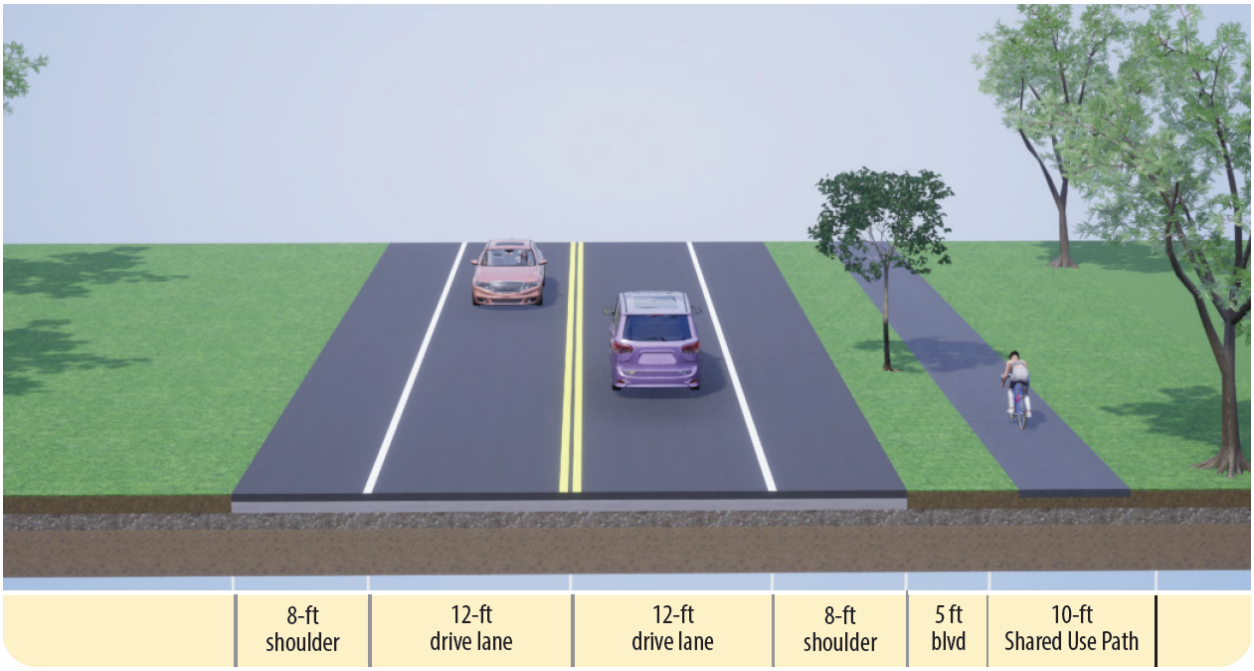

Figure 5. East Side Shared Use Path with Boulevard

Alternative 3 Overview:

This concept would install a ten-foot-wide shared use path (SUP) along the ROW on the east side of CSAH 27 (Figure 5). There would be no impact to the existing roadway alignment, as the additional space needed for path would fit within the existing right-of-way. A signed pedestrian crossing would be installed at the intersection of CSAH 27 and Thomas Drive. This alternative prioritizes a direct connection to people living along the corridor and provides a low-stress facility for cyclists. Like other east side alternatives, it might encounter some issues with grading and drainage that were detailed in the summary of engagement. This alternative would have little to no impact on the existing roadway or its capacity. There would be a signed pedestrian crossing at the intersection of Thomas Drive and CSAH 27, and two unmarked crossings at Terrance Drive and Andrea Drive. This alignment would support the pedestrian network of the forthcoming Fox Meadows development.

Pros:

- Bike facility is separated from the road
- Direct access for residents of Eagle Lake Regency
- Connection to future Fox Meadow development pedestrian circulation facilities

Cons:

- Conflict points with crossings at Terrance and Andrea Drive
- Impacts to the drainage ditch and culverts.

Alternative 3 Opinions of Probable Costs

The planning-level opinions of probable costs to implement Alternative 3 are $150,000-$200,000. The estimate includes the cost of constructing a shared use path, ADA-compliant curb ramps, grading, signing and marking, site restoration, and a 20% contingency for unexpected costs. The higher end of the opinions of probable costs range includes the costs for roadway design and engineering. More information on the opinions of probable costs is provided in **Appendix F**.

Alternative 4 - Off-Street Shared Use Path

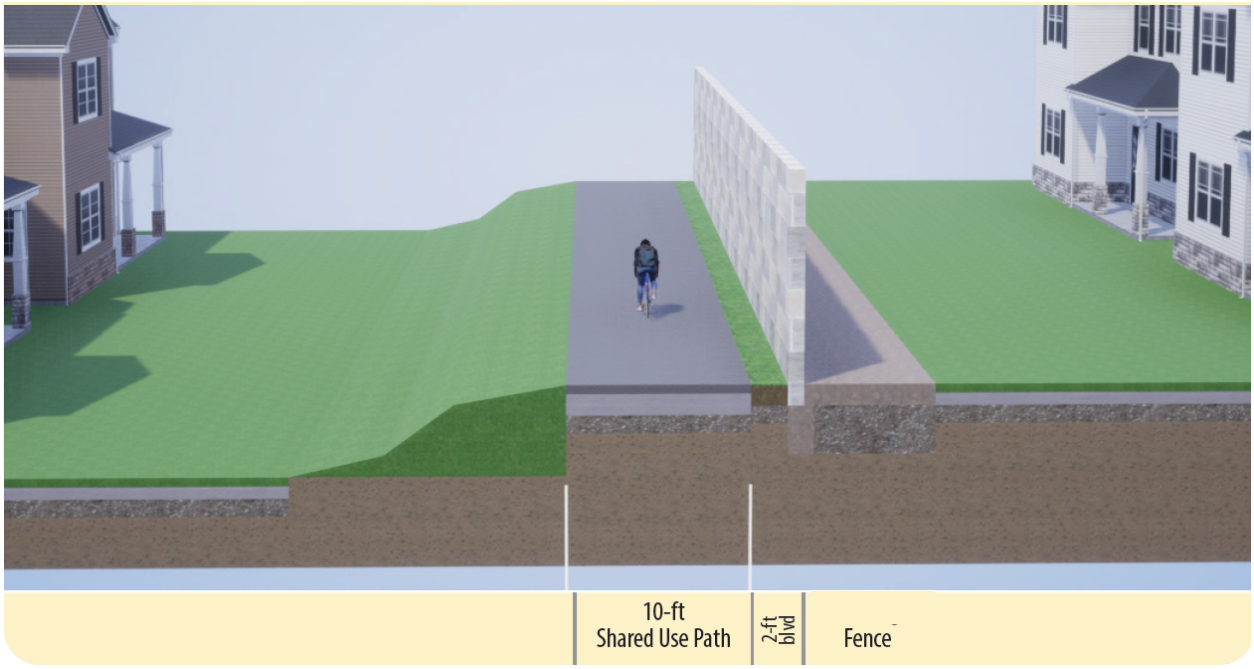

Figure 6. Off Road Shared Use Path example

Alternative 4 Overview:

In the interest of gauging community interest for alignments that are not along CSAH 27, and providing greater connectivity to the Autumn Wind townhomes and other residential developments along 211th Street, this study also produced one alternative that would provide an off-street ten-foot-wide shared use path running along the southern edge of the forthcoming Fox Meadows development and the eastern side of the Autumn Wind townhomes development, between the townhome development and a farm field. The initial proposed alignment was between the existing fence that separates the Eagle Lake Regency from the Autumn Wind Townhomes (Figure 6), but this design was revised based on feedback at the open house. Members of the community stated that the remote location of the SUP could be difficult to access, was too remote, and could be unappealing to nearby property owners due to increased pedestrian scale lighting impacts at night, and maintenance needs during the winter. An alternative alignment was proposed that would run the SUP east of the Autumn Wind

townhomes, between the development and an existing farm field. This alternative alignment is included in **Appendix E.**

Southern access to the SUP would be located on the northern side of 211th Street, east of Maple Lane. The northern portion of the shared use path would be accessible from the intersection of CSAH 27 and Thomas Drive, as well as from the terminus of Maple Lane and the internal north-south streets of the Eagle Lake Regency Manufactured Home Park. This alignment would require no changes to the current alignment of CSAH 27, but has other barriers to implementation, such as right-of-way acquisition and lighting.

This alternative would balance the desire to create a direct connection between residential developments south of Thomas Drive with the desire to provide a facility suitable for all ages and all abilities. This would have no impact to the roadway, but several stakeholders expressed concern about the remoteness of the path.

Pros:

- Lowest stress option presented. Users are entirely separated from the road.
- Access to Eagle Lake Regency Manufactured Home Park and the Autumn Wind townhomes.
- Potential for connections to the planned Fox Meadow development.

Cons:

- Remoteness of the trail might make some user uncomfortable
- Indirect connection to existing residential development south of 211th Street
- Maintenance
- Right-of-way (ROW) needs

Alternative 4 Opinions of Probable Costs

The planning-level opinions of probable costs to implement Alternative 4 are $350,000-$420,000. The estimate includes the cost of constructing a shared use path, ADA-compliant curb ramps, grading, signing and marking, site restoration, and a 20% contingency for unexpected costs. The higher end of the opinions of probable costs range includes the costs for roadway design and engineering. Costs do not include any ROW acquisition needs. More information on the opinions of probable costs is provided in **Appendix F**.

Additional Pedestrian Crossing Enhancements

During the alternative analysis, it was determined that the crossing of CSAH 27 could meet warrants for crossing enhancements based on the Federal Highway Administration's (FHWA) Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations. The ADT on this section of CSAH 27 is less than 1,000. The roadway configuration is two lanes without a median. The posted speed limit is 40 mph. This results in the following countermeasures:

- Consider high-visibility crosswalk markings, adequate nighttime lighting levels, and crossing warning signs – should always occur in conjunction with other identified countermeasures
- Countermeasures that should always be considered
    - RRFB
    - Pedestrian Hybrid Beacon
- Countermeasures that are candidate treatments
    - Curb extension

- Pedestrian refuge island

Pedestrian refuge islands, curb extensions, and pedestrian hybrid beacons were dismissed due to the lack of available space and lack of signal warrants for hybrid beacons.

The planning-level opinions of probable costs to implement these additional crossing enhancements are $25,000-$35,000. The estimate includes the cost of striping, signing and marking, an RRFB, and a 20% contingency for unexpected costs. The higher end of the opinions of probable costs range includes the costs for roadway design and engineering.

Dismissed Alternatives

During the study engagement, staff asked about the feasibility of using the existing sidewalk along Maple Lane to connect to the planned Fox Meadows development after Maple Lane is extended into the new housing development. This idea was discussed with the PMT and ultimately dismissed as community members expressed concern about this alignment, as travelling along Maple Lane requires crossing a large number of driveways. Driveways, with vehicles backing out of garages, present many conflict points and are especially dangerous for more smaller road users such as children.

VIII. Recommended Alternative and Implementation Plan

The PMT considered the results of the technical analysis as well as public input and feedback when working towards a recommended alternative. The following describes the recommendations for CSAH 27 as part of this study. See **Appendix H** for a figure of the recommended alternative.

CSAH 27

Of the four alternatives proposed for this segment that were presented to the public, feedback from attendees indicated a preference towards a design that included dedicated bicycle accommodations along CSAH 27. The recommended alternative for the corridor is Alternative 3, a shared use path along the eastern side of CSAH 27 (Figure 7). There is right-of-way available along CSAH 27 with adequate space for a ten-foot-wide SUP with a drainage ditch between the roadway and the path throughout the study area. This will provide a connection between the existing sidewalk north of the study area, across CSAH 27, as well as any future sidewalk connections emerging from the Fox Meadows development or other residential developments south of the study area. In addition, an RRFB should be considered for the crossing of CSAH 27 at Thomas Drive after the completion of the Fox Meadows' first phase of development. This would include developing an RRFB Justification Report.

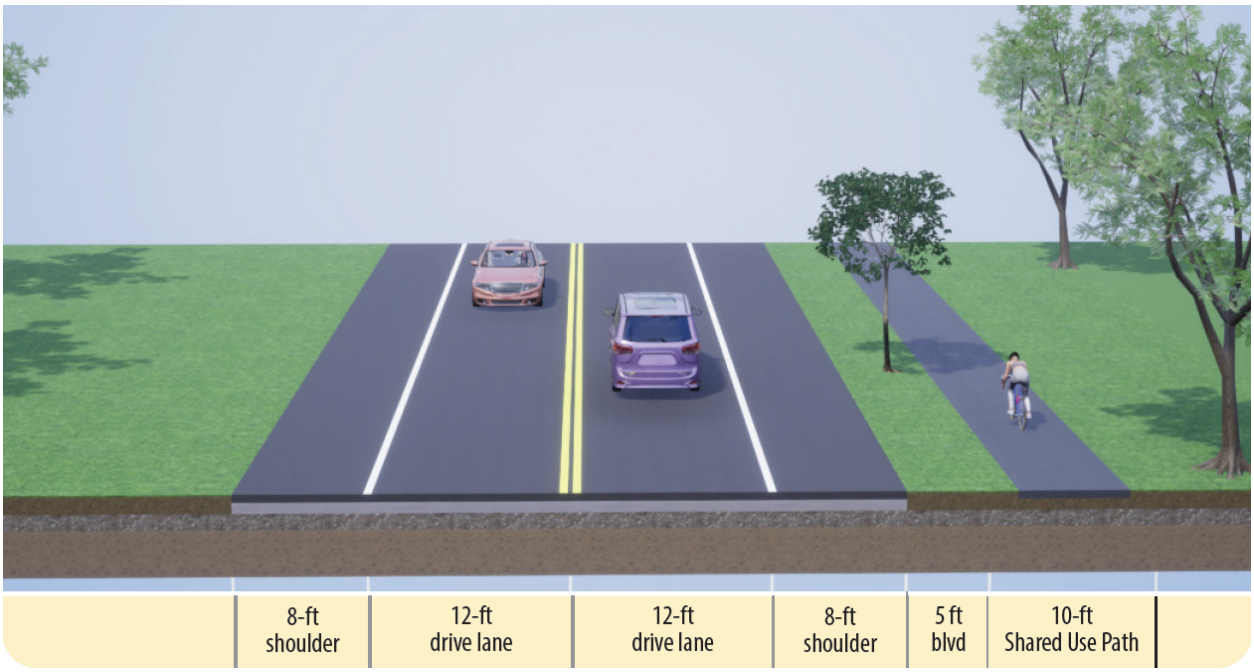

Figure 7. Recommended Typical Section for CSAH 27

IX. Next Steps

The purpose of the CSAH 27 Bicycle and Pedestrian Feasibility Study was to develop a long-term plan for improvements to CSAH 27 Street, part of which will guide what could be implemented ahead of a future reconstruction of CSAH 27. The concepts developed as part of this study are high-level and will need additional refinement through preliminary and final design.

Environmental review and permitting will also be required with exact requirements based on the scope of the project and the funding source. As projects turn from plan to reality, they will move forward as part of the City's CIP process, which involves additional public engagement specific to that project area and timing.

The improvement options identified within this study and the projects prioritized as part of the implementation plan will help the City of Eagle Lake continue to maintain a functioning yet safe major collector roadway.

Study partners must continue to work together to further plan, obtain funding, design, and implement the recommended improvement project. All partners have an active role in implementing these improvements. All competitive funding sources should be considered. Agencies should also update their comprehensive and transportation plans to include these findings to better leverage funding sources.

Appendix A: Engagement Summary

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CSAH 27 (AGENCY STREET) PEDESTRIAN CONNECTIVITY STUDY
OPEN HOUSE SUMMARY
JULY 26, 2022 – 5:00 TO 7:00 PM
Eagle Lake City Hall – Conference Room

I. Purpose

The Mankato/North Mankato Area Planning Organization (MAPO) is reviewing options to promote bikeability and walkability, eliminate accessibility barriers, and ensure Americans with Disabilities Act (ADA) compliance along County State Aid Highway (CSAH) 27 (Agency Street) between 211th Street and Thomas Drive. This linkage promises to provide people with active and accessible transportation options, creating safer opportunities for biking and walking to school, recreation, jobs, other destinations, and for health and recreation. The project team, after conducting a review of the existing plans, policies, and conditions of the corridor, created four alternatives and presented them to members of the community during a public open house on July 26th, 2022.

II. Attendees

Seven people signed in at the meeting. The following agencies were also in attendance: Mankato Area Planning Organization (MAPO), City of Eagle Lake, and Blue Earth County.

III. Materials Presented

The meeting was set up in an open house format, giving attendees the opportunity to view materials and speak with project staff at their leisure. No formalized presentation on the project was given. The following information was available for public review and input:

- Study Purpose, Process, Timeline, and Goals
- Four concept cross sections with potential pros and cons per option
- Matching concept layouts to contextualize the option along the corridor

IV. Comments Received

Public input was collected throughout the duration of the open house through discussions with staff and written comments. The following summarizes public comments collected:

A. Written Comments (Comment Forms and Map Notes)

- I like option 2 the best. Option 4 is my second choice
- Do we need some sort of traffic control at Thomas Drive?

B. Meeting Discussion

Most of the feedback gathered during the meeting was in through discussion of the provided options between project staff, city staff, county staff, MAPO staff, and members of the City of Eagle Lake public.

1. Option 1 – West Side Sidewalk

Members of the public generally agreed that the west side of CSAH 27 needs a sidewalk, but it should be implemented in the future, ideally paired with the redevelopment of the agricultural field to the west of CSAH 27. The public agreed that placing a sidewalk along the west side of CSAH 27 today would not meet community needs. Points of discussion included:

- Concerns about the safety of a pedestrian crossing at the intersection of CSAH 27 and 211th Street. Citizens noted that this is a fast segment of roadway with vertical alignment issues reducing line of sight for motorists.
- Impacts to wetlands along the western side of the right of way

2. Option 2 – East Side Sidewalk

This option was considered to be the most feasible on street option by the county engineer and was liked by members of the public. A crossing at Thomas Lane is supported by the public and county engineer. Members of the public want some level of traffic calming at that intersection and think that a RRFB could help. However, this option has some significant issues and caveats. First, there are severe drainage issues related to the ditch along the segments east side, which greatly reduces the amount of room with which a sidewalk could be installed. Other points of discussion included:

- The impacts culvert and drainage ditch are a big issue.
- Many of the manufactured homes along the right of way are very close to the property line, which might present issues with installing a sidewalk.
- Crossings at Terrance and Andrea Drive present some difficulties
- A pedestrian crossing at Thomas Lane is ideal, but would need accommodations for the roadway design that encourages high rates of speed

3. Option 3 – East Side Shared Use Path

Much like the sidewalk, this is supported by the public because it would centralize crossings at Thomas Lane and offer a good connection to the housing developments south of 211th Street. However, the county engineer had concerns about drainage and impacts to properties in the manufactured home park. Drainage issues would likely necessitate the urbanization of the segment, with curb and storm sewer. This would be far out of scope for cost-benefit. Other points of discussion included:

- Earthwork and changes to the slope of the ditch might run into issues with manufactured homes being so close to the edge of the right-of-way

4. Option 4 – Alternative Shared Use Path Alignment

As a contrasting option, the project staff included an alignment that moved the shared use path off the CSAH 27 right-of-way and placed it between the manufactured home park and the townhome development along Maple Lane, running along the western side of an existing fence that separates the two developments. Members of the public liked the idea of an off-street alignment, but did not think that the location would be ideal. Points of discussion included:

- Support for an off-street alignment
- Potential issues from having to deal with multiple property owners to acquire a right-of-way and easements for the trail. A proposed alternative brought up by the city administrator was that the trail could be realigned to be along the eastern side of Maple Lane, between the townhomes and the farm field.
- This trail would have higher maintenance costs, in addition to needing dedicated lighting and signage for wayfinding
- This would require additional coordination with the Fox Meadows development.

C. **Digital Correspondence (email)**

Following the open house held on 7/26/2022, additional feedback was received via email to the City of Eagle Lake City Administrator. The following summarizes the public comments gathered via email:

- A crossing should be installed at the intersection of Thomas Lane and CSAH 27. This intersection should be paired with speed reductions south of the intersection, along with signage to alert motorists to the crossing
- The city should work with the developers of Fox Meadows to include a recreational path along the border between the future Fox Meadows and the existing manufactured housing development and the townhomes.
- Any investments that are part of this pedestrian connectivity study's recommendations should be considered in the context of a larger, more comprehensive, network of recreational trails.
- The email included a list of potential priority trail investments and connections. The project staff feels that this email speaks to the need for an official, comprehensive sidewalk and trails master plan for Eagle Lake.

Appendix B: Existing Conditions Analysis

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EXISTING CONDITIONS MEMORANDUM

Date: Tuesday, October 11, 2022

To: Christopher Talamantez

From: Cody Christianson, PE, ENV SP

Subject: Eagle Lake – CSAH 27 (Agency Street) Pedestrian Connectivity Study
Mankato/North Mankato Area Planning Organization
BMI Project No.: OT4.126949

I. Introduction

The Mankato/North Mankato Area Planning Organization (MAPO) is reviewing options to promote bikeability and walkability, eliminate accessibility barriers, and ensure Americans with Disabilities Act (ADA) compliance along County State Aid Highway (CSAH) 27 (Agency Street) between 211th Street and Thomas Drive. This linkage promises to provide people with active and accessible transportation options, creating safer opportunities for biking and walking to school, recreation, jobs, other destinations, and for health and recreation. This technical memorandum provides an overview of the existing conditions of the bicycle and pedestrian network in the City of Eagle Lake and its environs.

A. General Comments

Eagle Lake is a suburban community that feeds into nearby Mankato with limited retail or commercial uses. Eagle Lake was platted in the late 19th century, but most development in the area occurred after the mid-20th century. Eagle Lake has some barriers to bicycle and walking trips: While the city is flat and reasonably compact, there is limited pedestrian infrastructure, and the street network follows typical midcentury development of curvilinear streets with cul-de-sacs, not conducive to short, direct biking and walking trips. Eagle Lake has 8.2 miles of sidewalks per its ADA Transition Plan & Inventory for Public Rights-of-Way conducted in 2019. There are no marked bicycle lanes within Eagle Lake, and the shared use path network is limited to the trails along Parkway Avenue and 598th Avenue. Bicyclists are permitted to ride on public roads as per Minnesota Statues, Chapter 169. Per the same statute, cyclists may ride on sidewalks if they yield right-of-way to pedestrians and give audible warning when passing. The Eagle Lake City Code does not explicitly dictate how cyclists should operate on the public right-of-way.

There are significant gaps in the city's sidewalk network. The development pattern and lack of connectivity is a barrier to bicycle and pedestrian trips.

CSAH 27 has long served as the de facto eastern border of the community, serving as a terminus for many east-west roads in the community. As a result, it offers direct access to most of Eagle Lake's key destinations such as institutional uses between La Sueur Avenue and CSAH 17 (Parkway Avenue). CSAH 27 currently has no pedestrian infrastructure south of

Thomas Drive. A new sidewalk was installed north of Thomas Drive to CSAH 55 as part of a 2021 road reconstruction project.

Eagle Lake was the fastest growing jurisdiction by percentage in the MAPO planning area between 2010 and 2018, growing to an estimated 3,100 residents in 2018, a 29.5 percent population growth since the 2010 census. It is also one of the youngest cities in the region; more than 30 percent of the population consists of children. Children and other residents walk along the shoulders of CSAH 27 and other adjacent roads to access the Eagle Lake Elementary School (located on Le Sueur Avenue to the west of CSAH 27), among other destinations. Most new development along CSAH 27 will be within one mile of Eagle Lake Elementary School, and is thus feasible for children to walk, bike, or roll to school. The 2015 Eagle Lake Safe Routes to School (SRTS) plan identified the CSAH 27 corridor as part of the phased implementation plan for a complete bicycle and pedestrian network within Eagle Lake. Recent development south of 211th Street and along Maple Lane, as well as the existing mobile home park constitute a significant amount of new and affordable housing in the city. Lower income populations are less likely to have access to a car, and thus more likely to walk or bicycle for trips. The current conditions on CSAH 27 offer little to no support for people with disabilities, and the lack of accessible accommodations can be a dangerous barrier to access.

B. **Specific Concerns**

In addition to the general concerns noted above, several specific issues were repeatedly noted across resources examined for the existing conditions technical memorandum:

- Enabling biking and walking connections to retail and institutional uses along CSAH 17, such as Eagle Lake Elementary School, City Hall (677 Parkway Avenue), the United States Post Office (100 Le Sueur Avenue), and private commercial enterprises.
- Extending the pedestrian connections from recent investments along CSAH 27 north of Thomas Drive.
- Ensuring that bicycle and pedestrian infrastructure is ready to accommodate future housing developments and growth to the south and east of the study segment.
- Volume of traffic along the study portion of CSAH 27 is projected to nearly double to 1,900 vehicles per day by 2045. While this will not impact segment level of service and is not considered a high volume of traffic, the high roadway speeds along the corridor. These vehicle speeds can be dangerous for vulnerable road users looking to travel along the road, and to cross safely.
- Avoiding impacts to private property along the corridor

II. Plan Review

Several plans have been developed by the City of Eagle Lake, MAPO, and other outside agencies that will have an impact on the bicycle and pedestrian network/planning process in the City of Eagle Lake. These plans are summarized below:

A. Eagle Lake Safe Routes to School Plan (2015)

Safe Routes to School is a national program which assists communities and school districts in

enabling and encouraging children to walk and bike to school through planning, development and implementation of programming that makes these modes a safer, healthier, and more appealing transportation option. The 2015 Eagle Lake Safe Routes to Schools Plan consisted of setting out a vision and goals for the process, collecting and analyzing information, determining barriers and challenges to walking and biking, determining strategies to encourage more walking and bicycling, and creating an action plan to implement the identified strategies.

This SRTS plan included analysis for conditions at Eagle Lake Elementary School, the only public school within Eagle Lake. The planning process brought together a variety of stakeholders including city staff, school staff, transportation professionals, parents, teachers, and law enforcement. Key points are listed here:

- The SRTS planning process included a sidewalks and trails master plan that identified all existing sidewalks and trails within Eagle Lake and provided a phased implementation plan for filling all sidewalk gaps (Figure 1)
- The plan recommended installation of sidewalks and safe crossings along CSAH 27, especially as residential development continues east of CSAH 27.
- CSAH 27 between 211th Street and Linda Drive was identified as a priority corridor for sidewalks and recommended that sidewalks be constructed along the corridor in anticipation of further development east of CSAH 27.
- Survey issued to parents (n=21) indicated that addressing the lack of sidewalks and safe crossing opportunities would significantly contribute to changing their decision to allow their children to walk or bike to school.

B. City of Eagle Lake Sidewalk Committee Findings Update (2016)

The Eagle Lake City Council formed a committee composed of community members to draft a working sidewalk plan for the City of Eagle Lake. This plan was established in 2015, and last updated in July 2016. The committee held several meetings to identify deficiencies in the city sidewalk network and drafted a list of construction and new sidewalk placement recommendations. The committee conducted traffic counts on major roads within the community and developed a list of public education recommendations. The committee's finding update produced the following outcomes:

- Developed sidewalk construction recommendations relating to the placement of sidewalks along the right-of-way (i.e., distance from the curb and in what circumstances should sidewalks be installed along both sides of the right-of-way).
- Developed sidewalk placement recommendations, providing guidance for prioritizing installing new sidewalks. Highest priority should be given to high traffic corridors (greater than 500 vehicles per day) and corridors with speeds greater than 25 miles per hour. CSAH 27 meets all the criteria of a high priority corridor.
- Created a three-phase implementation plan for building out the sidewalk network. CSAH 27 from Maywood Avenue to Thomas Drive was a phase 1 priority, and a sidewalk along the west side of the right of way was constructed in 2021.

Figure 1: Eagle Lake Elementary Recommended Improvements Map

C. MAPO ADA Transition Plan (2019)

In coordination with MAPO, the City of Eagle Lake published a complete Americans with Disabilities Act (ADA) evaluation and implementation plan in 2019. This evaluation included an assessment of the existing sidewalks, pedestrian ramps, and crosswalks for compliance with the ADA design standards for accessible infrastructure. The City of Eagle Lake conducted their ADA Self-Evaluation and review of programs beginning in September 2017 and concluding in October 2017, and published their findings as part of the greater MAPO ADA transition plan. This review of programs and self-evaluation only applies to the accessibility of existing infrastructure and provides no guidance for circumstances where accessible sidewalks or curb ramps are absent.

At the time of the ADA transition plan, the study area had no sidewalks and/or trails, curb ramps, crosswalks, or other dedicated pedestrian infrastructure, and as such no recommendations for ADA remediation were given for the study area. Highlights of the ADA Transition Plan included:

- Recommendation that all future pedestrian infrastructure investments align with Public Right of Way Accessibility Guidelines (PROWAG).
- No recommendations were made for the study corridor due to the area having no pedestrian infrastructure at the time of assessment.

D. 2045 Long Range Transportation Plan Update (2020)

The City of Eagle Lake is included in the long-range transportation planning efforts for the region conducted by MAPO, providing the city with actionable projects to meet multimodal transportation needs. As a community, Eagle Lake is growing rapidly, and smart growth of the transportation network is a vital component when maintaining an accessible, reliable, and safe transportation network. Key items from MAPO's long-range transportation plan include:

- Within the study area, CSAH 27 has a functional classification as a major collector and will continue in this role. 211th Street and Le Sueur Avenue (both currently classified as local roads) will be reclassified as minor collectors.
- The LRTP identifies future road alignments that would provide through connection from 211th Street and Le Sueur Avenue to East Mankato.
- A two-lane rural reconstruction of CSAH 27 from the 230th Street to CSAH 28 was identified as a short-term project (2021-2025).
- New trail along CSAH 27 between CSAH 17 (Parkway Avenue) and 211th Street was identified as a short-term project (2021-2025).

E. Fox Meadows Concept Plan (2022)

Schrom Construction submitted a concept plan to the City of Eagle Lake planning commission in April, 2022 for a housing development on in the 77 acre agricultural parcel east side of CSAH 27 between Blace Avenue and Thomas Drive, directly north of the study area. The proposed development would add 228 units of housing to the regional housing supply, largely comprised of multifamily housing. This will significantly increase the number of trips along CSAH 27, and further increase demand for safe crossing opportunities for all

road users. As of May 2022, a developer's agreement was in progress. TIF was approved for phase I at the April 4th 2022 City Council meeting. Impacts from the development include the following:

- Addition of 228 units of housing, a majority of which are multifamily units, including thirteen 8-plex structures, twelve twin home structures, seventeen single family structures in community, and 83 detached single family home structures.
- Potential for large school aged population. City has coordinated with Eagle Lake Elementary school to ensure that the new development will not cause capacity issues. Increases need for SRTS investments along the corridor.

III. General Land Use Pattern

A. Bicycle and Pedestrian Generators

The majority of Eagle Lake is zoned for single family housing and other low-density land uses. Eagle Lake's commercial areas have remained largely in its downtown district along CSAH 17 and US 14 and are limited to convenience and neighborhood uses. Residents of Eagle Lake typically travel to Mankato for most of goods and services. Institutional uses such as the Eagle Lake Elementary School, Eagle Lake Community Garden, the US Post Office and City Hall are located between CSAH 17 and Le Sueur Avenue. Eagle Lake City Park is located south of Le Sueur Avenue, approximately 0.4 miles west of CSAH 27. There is a regional trail that provides bicycle and pedestrian connections between Mankato and Eagle Lake along the north side of CSAH 17 (Parkway Ave/216th Street), west of Third St.

There is some multifamily residential development dispersed throughout the community. In the immediate vicinity of CSAH 27, a mobile home park exists south of Thomas Drive and east of CSAH 27, and more recent construction includes townhomes along Maple Lane and south of 211th Street. The areas east of CSAH 27 are slated for future residential developments of varying densities. The existing manufactured home park and townhomes are affordable housing that have potential to generate a significant amount of bicycle and pedestrian activity owing to potential for higher rates of households without automobiles.

Transit service is a driver of pedestrian trips, as many transit users will walk to make connections at either end of a transit ride. Eagle Lake does not currently have any fixed route transit service. Previously, fixed route service between Mankato and Eagle Lake was provided by Mankato Transit Services. Fixed route service was replaced by Kato Flex in 2019. Kato Flex is a curb-to-curb micromobility transit service offered by Mankato Transit Services. Trips must be reserved a day in advance. The service offers connections between any two points in the Eagle Lake flex zone, which matches the city boundaries. Riders may also be dropped off anywhere Mankato fixed route bus services is provided, with the nearest transit stops associated with Route 6, an circulator route for East Mankato. All vehicles used for Kato Flex are ADA accessible and equipped with bike racks.

B. CSAH 27 (Agency Street)

CSAH 27 is a major collector under the jurisdiction of Blue Earth County. Pavement condition data from the 2045 LRTP update reported that pavement quality for the entirety of CSAH 27 between CSAH 17 and CSAH 28 (206th Street) was poor, and a 2-lane rural reconstruction

project between Thomas Drive and CSAH 55 (Le Ray Drive) was identified as a short-term project. The roadway reconstruction project began in June 2021 and work was substantially completed in October 2021. The reconstruction of the roadway addressed the failing condition of the underlying city watermain and sanitary sewer, and as part of the project, sidewalk and curb ramps were constructed on the west side of the road from Thomas Drive to CSAH 17 and on both the east and west sides of the street from Valley Lane to Le Ray Avenue. The project has limited work scheduled for the summer of 2022, including some miscellaneous work and repairs, the final lift of asphalt pavement, and striping.

Future traffic forecasting during the 2045 LRTP projected an increase in traffic along the CSAH 27 corridor through Eagle Lake. This will not impact segment level of service but will increase level of traffic stress for bicyclists and pedestrians attempting to cross the corridor. The residential development that east of CSAH 27 generates trips along the corridor, with residents walking along the shoulder. Any future housing along the corridor and along 211th Street will likely also increase the number of all trips along the corridor, potentially increasing the need for dedicated facilities for bicyclists and pedestrians.

The 2021 Blue Earth County-led road reconstruction project included a full assessment of the corridor right of way. As per Eagle Lake's policy set in the 2016 City of Eagle Lake Sidewalk Committee Findings Report, a six-foot wide sidewalk on the westside of CSAH 27 was constructed. All sidewalks and pedestrian ramps were constructed to meet current ADA accessibility guidelines.

IV. Existing Trails and Sidewalks

A. Trails and sidewalks for the City of Eagle Lake have been mapped out several times as part of various planning efforts, such as the ADA transition plan, the City of Eagle Lake Sidewalk Committee Findings, and the 2015 SRTS plan. As previously mentioned, the existing sidewalk network is incomplete, either lacking a sidewalk on both sides of the roadway or having no infrastructure at all. The city is incrementally addressing this deficiency. The 2016 City of Eagle Lake Sidewalk Committee stated that, when possible, the city should consider building sidewalks along at least one side of the street during reconstruction projects, even in the case where there was previously no sidewalk. The city adopted an ADA transition plan in May 2019. The ADA Transition Plan states that "all new street construction projects with pedestrian accommodations will be designed and constructed to conform with the most current ADA guidance and design practices to the maximum extent feasible". Neither of these are codified in the city code but do represent a prevailing internal policy of expanding the network of accessible pedestrian infrastructure.

V. Bicycle Parking

Bicycle parking is an important element of the bicycle network, providing bicyclists with an end point feature allowing for secure locking of bicycles at destinations. The 2015 Eagle Lake SRTS plan did not explicitly note the amount of parking that was offered by the school. Google StreetView data collected in August 2019 and accessed May 2022 shows that there is a grid bike rack (also called a comb rack or schoolyard rack) for bicycle storage at the southern entrance to the school. This style of rack is not recommended for long-term bicycle storage since it does not allow for the locking of the frame and can lead to wheel damage if used incorrectly. However, it is likely

adequate given the environment. Future investments in a bicycle parking should follow guidance from the Association of Pedestrian and Bicycle Professionals (APBP) or National Association of City Transportation Officials (NACTO) when selecting and siting bicycle parking. Bicycle parking should be considered at public and commercial destinations, such as grocery stores and parks.

VI. Conclusion

The City of Eagle Lake has made significant investments in their bicycle and pedestrian network over the past twenty years. However, these improvements have still left current investments disconnected from the greater bicycle and pedestrian network in Eagle Lake, especially for any new housing developments east of CSAH 27. Future investments should work to meet the goals listed in the documents reviewed above, prioritizing connections to destinations such as Eagle Lake Elementary School, Eagle Lake City Park, and commercial locations along Parkway Avenue (CSAH 17).

Appendix C: Environmental Justice Analysis

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ENVIRONMENTAL JUSTICE MEMORANDUM

Date: Monday, July 18, 2022

To: Shawn Schloesser

From: Cody Christianson, PE, ENV SP

Subject: Eagle Lake – CSAH 27 (Agency Street) Pedestrian Connectivity Study
Mankato/North Mankato Area Planning Organization
BMI Project No.: OT.4126949

I. Introduction

The Mankato/North Mankato Area Planning Organization (MAPO), in partnership with Blue Earth County and the City of Eagle Lake, is conducting a feasibility study for bicycle and pedestrian improvements along Agency Avenue (CSAH 27) between Thomas Drive and 211th Street.

In the event that federal funding will be used to contribute to the completion of any project that is derived from this feasibility study, this study will follow the environmental review process and guidelines established by the National Environmental Policy Act (NEPA). The NEPA process consists of an evaluation of the environmental effects of a particular project and its alternatives. Further consultation with the Federal Highway Administration (FHWA) and the Minnesota State Department of Transportation (MnDOT) will confirm the level of environmental review, which is expected to be authorized as a Documented Categorical Exclusion (DCE). As the Environmental Justice (EJ) evaluation in this analysis indicates, EJ populations are not present in the project's study area, temporary impacts will be experienced, but minimization and outreach will help to offset the impacts.

Definition of Environmental Justice

As per the 2020 update of MnDOT's Environmental Justice guidance, minority populations are defined as any readily identifiable group of minority persons who live in a geographical area. Minority populations are defined in the MnDOT Order on Environmental Justice (Order 5610.2(a)) as including:

- Black or African American (a person having origins in any of the black racial groups of Africa);
- Asian/Pacific Islander (a person having origins in the Far East, Southeast Asia, or the Indian subcontinent);
- Pacific Islander (a person having origins in any of the Pacific Islands);
- American Indian or Alaskan Native (any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition);
- Hispanic (a person with roots from Mexican, Puerto Rican, Cuban, Central or South American, or the Spanish culture or origin, regardless of race).

- Geographically dispersed/transient persons (such as migrant farm workers or Native Americans)

Low-income population is defined in the same DOT Order as meaning "any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity. (MnDOT, 2020)

The FHWA uses criteria similar to the Department of Justice guidelines to evaluate projects that may affect "Limited English Proficient" (LEP) persons. These guidelines require public outreach efforts, including translation, for "each eligible LEP language group that constitutes five percent or 1,000 people (whichever is less) that will likely be affected by a project" (U.S. Department of Justice 2009).

II. Applicable Statues and Guidance

Civil Rights Act of 1964

Title VI (Sec. 601) of the Civil Rights Act of 1964 is a federal law that protects individuals from discrimination on the basis of their race, color, or national origin in programs that receive federal financial assistance. It is illegal for MAPO, Blue Earth County, the City of Eagle Lake, or any other contractor/sub-recipient affiliated with MAPO to withhold or refuse benefits, services, or funding based on race, color, or national origin. Therefore, the potential for Title VI impacts were also reviewed under this screening memo. MAPO will comply with Title VI responsibilities.

Executive Order 12898

Executive Order 12898 requires federal agencies to identify and avoid "disproportionately high and adverse" effects on minority or low-income populations for federal programs that affect human health or the environment. The EJ evaluation for this project study follows guidance and methods developed by the Federal Highway Administration (FHWA) and MnDOT. Such guidance defines a "disproportionately high and adverse" effect on minority and low-income populations as an effect that:

- Is predominantly borne by a minority and/or low-income population; or
- Will be suffered by the minority and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or non-low-income population (FHWA Order 6640.23A, 2012).

EJ considerations must also be incorporated throughout the transportation planning and decision-making processes to comply with NEPA. The principles of environmental justice are reflected in Title VI of the 1964 Civil Rights Act, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended (42 U.S.C. 4601 et seq.), the Transportation Equity Act of the 21st Century (TEA-21) and other U.S. Department of Transportation (DOT) statutes, relocation regulations, and guidance that affect social, economic, and environmental elements; public health; and public involvement.

III. Project Description

MAPO is conducting a feasibility study to improve pedestrian and bicycle access to and circulation along the CSAH 27 corridor between Thomas Drive and 211th Street. This bicycle and pedestrian

feasibility study will determine the type and alignment for future infrastructure such as a sidewalk or shared use path in the project area, as well as possible crossing locations. In part, the need for this project was identified during the Blue Earth County roadway reconstruction project of CSAH 27 from north of Thomas Drive to Le Ray Avenue in Fall 2021 (Project 007-627-015). This reconstruction project included replacement of the watermain, sewer, and the installation of a westside sidewalk and curb ramps from Thomas Drive north to the existing sidewalk at Linda Drive and CSAH 27. The residential developments south of Thomas Drive (i.e., Eagle Lake Regency Manufactured Home Park and the Autumn Wind Townhomes, and new development south of 211th Street) have no pedestrian or bicycle infrastructure connection to Eagle Lake.

IV. Environmental Justice Summary

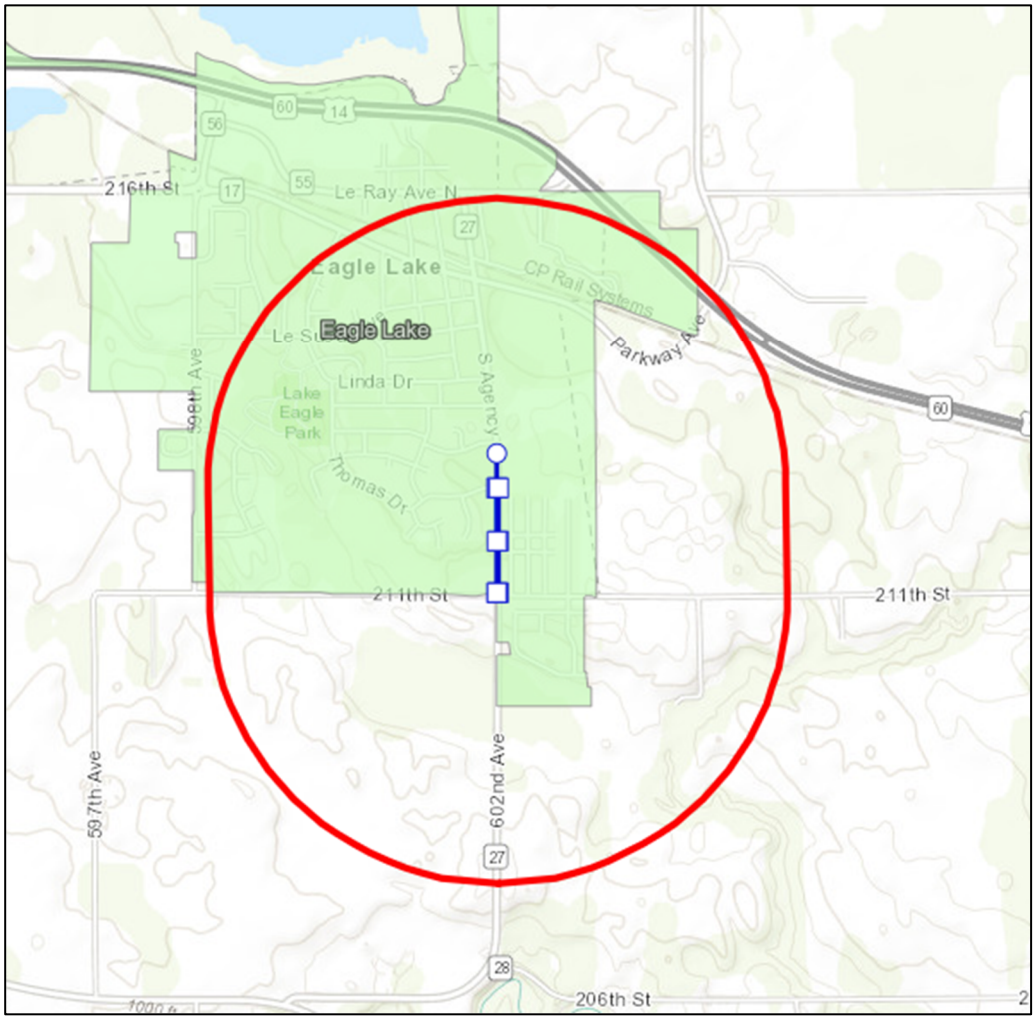
The purpose of this analysis is to identify minority, limited English proficiency (LEP), and low-income populations, also known as "environmental justice (EJ) populations" within the project vicinity. This analysis considers 2016-2020 American Community Survey data, 2020 U.S. Census data, and local school data to identify affected populations. These data were used to identify potential EJ populations and will be used in this memorandum to discuss any disproportionately high and adverse effects that would be predominately borne by these populations.

This analysis, using U.S. Census and school data, indicates that the study area includes low-income, minority, and Spanish-speaking populations. However, none of these groups are prevalent at rates above the regional average, nor are they large warrant specific mitigation for EJ populations. However, the proximity to affordable housing should be considered in future public outreach efforts, as these sites may contain clusters of EJ populations not immediately obvious through the EJ screening process. Future analysis will identify potential impacts of the project area.

V. Study Area

The study area for this EJ analysis is defined as approximately a half-mile buffer extending from the project area. This is assumed to capture the extent of potential effects from the project on EJ populations. For data analysis, census block group boundaries were used to define the study area. All census block groups that overlapped with the study area or were within half a mile of the study area were included in the analysis. Owing to the low-population density within the study area, the census block groups cover large and varied geographic areas, which introduces some difficulties in determine if the project will have potential EJ populations. Future engagement work should use the analysis below to direct engagement efforts to determine if there are EJ populations within the study area, and if so, how any recommended alternatives might impact these groups.

Figure 1 - Project Vicinity Map



The study area and census block groups (Figure 1) includes most of the City of Eagle Lake and covers most of the social and environmental effects that could be incurred by any potential project, such as temporary noise, air, traffic and access effects from construction. These impacts would be explored in greater detail after project alternatives have been identified.

A. Land Uses in Project and Study Area

The focus of the feasibility study and future project location is along CSAH 27 in Eagle Lake, Minnesota, between Thomas Drive and 211th Street, covering approximately one quarter mile of CSAH 27. To assesses potential impacts from construction along the study area, this report examined the populations Eagle Lake, since a significant portion of the community is within a half-mile buffer around the CSAH 27 corridor

Eagle Lake is a growing suburban community with potential to expand both to the west and south. The study corridor a quarter mile segment of CSAH 27 in the southeastern quadrant of the city. The areas north and west of the study corridor are zoned for single family residential. Northeast of the study corridor is zoned for agricultural use. Directly east of the study corridor is zoned for multifamily development, and currently has a manufactured

home park and townhomes. The southwest corner of the CSAH 27 study corridor is zoned for agricultural use. Recreational uses in the area include an unnamed bike trail along the north side of Parkway Avenue/216th Street that provides an off-street connection for cyclists and pedestrians between Eagle Lake and Mankato.

VI. Methodology

This report describes the existing minority, low-income, and language characteristics of the populations in the study area. Multiple data sources were utilized to assess for potentially impacted EJ groups. These data sources include:

- United States Census Bureau 2020 decennial census and American Community Survey 2015-2019 5-year survey data;
- National Center for Education Statistics data;
- US Environmental Protection Agency's Environmental Justice Screening Tool (EJ Screen)

The study area was compared to regional demographic statistics to determine if these EJ populations were over-represented in the project area. This was done by using comparable census statistics for Mankato – North Mankato metropolitan statistical area (MSA), which is anchored by the cities of Mankato and North Mankato and includes the City of Eagle Lake.

VII. Demographics

A. Minority Populations (U.S. Census Data)

Data from the 2020 decennial U.S. Census and 2015-2019 ACS were reviewed to assess the presence of minority or low-income populations in the study area. The census data from 2020 showed that the study area was home to 7,556 residents in 2,741 households. Races in the study area include white, African American, American Indian/Native Alaska, Asian, Pacific Islander, Other, and those reporting themselves as two or more races (Table 1).

Table 1 - Demographics Comparison of the Mankato MSA and Study area

Population	Mankato MSA		Eagle Lake	
	Number of Persons	Percent of Population	Number of Persons	Percent of Population
Total Population	**103,566**	**100%**	**3,278**	**100%**
White	87,949	84.9%	2,921	89.1%
Black	5,677	5.5%	82	2.5%
American Indian or Alaska Native	470	0.5%	10	0.3%
Asian	2,403	2.3%	41	1.3%
Native Hawaiian or Pacific Islander	48	0.0%	1	0.0%
Other	1,970	1.9%	32	1.0%
Two or more races	5,049	4.9%	191	5.8%
Hispanic or Latino	5,021	4.8%	120	3.7%
Not Hispanic or Latino	98,545	95.2%	3,158	96.3%
Source: IPUMS NHGIS, University of Minnesota, www.nhgis.org, Table P1 & Table P2				

The majority of the population in the project area reported as White, but the study area is also home to minority populations. The study area generally has a lower percentage share of minorities when compared to the Mankato MSA, with the exception of people who identified as two or more races, which trended slightly above the MSA average.

B. Minority Populations (School Data)

As a secondary source of demographic information, data on the local public elementary school serving the study area was also analyzed and compared to the greater school district. Students living in Eagle Lake attend Eagle Lake Elementary School, a Kindergarten through fifth grade school located north of the study area on Le Sueur Avenue. Since there are no middle or high schools within Eagle Lake, these ages cohorts are not part of the EJ assessment. Eagle Lake Elementary is part of the Mankato Public School District, which was used as the baseline to determine if the school had any EJ populations.

Table 2 - Demographic Populations in Study Area and Regional Public Schools Comparison

Population	Eagle Lake Elementary[1]		Mankato Public School District[2]	
	Number of Students	Percent of Students	Number of Students	Percent of Students
White	318	83%	8,455	78%
Black	9	2%	700	6%
American Indian or Alaska Native	-	-	15	0%
Asian	9	2%	195	2%
Native Hawaiian or Pacific Islander	2	1%	0	0%
Some other race alone	-	-	4	0%
Two or More Races	27	7%	830	8%
Hispanic	16	4%	675	6%
Total Students	**381**	**100%**	**10,875**	**100%**

[1]Source: CCD Public school data 2020-2021, 2021-2022 school years
[2]Source: NCES Education Demographic and Geographic Estimates, ACS 2015-2019 Profile
All percentages may not total to 100% due to rounding

C. Hispanic Population (U.S. Census Data)

In the 2020 census, 3.8 percent of the study population identified as Hispanic, slightly lower than the share of Hispanic populations in the greater Mankato area – nearly 5 percent of the population. The school population dataset acquired through the Common Core of Data (CCD) Public School data and the National Center for Educational Statistic (NCES) Education Demographic and Geographic estimates shows that 4.2 percent of students at Eagle Lake Elementary school identified as Hispanic, below the rate for Mankato Public Schools, where 6.2 percent of students identified as Hispanic. The higher prevalence of Hispanic populations in the school system versus the general population might reflect the younger age composition of this demographic in the area, but could also be slightly skewed by how these demographics are tabulated: U.S. Census Bureau data counts Hispanic descent separately because Hispanic origin can apply to any race. The school population data count from CCD for Eagle Lake treats Hispanic as a standalone race.

D. Limited English Proficiency

Outreach to minority populations sometimes includes the need to provide communication and project materials in non-English languages. The guidelines adopted by the FHWA require public outreach efforts, including translation services, if five percent or 1,000 people (whichever is less) of the population impacted by the project are an eligible LEP language group. Outreach efforts can include but are not limited to project materials, meetings, advertisements for project meetings, in addition to providing interpreters for one-on-one and/or public meetings.

1. U.S. Census Data

This analysis used data from the 2015-2019 ACS to identify LEP populations. Two languages were reported as being spoken in the project area, as opposed to the eleven reported spoken throughout the Mankato-North Mankato MSA (Table 3). Less than one percent of the population in Eagle Lake identified as speaking English "less than very well" and as such, this project does not trigger the threshold for LEP-specific outreach per FHWA guidance as detailed above.

Table 3 - Language Spoken in the Study Area

Language Spoken at Home	City of Eagle Lake		Mankato-North Mankato MSA	
	Speaks English less than very well	Percent of Population	Speaks English less than very well	Percent of Population
Population 5 years or older	9	0.3%	2,028	2.1%
Spanish	9	0.3%	793	0.8%
French, Haitian, or Cajun	0	0	5	0.0%
German or other West Germanic Languages	0	0	50	0.1%
Other Indo-European languages	0	0	59	0.1%
Korean	0	0	33	0.0%
Chinese (incl. Mandarin, Cantonese)	0	0	24	0.0%
Vietnamese	0	0	183	0.2%
Tagalog (incl. Filipino)	0	0	1	0.0%
Other Asian and Pacific Island Languages	0	0	86	0.1%
Arabic	0	0	204	0.2%
Other and unspecified languages	0	0	590	0.6%
Source: U.S. Census American Community Survey (2015-2019), Table C16001				

Mankato Public School District publishes districtwide demographics and number of students receiving English Language Learning (ELL) education services per school on an annual basis, but does not provide detailed data of language spoken per school. Mankato Public Schools had 610 students receiving ELL services for in the 2019-2020 school year, representing approximately 7 percent of all students enrolled in the school district. During the same time-period, Eagle Lake Elementary had one student receiving ELL instruction.

E. Low-income Populations

1. U.S. Census Data

Income data was collected from the 2015-2019 ACS 5-year survey. The U.S. census collects data on poverty at the household level, which are categorized based on being above or below the federally established poverty level (Table 4). The 2019 poverty guidelines established by the U.S. Census Bureau states that the poverty threshold was $12,490 for a single adult, or $25,100 for a four-person family. To contextualize the poverty rate in the study area, it was compared to the low-income population in the Mankato metropolitan area.

Table 4 – Study Area Median Income Comparison

	Mankato MSA		Eagle Lake	
	Households Below Poverty (**Total**)	Percent of all households	Households Below Poverty (**Total**)	Percent of all households
Households Below Poverty	5,489 (**38,976)**	14.1%	41 (**1,074)**	3.8%
Source: U.S. Census American Community Survey (2015-2019), Table B17017				

ACS data indicates that there are low-income populations in the study area, but the study area has a lower poverty rate when compared to the Mankato metropolitan area. Notably, the portion of CSAH 27 that makes up the study area directly fronts a manufactured home park and a townhome development, two types of housing stock that generally trend towards affordability when compared to other types of housing stock such as single-family homes. As such, the populations within these residential developments might include EJ populations and should be the focus of future engagement efforts.

2. School Data

Students who come from families whose incomes are at or below 130 percent of the federal poverty guidelines are eligible to receive free lunches, and families with incomes between 130 and 185 percent of the federal poverty guidelines may receive reduced price meals. Free and reduced lunch data is a voluntary enrollment program, meaning that parents must opt-in to receive the benefits. From this, it can be assumed that free and reduced-cost lunch participation rate might not fully represent the totality of students living in poverty. Eagle Lake Elementary's free and reduced lunch participation rate was compared to other elementary schools in the Mankato Public School District (Table 5).

Table 5 - Reduced and Free-Lunch Participation Rate Comparison for MSA and Study Area Elementary Students

School Name	Students	Free & Reduced Lunch	Free & Reduced Lunch Participation Rate
Bridges Community Elementary	221	25	11%
Eagle Lake Elementary	**381**	**79**	**21%**
Hoover Elementary	506	130	26%
Jefferson Elementary	228	64	28%
Monroe Elementary	460	138	30%
Roosevelt Elementary	353	118	33%
Rosa Parks Elementary	462	215	47%
Washington Elementary	422	163	39%
Total Students	**3033**	**932**	**31%**
Source: CCD Public school data 2020-2021, 2021-2022 school years			

Again, Eagle Lake Elementary School's free and reduced-price lunch eligibility trends below the MSA average, but still shows that over one in five children at Eagle Lake Elementary receive either free or reduced-cost lunches, indicating a significant share of the population within the community potentially living below the poverty level. As with other elements of this EJ analysis, this indicates that there could be significant EJ populations near the study area who are not readily obvious due to the size of the census block groups used for the analysis.

VIII. Potential Temporary Impacts

Construction-related activities may produce temporary impacts on access to nearby residential developments, increased congestion, as well as increased noise and emissions from construction-related activities normally associated with roadway construction. Notably, all vehicular access to Eagle Like Regency Mobile Home Park is from the east side of CSAH 27 (at Terrace Drive and Andrea Drive). These impacts will be assessed in greater detail after alternatives are developed. Avoidance, minimization, mitigation, and enhancement strategies will also be developed as part of this process.

IX. Long-Term Impacts

A future project will likely include provision of walking or bicycling accommodation and street crossing along CSAH 27 between 211th Street and Thomas Drive. This would likely have a beneficial effect of improved safety and diversity of transportation choices for residents and visitors to the area, including for possible EJ populations. Long-term, negative impacts to EJ populations are unlikely. Potential long-term impacts will be assessed in greater detail after alternatives have been developed. Avoidance, minimization, mitigation, and enhancement strategies will also be developed as part of this process.

X. Conclusion

U.S. Census and school data indicate that the study area includes low-income, minority, and Spanish-speaking populations, but does not trigger any thresholds to warrant specific mitigation for EJ populations. However, the close proximity to affordable housing areas should be considered in future public outreach efforts, as these sites may contain clusters of EJ populations not immediately obvious through the EJ screening process. As a means of addressing potential EJ

concerns, study documents and engagement materials will be available in languages other than English upon request.

Appendix D: Purpose and Need Framework

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Mankato, MN 56001-5900

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Bolton-Menk.com

PURPOSE AND NEED MEMORANDUM

Date: Monday, July 18, 2022

To: Shawn Schloesser

From: Cody Christianson, PE, ENV SP

Subject: Eagle Lake – CSAH 27 (Agency Street) Pedestrian Connectivity Study
Mankato/North Mankato Area Planning Organization
BMI Project No.: OT4.126949

I. Purpose and Need

The Eagle Lake-CSAH 27 (Agency Street) Pedestrian Connectivity Study (study) is intended to examine and provide a recommendation for pedestrian and bicycle accommodation and crossings along CSAH 27 (Agency Street) between 211th Street and Thomas Drive in the City of Eagle Lake. These new features would connect several edge neighborhoods to the sidewalk investments along CSAH 27. In 2021, Blue Earth County, in partnership with the City of Eagle Lake, completed a sidewalk along the west side of CSAH 27 as part of a road reconstruction project. This sidewalk connects Thomas Drive north to Le Ray Avenue and provides a connection via existing sidewalks to key institutional uses like the Eagle Lake Elementary School and other destinations along Le Sueur Avenue.

Future accommodation along CSAH 27 would likely connect recent and future developments south of 211th Street to Eagle Lake's sidewalk network, expanding safe pedestrian and bike access to in the community, increasing commuting options, and providing non-driving options to access retail, commercial, recreational, and institutional destinations.

This feasibility study is needed to:

- Consider a range of alternatives to provide bicycle and pedestrian accommodations along and across CSAH 27 in the study area;
- Develop a locally-preferred alternative for walking and bicycling facilities along CSAH 27 between 211th Street and Thomas Drive, including crossing opportunities to and from housing developments east of the study area;
- Maximize safety for users walking and bicycling along CSAH 27 and support connections between valued destinations in the City of Eagle Lake and new and forthcoming housing developments;
- Avoid potential impact to private property; and
- Provide a planning level estimate of probable construction costs for the locally-preferred alternative to serve as a basis for the local stakeholders to apply for grant applications.

The need for future bicycle and pedestrian accommodations can be seen in:

- The recent and planned housing developments east of CSAH 27 and south of 211th Street that are not connected to the Eagle Lake sidewalk network;
- The limited locations where pedestrians and cyclists can safely cross CSAH 27 in the study area; and
- Projected increases in daily traffic volumes along the corridor and the proportional increase in crash exposure for vulnerable road users.

II. Goals and Objectives

The feasibility study will identify any barriers to construction and outline planning level costs for the locally-preferred alignment, allowing for the identification of any large lead-time items needed for construction. Additionally, the study will identify potential locations for connections from the preferred alignment to adjacent neighborhoods/amenities.

The objective of the study is to collect information regarding the preferred alignment of new pedestrian and bicycle accommodation along and across CSAH 27, completing a connection between 211th Street and the recently constructed sidewalk north of Thomas Avenue along the western side of CSAH 27. Study deliverables will meet this goal by conducting an analysis of existing conditions along the current CSAH 27 corridor. This process will identify potential barriers to the construction of alternative concepts as well any needs that might impact the alignment. Public and stakeholder feedback will be gathered and used to select a preferred project type and alignment.

III. Background

A. Study Area and Importance

The study area includes the CSAH 27 right-of-way at the southeastern corner of the City of Eagle Lake. Thomas Drive serves as the northern boundary of the study area, with 211th Street as the southern boundary. CSAH 27 is a 40 mile per hour, two-lane road that serves approximately 1,000 vehicles per day. The road is managed by Blue Earth County. The western side of the study area abuts grassy rural drainage, which functions as a buffer between the road and the adjacent residential and agricultural uses. The eastern side also abuts rural drainage, adjacent to Eagle Lake Regency Mobile Home Park and close to Autumn Wind Townhomes, a new residential development that brings new road users to the corridor. **Figure 1** shows the approximate extent of the study area.

Today, the study area serves multiple transportation users, including automobiles, heavy commercial vehicles, pedestrians, and bicyclists, and is projected to nearly double its daily traffic volume by 2045. To maintain functionality of the corridor while supporting new development in the area surrounding the study area, MAPO and the City of Eagle Lake conducted this study to define a comprehensive vision for CSAH 27.

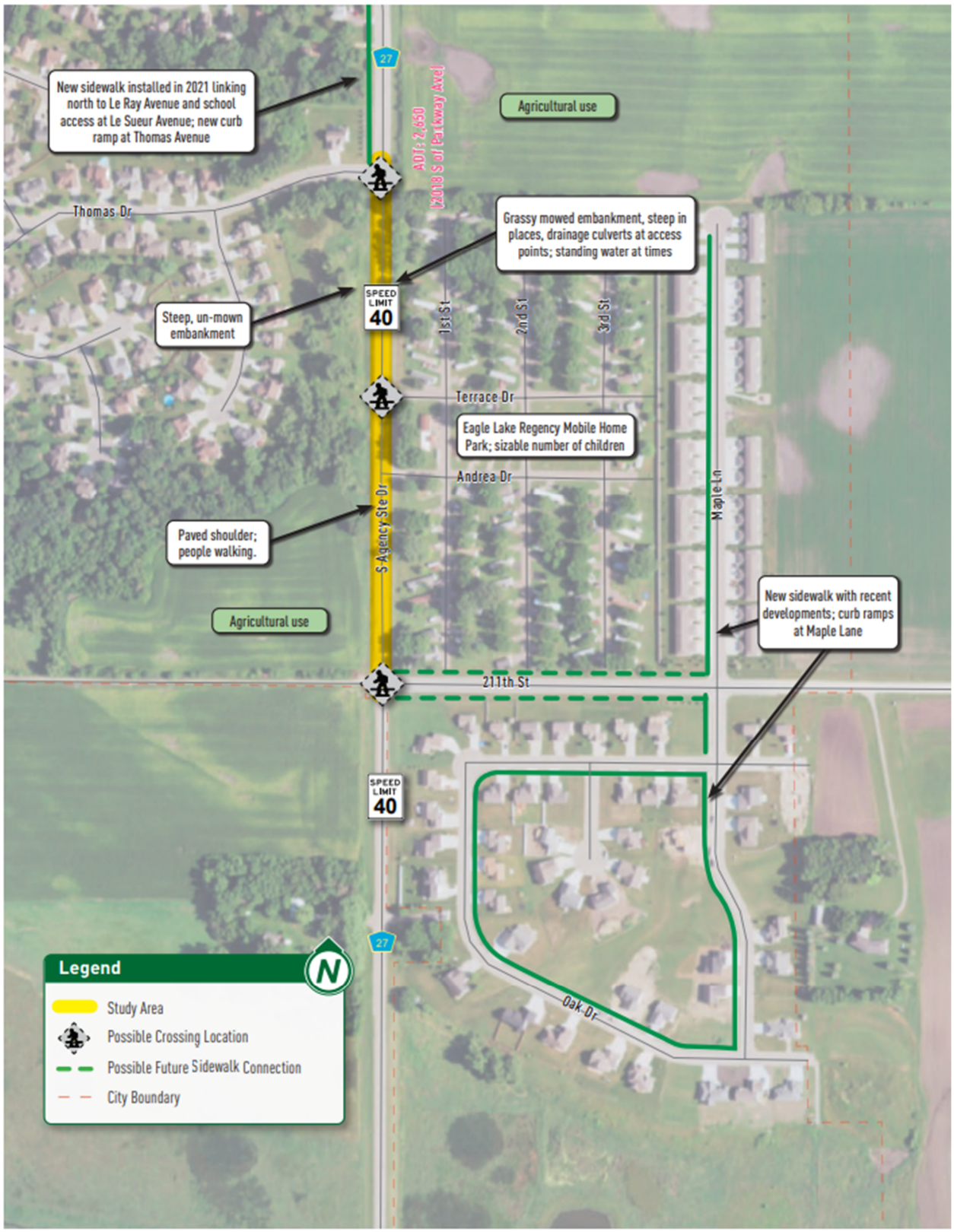


Figure 1. Study Area

IV. Need for the Study

Study partners seek to address the following needs for CSAH 27 and its supporting roadway network.

A. Consistency with State and Local Plans

Previous planning efforts for the study area emphasized the importance of CSAH 27 and surrounding streets for local transportation, and the need to make improvements to address existing deficiencies and prepare for reconstruction. These studies include:

- Eagle Lake Safe Routes to School Plan (2015)
- City of Eagle Lake Sidewalk Committee Findings Update (2016)
- Blue Earth County Land Use Plan (2018)
- MAPO ADA Transition Plan (2019)
- MAPO 2045 Long Range Transportation Plan Update (2020)
- MAPO 4-year Transportation Improvement Program 2022-2025 (2021)
- Blue Earth County 5-year Transportation Improvement Program 2022-2026 Draft (2022)

Proposed improvements identified through these studies include roadway reconstruction, multimodal improvements and ADA infrastructure investment.

Previous planning efforts have also identified consistent population growth in the City of Eagle Lake, which is anticipated to continue. As the community continues to grow, the area surrounding the study corridor will likely be further developed, increasing the number of trips along the corridor and with that the need for improved multimodal support

Key Finding: Previous planning efforts have identified corridor deficiencies and the need for corridor reconstruction. Recommended improvements need to accommodate multiple transportation modes, provide improved ADA facilities and address safety concerns.

B. Pedestrian and Bicycle

Other than a paved shoulder on the western side of CSAH 27, there are no pedestrian facilities along the corridor. North of the study area is a sidewalk along the western side of CSAH 27. Pedestrians have been observed walking on the shoulder in the study area. There are no designated pedestrian crossings in the study area.

Bicycle facilities don't exist on the corridor today. However, it has great potential to connect residents of the nearby residential developments to resources within Eagle Lake, such as the Eagle Lake Elementary school, retail and civic uses along Parkway Avenue.

Key Finding: Improvements to pedestrian facilities and implementation of bicycle facilities need to be included in study recommendations. This may include closing sidewalk gaps, providing safer/more frequent crossings, and providing safer/designated bicycle facilities.

C. Environmental Considerations

There is potential for Social, Economic, and Environmental (SEE) concerns in proximity to the study area that should be considered during study development. These include contaminated locations, Section 4(f) and 6(f) properties, and potential environmental justice

populations. The environmental justice portion of the study will determine if these concerns warrant special considerations and mitigation.

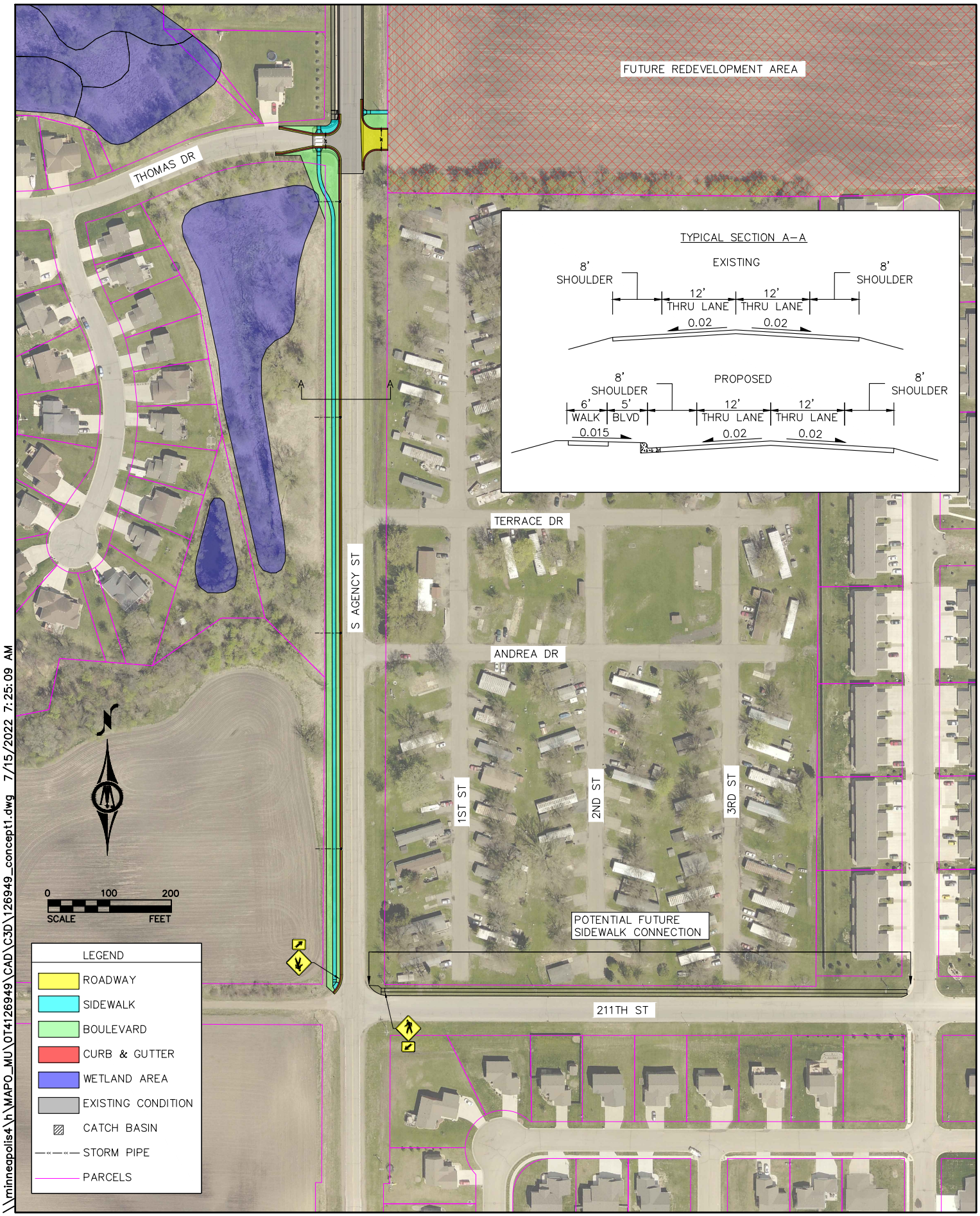
Key Finding: Potential SEE resources including contaminated locations, parks and environmental justice populations that will need to be considered in improvement recommendations.

V. HOW THIS FRAMEWORK IS USED

Relevant portions of this text may be reported in the purpose and need section(s) of future NEPA and Minnesota Environmental Policy Act (MEPA) documentation potentially required for implementation of recommendations resulting from the CSAH 27 Bicycle and Pedestrian Feasibility study process. Based on MnDOT guidance which reflects FHWA requirements, need statements in NEPA documents are to focus on existing documented deficiencies.

Deficiencies clearly exist in the study area that need to be addressed. This planning study looks to the future to anticipate future network needs so that forward thinking and coordinated decisions may be made.

Appendix E: Concept Alternatives



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Pedestrian Connectivity Study

Eagle Lake

Concept 2

July 2022

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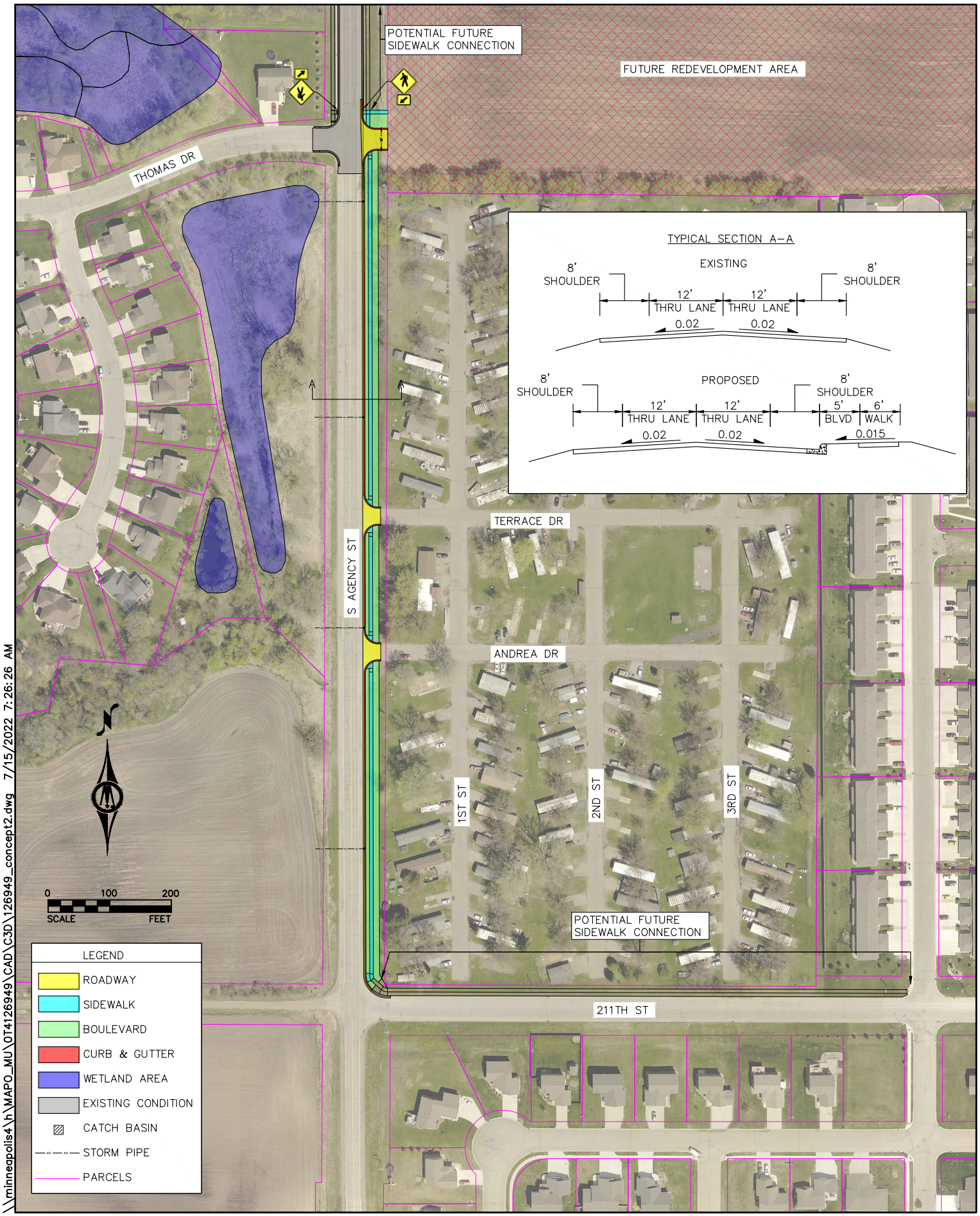

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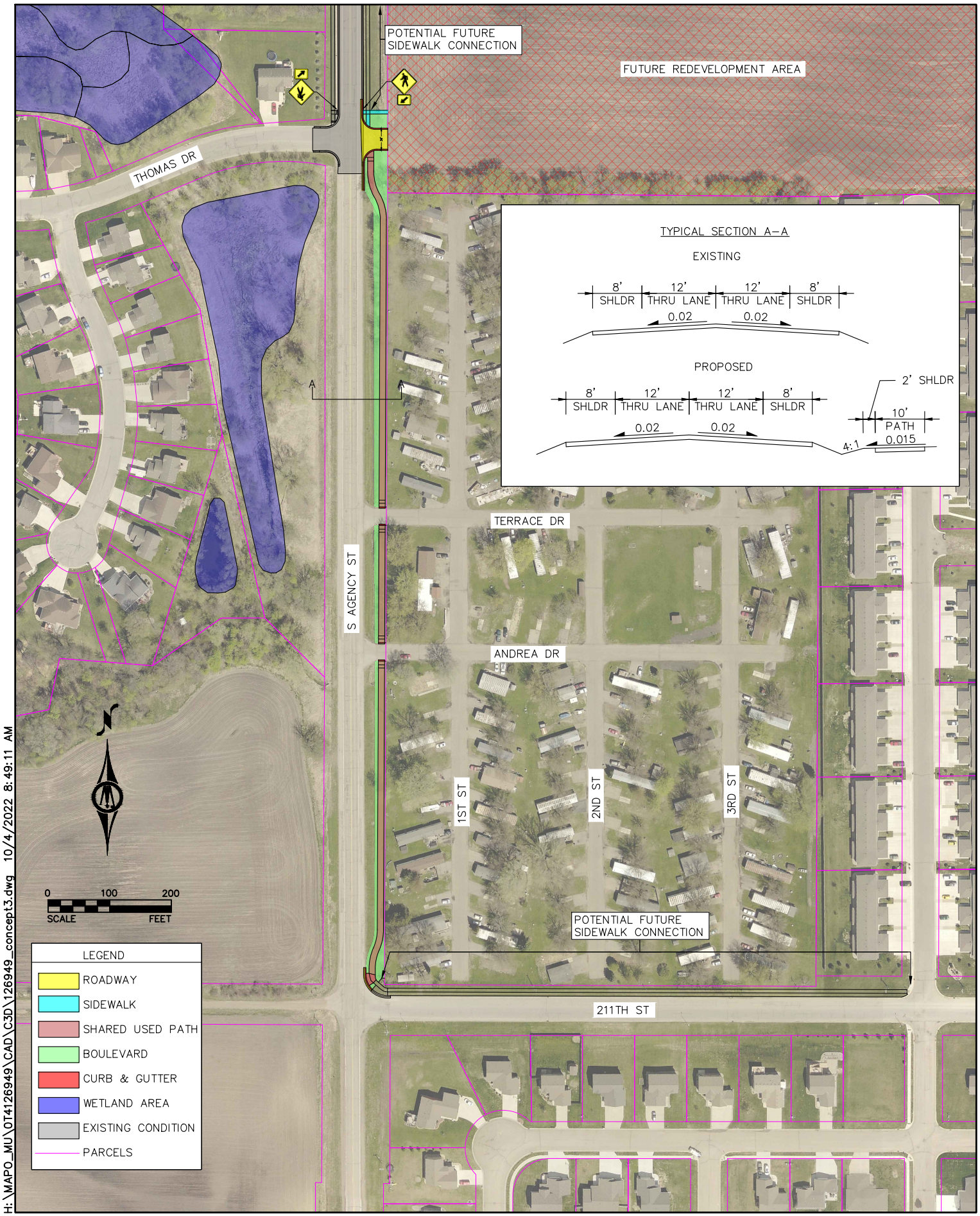

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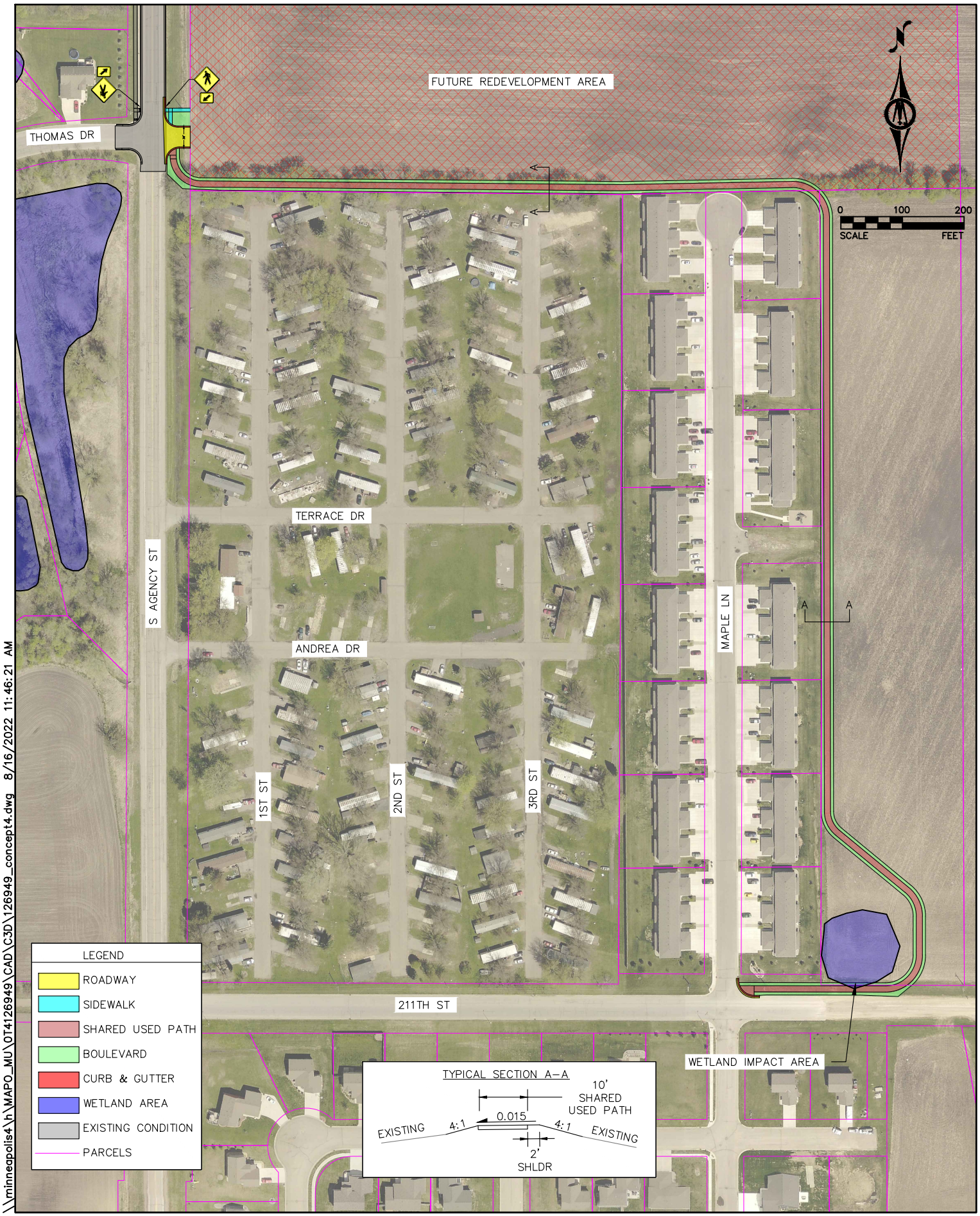

Appendix F: Opinions of Probable Costs

Opinion of Probable Cost - Preliminary Cost Estimate

Concept 1 - CSAH 27 Pedestrian Connectivity Study

Eagle Lake, MN

10/4/2022

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	Item	Unit	Total Qty	Unit Price	Total Cost
MAJOR ROADWAY ITEMS (NOTES 1 & 2)					
	REMOVE BITUMINOUS PAVEMENT	SY	850	$ 8.00	$ 6,800
	REMOVE CURB AND GUTTER	LF	235	$ 10.00	$ 2,400
	EXCAVATION - COMMON	CY	140	$ 65.00	$ 9,100
	COMMON EMBANKMENT (CV)	CY	3,360	$ 20.00	$ 67,200
	AGGREGATE BASE (CV) CLASS 5	CY	120	$ 65.00	$ 7,800
	SELECT GRANULAR EMBANKMENT (CV)	CY	15	$ 30.00	$ 500
	TYPE SP 9.5 WEARING COURSE MIX (4,F)	TONS		$ 95.00	$ -
	TYPE SP 12.5 WEARING COURSE MIX (4,F)	TONS	10	$ 95.00	$ 1,000
	CURB AND GUTTER B624	LF	1,680	$ 40.00	$ 67,200
	4" CONCRETE WALK	SF	8,860	$ 15.00	$ 132,900
	6" CONCRETE WALK	SF	300	$ 28.00	$ 8,400
	Subtotal				$ 303,000
	All Roadway Construction Subtotal				**$ 303,000**
SPECIAL LUMP SUM CONSTRUCTION ITEMS					
(3)	URBAN DRAINAGE	LS	1	$ 91,000.00	$ 91,000
	Subtotal				$ 91,000
PRECENTAGE ITEMS					
	MOBILIZATION	5%		of all roadway	$ 15,200
	MISC REMOVALS (CURB, SIGNS, TREES, ETC.)	5%		of all roadway	$ 15,200
	SIGNING & PAVEMENT MARKINGS	3%		of all roadway	$ 9,100
	TURF ESTABLISHMENT AND EROSION CONTROL	5%		of all roadway	$ 15,200
	TRAFFIC CONTROL/STAGING	5%		of all roadway	$ 15,200
	CONTINGENCY FOR MISSING ITEMS	20%		of all roadway	$ 60,600
	Subtotal				$ 131,000
				Construction Cost (2024 Dollars)	$ 530,000
				Anticipated Right-of-Way (2024 Dollars)	$ -
				Engineering Cost (2024 Dollars)	$ 110,000
				Total Construction Cost (2024 Dollars)	**$ 640,000**

Notes:

1. Local road pavement section assumed is 6 inch bituminous pavement,8 inch aggregate base, and 12 inch sand.
2. Trail pavement section assumed is 3 inch bituminous pavement and 6 inch aggregate base
3. Storm sewer estimate is 30% of roadway construction costs

Opinion of Probable Cost - Preliminary Cost Estimate

Concept 2 - CSAH 27 Pedestrian Connectivity Study

Eagle Lake, MN

10/4/2022

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	Item	Unit	Total Qty	Unit Price	Total Cost
MAJOR ROADWAY ITEMS (NOTES 1 & 2)					
	REMOVE BITUMINOUS PAVEMENT	SY	1,075	$ 8.00	$ 8,600
	REMOVE CURB AND GUTTER	LF	105	$ 10.00	$ 1,100
	EXCAVATION - COMMON	CY	60	$ 65.00	$ 3,900
	COMMON EMBANKMENT (CV)	CY	2,275	$ 20.00	$ 45,500
	AGGREGATE BASE (CV) CLASS 5	CY	115	$ 65.00	$ 7,500
	SELECT GRANULAR EMBANKMENT (CV)	CY	15	$ 30.00	$ 500
	TYPE SP 9.5 WEARING COURSE MIX (4,F)	TONS		$ 95.00	$ -
	TYPE SP 12.5 WEARING COURSE MIX (4,F)	TONS	10	$ 95.00	$ 1,000
	CURB AND GUTTER B624	LF	1,520	$ 40.00	$ 60,800
	4" CONCRETE WALK	SF	7,880	$ 15.00	$ 118,200
	6" CONCRETE WALK	SF	630	$ 28.00	$ 17,700
	Subtotal				$ 265,000
	All Roadway Construction Subtotal				**$ 265,000**
SPECIAL LUMP SUM CONSTRUCTION ITEMS					
(3)	URBAN DRAINAGE	LS	1	$ 80,000.00	$ 80,000
	Subtotal				$ 80,000
PRECENTAGE ITEMS					
	MOBILIZATION	5%		of all roadway	$ 13,300
	MISC REMOVALS (CURB, SIGNS, TREES, ETC.)	5%		of all roadway	$ 13,300
	SIGNING & PAVEMENT MARKINGS	3%		of all roadway	$ 8,000
	TURF ESTABLISHMENT AND EROSION CONTROL	5%		of all roadway	$ 13,300
	TRAFFIC CONTROL/STAGING	5%		of all roadway	$ 13,300
	CONTINGENCY FOR MISSING ITEMS	20%		of all roadway	$ 53,000
	Subtotal				$ 114,000
				Construction Cost (2024 Dollars)	$ 460,000
				Anticipated Right-of-Way (2024 Dollars)	$ -
				Engineering Cost (2024 Dollars)	$ 100,000
				Total Construction Cost (2024 Dollars)	**$ 560,000**

Notes:

1. Local road pavement section assumed is 6 inch bituminous pavement,8 inch aggregate base, and 12 inch sand.
2. Trail pavement section assumed is 3 inch bituminous pavement and 6 inch aggregate base
3. Storm sewer estimate is 30% of roadway construction costs

Opinion of Probable Cost - Preliminary Cost Estimate

Concept 3 - CSAH 27 Pedestrian Connectivity Study

Eagle Lake, MN

10/4/2022

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	Item	Unit	Total Qty	Unit Price	Total Cost
MAJOR ROADWAY ITEMS (NOTES 1 & 2)					
	REMOVE BITUMINOUS PAVEMENT	SY	35	$ 8.00	$ 300
	REMOVE CURB AND GUTTER	LF	55	$ 10.00	$ 600
	EXCAVATION - COMMON	CY	260	$ 65.00	$ 16,900
	COMMON EMBANKMENT (CV)	CY	120	$ 20.00	$ 2,400
	AGGREGATE BASE (CV) CLASS 5	CY	255	$ 65.00	$ 16,600
	SELECT GRANULAR EMBANKMENT (CV)	CY	15	$ 30.00	$ 500
	TYPE SP 9.5 WEARING COURSE MIX (4,F)	TONS	185	$ 95.00	$ 17,600
	TYPE SP 12.5 WEARING COURSE MIX (4,F)	TONS	10	$ 95.00	$ 1,000
	CURB AND GUTTER B624	LF	135	$ 40.00	$ 5,400
	4" CONCRETE WALK	SF		$ 15.00	$ -
	6" CONCRETE WALK	SF	855	$ 28.00	$ 24,000
	Subtotal				$ 85,000
	All Roadway Construction Subtotal				**$ 85,000**
SPECIAL LUMP SUM CONSTRUCTION ITEMS					
(3)	DRAINAGE	LS	1	$ 26,000.00	$ 26,000
	Subtotal				$ 26,000
PRECENTAGE ITEMS					
	MOBILIZATION	5%		of all roadway	$ 4,300
	MISC REMOVALS (CURB, SIGNS, TREES, ETC.)	5%		of all roadway	$ 4,300
	SIGNING & PAVEMENT MARKINGS	3%		of all roadway	$ 2,600
	TURF ESTABLISHMENT AND EROSION CONTROL	5%		of all roadway	$ 4,300
	TRAFFIC CONTROL/STAGING	5%		of all roadway	$ 4,300
	CONTINGENCY FOR MISSING ITEMS	20%		of all roadway	$ 17,000
	Subtotal				$ 37,000
				Construction Cost (2024 Dollars)	$ 150,000
				Anticipated Right-of-Way (2024 Dollars)	$ -
				Engineering Cost (2024 Dollars)	$ 50,000
				Total Construction Cost (2024 Dollars)	**$ 200,000**

Notes:

1. Local road pavement section assumed is 6 inch bituminous pavement,8 inch aggregate base, and 12 inch sand.
2. Trail pavement section assumed is 3 inch bituminous pavement and 6 inch aggregate base
3. Storm sewer estimate is 30% of roadway construction costs

Opinion of Probable Cost - Preliminary Cost Estimate

Concept 4 - CSAH 27 Pedestrian Connectivity Study

Eagle Lake, MN

10/4/2022

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	Item	Unit	Total Qty	Unit Price	Total Cost
MAJOR ROADWAY ITEMS (NOTES 1 & 2)					
	REMOVE BITUMINOUS PAVEMENT	SY	30	$ 8.00	$ 300
	REMOVE CURB AND GUTTER	LF	105	$ 10.00	$ 1,100
	EXCAVATION - COMMON	CY	570	$ 65.00	$ 37,100
	COMMON EMBANKMENT (CV)	CY	3,450	$ 20.00	$ 69,000
	AGGREGATE BASE (CV) CLASS 5	CY	535	$ 65.00	$ 34,800
	SELECT GRANULAR EMBANKMENT (CV)	CY	15	$ 30.00	$ 500
	TYPE SP 9.5 WEARING COURSE MIX (4,F)	TONS	405	$ 95.00	$ 38,500
	TYPE SP 12.5 WEARING COURSE MIX (4,F)	TONS	10	$ 95.00	$ 1,000
	CURB AND GUTTER B624	LF	105	$ 40.00	$ 4,200
	4" CONCRETE WALK	SF		$ 15.00	$ -
	6" CONCRETE WALK	SF	440	$ 28.00	$ 12,400
	Subtotal				$ 199,000
	All Roadway Construction Subtotal				**$ 199,000**
SPECIAL LUMP SUM CONSTRUCTION ITEMS					
(3)	DRAINAGE	LS	1	$ 60,000.00	$ 60,000
	Subtotal				$ 60,000
PRECENTAGE ITEMS					
	MOBILIZATION	5%		of all roadway	$ 10,000
	MISC REMOVALS (CURB, SIGNS, TREES, ETC.)	5%		of all roadway	$ 10,000
	SIGNING & PAVEMENT MARKINGS	3%		of all roadway	$ 6,000
	TURF ESTABLISHMENT AND EROSION CONTROL	5%		of all roadway	$ 10,000
	TRAFFIC CONTROL/STAGING	5%		of all roadway	$ 10,000
	CONTINGENCY FOR MISSING ITEMS	20%		of all roadway	$ 39,800
	Subtotal				$ 86,000
				Construction Cost (2024 Dollars)	$ 350,000
				Anticipated Right-of-Way (2024 Dollars)	$ -
				Engineering Cost (2024 Dollars)	$ 70,000
				Total Construction Cost (2024 Dollars)	**$ 420,000**

Notes:

1. Local road pavement section assumed is 6 inch bituminous pavement,8 inch aggregate base, and 12 inch sand.
2. Trail pavement section assumed is 3 inch bituminous pavement and 6 inch aggregate base
3. Storm sewer estimate is 30% of roadway construction costs

Appendix G: Evaluation Matrices

Eagle Lake Pedestrian Connectivity Study

Alternative Matrix

Concept Layout Overview

September 2022

Criteria		Concept 1 Westside Agency Street Sidewalk	Concept 2 Eastside Agency Street Sidewalk	Concept 3 Eastside Agency Street Shared Use Path	Concept 4 Independent ROW Shared Use Path	Concept 5 No Build
Evaluation Matrix Goals	Safely accommodate all system users	0	0	+	+	-
	Provide efficient and reliable mobility	0	+	+	+	+
	Develop a financially responsible plan	0	0	+	0	N/A
	Provide infrastructure improvements compatible with social, environmental and economic resources	-	+	+	+	-

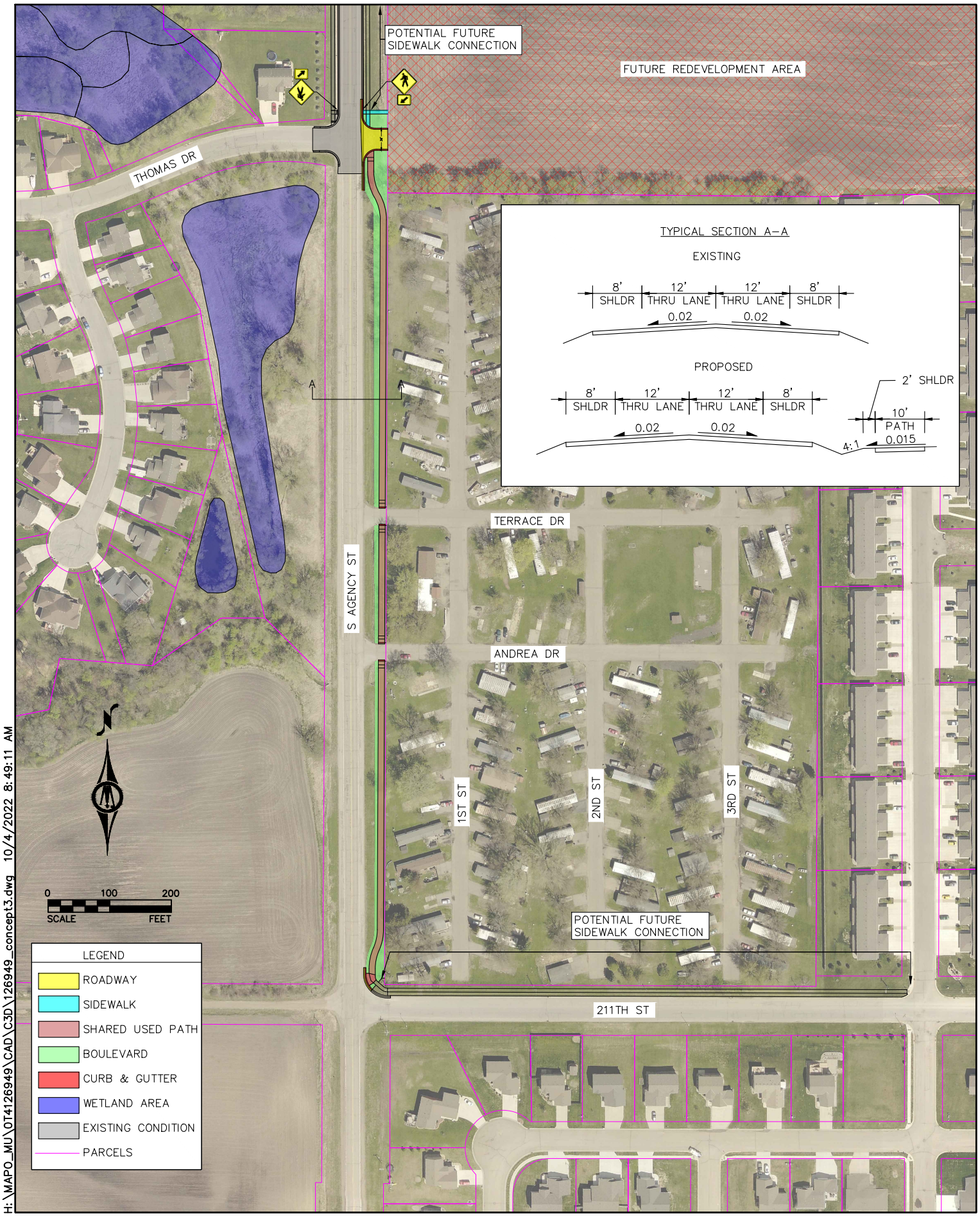
Legend			
-	0	+	++
Does Not Meet Measure	Minimally Meets Measure	Meets Measure	Exceeds Measure

Pedestrian Connectivity Evaluation

Goals	Measures	Measure Definitions	CONCEPTS				
			Concept 1	Concept 2	Concept 3	Concept 4	Concept 5
			Westside Agency Street Sidewalk	Eastside Agency Street Sidewalk	Eastside Agency Street Shared Use Path	211th Street & Eastside MH Park Shared Use Path	No Build
Safety	Trail connectivity/consistency	Increases length of contiguous sidewalk/trail network, provides sidewalk connections to 211th Street and Maple Lane	-	-	+	0	-
	Separation from vehicle traffic	Distance between bicyclists/pedestrians and motor vehicle traffic	0	+	+	++	-
	Reduced crossing distance	Cumulative exposure time measured in number of traffic crossings	+	+	+	++	+
	Visibility of pedestrians to drivers	Sight line review, stopping sight distance, decision sight distance, pedestrian sight distance	+	+	+	-	-
Goal #1 Summary			**0**	**0**	**+**	**+**	**-**
Environment	Limits impacts to existing wetlands	Alternative minimizes or avoids impacts to wetlands	-	+	+	+	+
	Limits impacts to green space	Alternative minimizes or avoids impacts to vegetation, tree canopy, or other aspects of green space	0	0	0	0	0
	Limits impacts to drainage infrastructure	Alternative minimizes impacts to existing ditches	+	+	0	+	+
Goal #2 Summary			**0**	**+**	**+**	**+**	**+**
Cost	Concept Level Construction Estimate	high level cost estimate	-	0	+	0	N/A
	Operations and Maintenance Cost	high level cost estimate for ongoing maintenance, including snow removal/winter maintenance	-	-	0	0	+
	Potential for ROW Impacts/acquisition	ROW acquisition or easements needed to support alternative	+	+	+	-	+
Goal #3 Summary			**0**	**0**	**+**	**0**	**0**
Community	Connects future development in/near the study area	supports future development via planning for connections to future developments	0	0	+	+	-
	Connects existing development to central Eagle Lake		-	+	+	0	-
Goal #4 Summary			**-**	**+**	**+**	**+**	**-**

Legend			
-	0	+	++
Does Not Meet Measure	Minimally Meets Measure	Meets Measure	Exceeds Measure

Appendix H: Recommended Alternative



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