**MANKATO PLANNING COMMISSION**
**Regular Meeting September 24, 2025 - 6:00 p.m.**
**Intergovernmental Center**
**Mankato Room**
**********

Any person speaking to the Commission shall give to the Secretary of the Commission the NAME and HOME ADDRESS of such person prior to speaking.
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1. **CALL TO ORDER**

2. **APPROVAL OF AGENDA**

3. **APPROVAL OF MINUTES**

   1. **August 27, 2025 Planning Commission Minutes**

4. **OLD BUSINESS**

5. **NEW BUSINESS**

   1. CY 46-25

      **Request of Widseth, on behalf of the developer, Southwest Minnesota Housing Partnership, with permission of the property owner, for a final plat review of Good Counsel Meadows plat. The subject property is generally described as Outlot C, School Sisters of Notre Dame Subdivision; part of vacated Ruth Street; part of Outlot B, School Sisters of Notre Dame Subdivision, etal.**

      *The anticipated date of City Council action is October 14, 2025.*

   2. CY 47-25

      **Request of ISG, with permission of the property owner, for a conditional use permit to allow unenclosed storage of materials, products and equipment in the PI, Planned Industrial, zoning district, and for a conditional use permit to allow for exterior fluid/fuel storage tanks. The subject properties are described as all of Lots 1 thru 3 and all of Lots 6, Lundin Industrial Park. (304 Lundin Blvd; PID R010906126035).**

*The anticipated date of City Council action is October 14, 2025.*

3. CY 48-25

**Request of Bolton and Menk, with permission of the property owner, for a final plat review of Victory Ridge Apartments; for a conditional use permit to allow a grouped housing project in the O-R, Office Residential zoning district; and for a conditional use permit for a wetland sequencing and replacement request. The subject property is described as Outlot B, Kearney Addition No. 2, City of Mankato (Blue Earth County PID R010909301015).**

*The anticipated date of City Council action is October 14, 2025.*

4. CY 50-25

**Request of American Builders and Contractors, Supply Co Inc, with permission of the property owner, for a conditional use permit to allow unenclosed storage of materials, products and equipment including wholesale building materials in the PI, Planned Industrial, zoning district. The subject properties are described as Lots 1 thru 8, Block 21 and Lots 12-16, 9-11, Block 12, and vacated alleys and streets and Lot 2, Block 1, Vogel Addition. (2205 7th Avenue; PID R010906182007 and R010906183004).**

*The anticipated date of City Council action is October 14, 2025.*

5. CY 51-25

**Request of Power Athletics, with permission of the property owner, for a conditional use permit to allow an athletic facility for sports instruction in the M-1, Light Industrial, zoning district. The subject property is described as part of Common Interest Community Number 122, APX Campus Park (1021 Elevate Lane; PID R0109034760020).**

*The anticipated date of City Council action is October 14, 2025.*

6. CY 52-25

**Request of the Planning Agency for review of the Hilltop Study.**

*The anticipated date of Council Action is November 10, 2025.*

6. **MISCELLANEOUS**

7. **ADJOURNMENT**

**Planning Commission Regular Meeting** **3. 1.**

**Meeting Date:** 09/24/2025

**Title**

**August 27, 2025 Planning Commission Minutes**

**Attachments**

August 27, 2025 Draft PC Minutes

**MINUTES**

**Mankato Planning Commission**
**August 27, 2025 - 6:00 p.m.**
**IGC - Mankato Room**

1. **CALL TO ORDER**

Chair Zehnder called the meeting to order at 6:00 p.m.

Commissioner's Present: Chair Zehnder, Ms. Surdy, Mr. Filipovitch, Ms. Miller, Mr. Wilke, Mr. Dieken, Mr. Iddings,

Staff Present: Molly Westman-Planning and Zoning Administrator, Mark Konz-Director of Planning and Development Services, Bennett Hanson-Economic Development Specialist, Travis Johnson-Permit Technician, Brittany Mitchell-Planning Coordinator, Victoria Potts-MVCOG Program Administrator, Ean Pringnitz-Intern.

2. **APPROVAL OF AGENDA**

Mr. Dieken made a motion to approve the agenda. Ms. Surdy seconded the motion. The motion carried unanimously.

3. **APPROVAL OF MINUTES**

Mr. Fillpovitch made a motion to approve the minutes from July 23rd, 2025. Mr. Wilke seconded the motion. The motion carried unanimously.

1. **July 23, 2025 Draft Planning Commission meeting minutes.**

4. **OLD BUSINESS**

No old business

5. **NEW BUSINESS**

1. CY39-25

**Request of Bolton and Menk, with permission of the property owner, for a preliminary plat review of Victory Ridge Apartments. The subject property is described as Outlot B, Kearney Addition No. 2, City of Mankato (Blue Earth County PID R010909301015).**

Ms. Mitchell reports that staff submits the following findings of fact:

1. General Requirements:
    1. The site is designed in conformance with the existing location and widths of streets, the general drainage situation, lot sizes and arrangement.
    2. The preliminary plat depicts all the land as lots of record.
    3. A drainage study is being prepared and will be submitted to verify compliance with the City drainage requirements.
2. Streets
    1. The street right-of-way widths conform to the standards listed in Chapter 10 of the Mankato City Code.
    2. The proposed subdivision does not contain any new public streets.
3. Easements
    1. The preliminary plat provides standard easements required in Chapter 10 of the Mankato City Code.
4. Block Standards
    1. The blocks within the subdivision were designed for the intended end use as office-residential lots.
    2. The blocks within the subdivision were designed around the existing Dublin Road corridor.
5. Lot Standards
    1. The lot within the subdivision is intended for multiple-family residential development. The lot is designed in conformance with the standards set forth in Chapter 10.
    2. The concept plans submitted for the multiple dwelling units depict areas for off-street parking.
6. Public Sites and Open Spaces
    1. The applicant shall make a payment-in-lieu of parkland dedication fee in the amount of $69,734.00

Ms. Mitchell reports that staff recommends approval of the preliminary plat with the following conditions:

1. Payment in lieu of parkland dedication in the amount of $69,734.00 will be required prior to affixing signatures on the final plat.
2. A conditional use permit will be required for the proposed housing development based on the conditional uses defined in the Office Residential district.
3. The applicant shall submit a hydrology report and drainage analysis at the time of submission of the final plat. The applicant shall be aware that no drainage outlet shall be constructed at the top of the bluff.
4. Applicant shall submit a final traffic memo at the time of submission of the conditional use permit.
5. The applicant shall be aware of the wooded areas and any removal of trees shall be evaluated by the Mankato City Code.
6. The applicant shall be aware that a public watercourse exists on the subject property and any development that occurs within 300' will be subject to the City's Shoreland Ordinance.
7. The applicant shall make a payment-in-lieu of parkland dedication in the amount of $69,734.00. This number is based on the assessed unimproved value of the property multiplied by 7 percent per the Mankato City Code requirements.

Chair to Zehnder asked staff to elaborate on the traffic memorandum and clarify whether any requirements would result from its findings.

Ms. Mitchell stated that the submittal for the conditional use permit was recently made and noted that the application included a traffic memorandum.

Mr. Konz added that the applicant could provide further details on the traffic memorandum. He also wanted to clarify that at this meeting, the only item that was being reviewed was the preliminary plat. The next step in the process will be the conditional use permit, which will include the traffic memorandum.

**Steve Kuepers-Kuepers Construction.** Mr. Kuepers was present at the meeting to answer any questions from the Commission. He indicated that the four building types proposed are similar to those used in the Augusta Park Estates project located at 1690 Premier Drive.

Chair Zehnder opened the public hearing for comment.

**Dick Cogley-President North Star Cree Point Association.** Mr. Cogley expressed the association's main concern regarding traffic. He indicated that, based on the current layout, it would not be possible for vehicles exiting the proposed apartment complex to make a left turn onto North Victory Drive. This restriction would likely increase traffic on Dublin Road and Adams Street. The association is seeking the addition of a traffic light at Dublin Road or the installation of a roundabout to address these concerns.

Ms. Surdy questioned where they would suggest locating a roundabout.

Mr. Cogley suggested that the roundabout could potentially be located halfway between the bridge on North Victory Drive and Dublin Road, or alternatively, at the intersection of Dublin Road and North Victory Drive.

Chair Zehnder indicated that this issue will be further examined as part of the conditional use permit application review, which has already been submitted.

Mr. Cogley questioned when the project would be started.

Chair Zehnder indicated that once the public hearing was finished, the applicant would provide an answer.

Mr. Konz added that North Victory Drive is a county road, so Blue Earth County will provide a review in conjunction with the City of Mankato engineering department.

**Dorothy Viker-18 Cree Point Dr. Mankato, MN.** Ms. Viker was present at the meeting to voice her concerns about traffic related to this project. She added that Adams Street and North Victory Drive are already congested throughout the day, and increasing traffic could raise safety concerns and further impact travel times.

**Dick Van Hecke-58 Cree Point Dr. Mankato, MN.** Mr. Van Hecke was present at the meeting to voice his concerns about traffic related to this project. He asked the commission to please consider the traffic impacts on Adams Street as the project progresses.

With no one wishing to speak further, the public hearing was closed.

Chair Zehnder questioned if the intersection of Adams Street and North Victory Drive would be covered in the traffic study.

Mr. Konz indicated that traffic studies typically examine multiple intersections, but based on the feedback received, that specific intersection will be given closer attention.

Chair Zehnder inquired as to the timeline for when the building would be constructed.

Mr. Kuepers indicated the project is expected to be started by next spring.

Mr. Dieken made a motion to approve the preliminary plat with conditions. The motion was seconded by Mr. Wilke. The motion passed unanimously.

*The anticipated date of City Council action is September 8, 2025.*

2. CY40-25

**Request of Mankato Area Public Schools for a preliminary plat review of Mankato West High School Subdivision. The subject property is described as being located in the Southeast Quarter of Section 13, Township 108, Range 27, Blue Earth County, City of Mankato (West High School, 1351 S. Riverfront Drive).**

Ms. Mitchell reports that staff submits the following findings:

1. General Requirements
    1. The site is designed in conformance with the existing location and widths of streets, the general drainage situation, lot sizes and arrangement.
    2. A drainage study was submitted and is in compliance with the City drainage requirements.
2. Streets
    1. The street right-of-way widths conform to the standards listed in Chapter 10 of Mankato City Code.
3. Easements
    1. The preliminary plat provides standard easements required in Chapter 10 of the Mankato City Code.
4. Block Standards
    1. The blocks within the subdivision were designed around the existing corridors.
5. Lot Standards
    1. The lots are designed in conformance with the standards set forth in Chapter 10.
6. Public Sites and Open Spaces
    1. The applicant will be making a payment-in-lieu of parkland dedication. The Parks and Open Space Plan does not show that a park is needed within this subdivision.

Ms. Mitchell reports that staff recommends approval of the preliminary plat with the following conditions:

1. The applicant shall be a willing petitioner when any intersection improvements are proposed on adjacent roads.
2. The applicant shall obtain a cross-access agreement with the adjacent parcel (YMCA).
3. The applicant shall grant the City an easement for all existing storm and sanitary over the parcel between Riverfront Drive and Pleasant Street.

Chair Zehner questioned the need for Mankato West to complete the replat.

Ms. Mitchell indicated that while the review for the new parking lot was being conducted, it was determined that there was never a plat completed.

**David Cornelius-733 Baker Avenue, Mankato, MN.** Mr. Cornelius was present at the

meeting and inquired if the baseball fields would be expanded. He referenced the removal of the girls' softball field to accommodate the construction of the new parking lot.

The applicant stated that there are no plans to expand the baseball fields and clarified that girls' softball will be played at Caswell Park.

Mr. Cornelius questioned if the slough would be filled in.

The applicant indicated there was no construction work associated with this project other than the parking lot.

Mr. Cornelius wanted to clarify that the map provided is intended only to show the property boundaries and does not indicate any planned expansion into the slough.

Chair Zehnder indicated that is correct and added that this is a replat and does not involve any building project.

With no one wishing to speak further, the public hearing was closed.

Mr. Wilke made a motion to approve the preliminary plat with conditions. The motion was seconded by Ms. Surdy. The motion passed unanimously.

*The anticipated date of City Council action is September 8, 2025.*

3. CY41-25

**Request of Rice Companies for a conditional use permit to allow unenclosed storage of materials, products and equipment in the PI, Planned Industrial, zoning district, and for an easement vacation. The subject properties are described as Lots 1 and 2, Block 1, Westman Industrial Park No. 2, Mankato. (2416 Volk Avenue).**

Mr. Hanson reports that staff respectfully submit the following findings of fact for the Conditional Use Permit:

1. The proposed unenclosed storage of material, products and equipment is considered a Conditional Use in the PI, Planned Industrial Zoning District.
2. The applicant is proposing to extend municipal utilities from existing services located at Volk Ave.
3. The proposed outdoor storage, when implemented with the recommendations and in conformance with Mankato City Code, is in keeping with the comprehensive planning policies of the City. The underlying land use plan identifies this parcel as "Light Industrial".
4. The proposal does not interfere with or diminish the use of property in the immediate vicinity.
5. The proposal does not cause undue traffic congestion. Access is proposed to be created along Lundin Blvd and Volk Ave.
6. To the extent known, the development conforms with all other applicable regulations of the district, and other applicable ordinances.
7. There are no known historical or architectural resources on the site.
8. There are no known significant natural or environmental features on the property.
9. It will not cause a negative cumulative effect and effect on the City as a whole.
10. The proposal will not jeopardize the public's health, safety, or general welfare.

Mr. Hanson reports that staff respectfully submits the following findings of fact for the requested Easement Vacation:

1. The applicant has petitioned to vacate the subject portion of the 25' utility easement.
2. The applicant has provided notice to the utility companies with a copy of the vacation request and has provided responses from the utility companies. Xcel Energy identified an overhead power line utility located within the easement and has asked that the applicant coordinate with them to remove the existing lines and provide alternative access. Based on this response, the easement would no longer be needed for utility purposes once City and Excel Energy utilities have been abandoned.
3. Public sewer and water utilities are present within the proposed to be vacated easement. The applicant has proposed to abandon/vacate these utilities back to Volk Ave.
4. This proposed 5,697 Sq. Ft. easement vacation preserves the 10' dedicated utility easement along the eastern property boundary, as required.
5. The proposed vacation is necessary for the development of the subject parcel.

Mr. Hanson reports that staff recommends approval of the Conditional Use Permit to allow unenclosed storage of materials, products and equipment for an industrial and construction equipment business in the PI, Planned Industrial Zoning District with the following conditions:

1. Outdoor storage is limited to operable equipment only. Inoperable or unlicensed equipment or construction materials will not be permitted. Wrecked, dismantled, partially dismantled, inoperative, or abandoned vehicles or machinery shall be prohibited.
2. Signage for the development shall conform to Mankato City Code standards and a sign permit shall be obtained for any proposed signage prior to fabrication and installation.
3. The applicant shall coordinate with Blue Earth County to combine the two subject parcels.
4. The applicant shall provide proper notification to MPCA regarding the installation of the above-ground storage tanks on site. If fueling of vehicles occurs on site, MPCA substance transfer area requirements may need to be met.
5. The applicant shall verify if an industrial storm water permit is needed based on the proposed tanks. If one is needed, the applicant shall obtain one prior to issuance of a certificate of occupancy.
6. The applicant shall be aware that a separate fire permit is needed for the proposed above-ground tanks.
7. The applicant shall be required to investigate for unsealed wells and soil concerns. If unsealed wells are found to be located on site, the applicant must work with Blue Earth County to properly record and seal the wells prior to issuance of a building permit. The applicant must provide documentation stating that all wells on site have been property investigated and sealed, prior to issuance of a building permit.
8. The applicant shall provide screening of 90% opacity or greater for the proposed exterior storage in accordance with Mankato City Code.
9. The proposed project will be subject to water and sewer connection fees based on the City of Mankato assessment policy and fee schedule.
10. The applicant shall provide a stormwater report prior to issuance of a building permit.
11. The applicant shall provide a traffic memo detailing the trips generated by the development.
12. The applicant shall provide a detailed grading plan prior to issuance of a building permit.
13. The applicant shall provide a hydrant coverage map prior to issuance of a building permit.
14. A snow storage plan shall be submitted and approved. Snow storage shall be in conformance with an approved plan.
15. On-site lighting shall conform to the lighting standards in the Mankato City Code, including but not limited to full-cut, fully shielded fixtures. Conformance shall include, but not limited to, all signage, building, and parking lot lighting.
16. Landscaping shall be installed in conformance with the Mankato City Code and in accordance with an approved landscaping plan prior to issuance of a certificate of

occupancy.

17. The proposed project shall conform with the Minnesota Department of Transportation to address the concerns related to the project. Evidence of the resolution shall be provided with the application for a building permit.

Mr. Hanson reports that staff recommends approval of the vacation of the 25-foot-wide utility easement running east-west in Westman Industrial Park No. 2, with the following conditions:

1. The applicant shall work with Xcel Energy to remove/relocate the overhead utilities present within the proposed to be vacated utility easement. The applicant/property owner is responsible for any and all costs of re-routing the existing infrastructure to a location that is acceptable to the utility company.
2. The existing public utility services located within the easement shall be abandoned/vacated back to the main at Volk Avenue prior to issuance of a building permit.

Chair Zehnder opened the public hearing for comment. With no one wishing to speak, the public hearing was closed.

Mr. Iddings made a motion to approve the conditional use permit and the vacation of the 24-foot-wide utility easement. The motion was seconded by Ms. Surdy. The motion passed unanimously.

*The anticipated date of City Council action is September 8, 2025.*

4. CY42-25

**Request of Widseth, on behalf of the developer, Southwest Minnesota Housing Partnership, with permission of the property owner, for the vacation of a portion of Ruth Street between the platted, improved 4th Street and the vacated 5th Street. The subject property is generally described as Ruth Street between 4th Street and 5th Street, and as lying directly to the south of Outlot C, School Sisters of Notre Dame Subdivision, etal and being part of Highwood Subdivision.**

Mr. Pringnitz reports that staff submit the following findings.

1. The portion of Ruth Street proposed to be vacated was never improved as a Public Street following its dedication as such.
2. The developer plans to create an Outlot on the triangular portion of the property adjacent to N 4th Street and to dedicate a utility and access easement to the City for maintenance of the existing sanitary sewer line that runs adjacent and parallel to the Section line. Alternatively, the applicant may deed a portion of the vacated Ruth Street right of way to the city of Mankato.
3. The proposed vacation is necessary for the development of the subject parcel as the existing alignment restricts development of a portion of the property.

Mr. Pringnitz reports that staff recommends approval of the vacation of Ruth Street with the following conditions:

1. The applicant shall provide a utility and access easement to the City of Mankato for maintenance of the existing sanitary sewer line that runs adjacent and parallel to the Section line. Alternatively, the applicant may deed a portion of the vacated Ruth Street right-of-way to the City of Mankato.

**Craig Britton-Civil Engineer, Widseth & James Arentson-Architect, Southwest Minnesota Housing Partnership.** Mr. Britton was present at the meeting to represent the applicant and answer any questions the commission members may have. He indicated that

they have reviewed and agreed to the conditions set forth by the City of Mankato.

Chair Zehnder opened the public hearing for comment. With no one wishing to speak, the public hearing was closed.

Ms. Surdy made a motion to approve the vacation of Ruth Street with conditions. The motion was seconded by Mr. Wilke. The motion passed unanimously.

*The anticipated date of City Council action is October 14, 2025.*

5. CY43-25

**Request of Wrestling Brotherhood, with permission of the property owner, for a variance from Mankato City Code Chapter 10, Article 2, Division 5, Sec. 10-169 to decrease the rear yard setback from the required 49.5' to 25' in the R-3, Limited Multiple Family Dwelling District, and for a conditional use permit to allow for a wrestling recreational facility in the R-3, Limited Multiple Dwelling zoning district. The subject properties are described as Lots 3, 4, 5, Block 16, Mankato City, Blue Earth County (Blue Earth County PID R010907206004, R010907206005, R010907206006, 1416, 1420, 1430 2nd Avenue).**

Ms. Westman reports that staff respectfully submits the following findings of fact with respect to the conditional use permit to allow a non-commercial, recreational use in the R-3 zoning district:

1. The proposed use, a non-commercial recreational use, is considered a conditional use in the R-3 zoning district.
2. The request is in keeping with the comprehensive planning policies of the City as the underlying land use plan identifies this parcel as "Medium Density Residential", and in that district this proposed use is identified in Code as a conditional use.
3. The proposal does not interfere with or diminish the use of property in the immediate vicinity.
4. The proposed development will be served by public utilities.
5. The proposal will not cause undue traffic congestion, according to the trip generation memo provided. A condition is included herein that in the event that traffic impacts occur, the applicant will be required to study and implement mitigation strategies.
6. There are no known historical or architectural resources on the site.
7. There are no known environmentally sensitive areas on the site.
8. It will not cause a negative cumulative effect and effect on the City as a whole.
9. To the extent known, the development, when considered with the recommended conditions, conforms with all other applicable regulations of the district, and other applicable ordinances.
10. The proposal will not jeopardize the public's health, safety, or general welfare.

Ms. Westman reports that staff respectfully submits the following findings of fact with respect to the variance to reduce the rear yard setback from 49.5' to 25.36'.

1. The use allowed by the variance is a reasonable use.
2. The necessity of the variance arises out of the unique conditions of the lot not created by the property owner. The site was the location of a previous demolition building site, and the unknown fill types present challenges to locating the new structure over those previous building site locations.
3. The variance achieves the essential character of the neighborhood. In addition to existing residential homes, there are existing industrial buildings located in the neighborhood, some of which are located at, or very near, the property line.

4. The variance is in harmony with the intent of the ordinance because the new use is considered a conditional use within the district, and there are existing industrial-type structures and uses in the neighborhood.
5. The variance is consistent with the comprehensive plan because the land use is considered "medium density" and the zoning is proposed to be R-3, Limited Multiple Family Dwelling District. The applicant is proposing to use the property is a manner allowed a conditional use within the subject zoning district, and is requesting flexibility from the setbacks in the R-3 district.

Ms. Westman reports that staff recommend approval of the conditional use permit to allow the operation of a private recreational use and of the variance to reduce the rear yard setback from 49.5' to 25.36' with the following conditions of approval.

1. The operation shall be, and remain, private and shall be non-commercial.
2. If traffic issues arise associated with the development, at the discretion and request of the City of Mankato Engineering Department, the applicant/property owner will be responsible for having a more in-depth traffic study prepared, and will be a willing petition for the costs associated with any recommended geometry or traffic control improvements.
3. All existing, unused public utility services shall be removed and vacated at the service main.
4. The exterior finishes shall conform to the franchise coloring standards contained in Mankato City Code.
5. Prior to the fabrication or installation of any signage at the site, a sign permit shall be issued. All signage shall conform to the standards in the Mankato City Code.
6. Exterior lighting shall conform to Mankato City Code standards. All exterior light fixtures shall achieve Mankato City Code standards and a photometric plan shall be provided that demonstrates conformance with the Mankato City Code.
7. The development shall conform to Mankato City Code noise standards and to Minnesota Rule 7030 noise standards. In the event that noise issues arise, the applicant will be required to provide a noise study that demonstrates site conformance and implement any recommended mitigation strategies for site conformance to the noise standards.
8. Any refuse and recyclable material containers stored outdoors shall be fully enclosed in accordance with Mankato City Code standards.
9. The facility will be used for private recreational practices. Tournaments, meets, or other events that involve spectators and additional occupants will require an amendment to the conditional use permit, which will allow a review of necessary additional parking for additional occupants.
10. All future uses operating at the facility will be required to adhere to the standards of the R-3 zoning district.

Chair Zehnder opened the public hearing for comment. With no one wishing to speak, the public hearing was closed.

Mr. Dieken made a motion to approve the conditional use permit and variance. The motion was seconded by Ms. Surdy. The motion was passed unanimously.

*The anticipated date of City Council action is September 8, 2025.*

6. CY44-25

**Request of the Planning Agency to review Chapter 10 of Mankato City Code related allowing multiple-family dwellings as conditional uses in B-3, Highway Business District and to review the parking standards for multiple-family dwellings.**

Mr. Konz presented to the Planning Commission members regarding the review of Chapter 10 of the Mankato City Code. He indicated that as part of the City of Mankato's Strategic Plan and Housing Needs Analysis, the Mankato Economic Development Authority has directed staff to refine the City's development processes to better support community growth and address housing needs. This direction focuses on providing flexibility in the zoning ordinance by allowing high-density residential use in the Highway Business District and by reviewing parking requirements for high-density residential projects.

Mr. Konz indicated that in the past three years, the City of Mankato has reviewed nine Land Use Plan amendment applications for residential development. Five of these applications required changing the designation from commercial to residential, all of which were approved. The current process, requiring both a Land Use Plan amendment and a rezoning, adds four to five months to the development timeline. This can delay project readiness and increase costs.

He indicated that the City of Mankato's Housing Needs Analysis recommends "fast track permitting programs" to reduce delays and costs in the development process. By adjusting land use and zoning approvals, the City can streamline reviews and reduce the zoning timeline to approximately 60 days, creating a more efficient and predictable process for housing projects.

Apartments are currently allowed in the Central Business District, Central Business District–Fringe, Community Business District, and Office Residential Districts, where mixed-use development is encouraged. At present, B-3 Highway Business District limits residential uses. The proposed amendment would add apartments as a conditional use within the B-3 District.

This amendment would reduce approval timelines and provide opportunities to infill vacant commercial properties, while maintaining Planning Commission and City Council oversight of individual projects. To ensure compatibility, the amendment would include requirements such as transitional yards, open space, restrictions on outdoor storage, screening of mechanical equipment, and conformance to commercial district design standards.

Mr. Konz also indicated that parking requirements for multifamily housing have been raised in several recent proposals, with applicants citing reduced car ownership, greater transit access, and changing resident needs. The current standard of two stalls per unit may not reflect today's development patterns.

Based on a review of other communities, staff recommend reducing the requirement for apartment buildings to 1.5 stalls per unit. This adjustment would align with best practices and provide several benefits: more efficient land use, reduced stormwater runoff, lower development costs, and increased housing supply.

Mr. Dieken questioned if the parking requirements would be 1.5 stalls per unit regardless of bedroom count.

Mr. Konz stated that the proposed changes would apply to multifamily dwelling units located in the R4, OR, B1, and B3 zoning districts. He referenced the Silos apartment project and noted that under the Mankato City Code, the City Council has the authority to require additional off-street parking in downtown areas as part of a conditional use permit.

He further explained that, under the current Mankato City Code, developments within the Central District Fringe are submitted to a reduced (half) parking requirement. However, the council retains authority to increase that requirement if deemed appropriate. This flexibility is specifically afforded to the City Council in downtown areas.

Mr. Konz also clarified that R3 zoning districts have different parking requirements compared to the R4 and commercial districts. In areas adjacent to lower-density residential neighborhoods where on-street parking is more critical, those existing rental parking requirements remain unchanged. The parking requirements adjustments primarily affect commercial and higher-density residential areas.

Mr. Dieken questioned if that would include the Central Business District.

Mr. Konz indicated that under the current code, the Central Business District is already permitted a reduced (half) parking requirement; however, the City Council has the authority to increase that requirement if deemed appropriate.

Mr. Dieken noted that much of the research provided in the reports is based on bedroom count, and he felt this was a reasonable approach. He also pointed out that some of the examples included provisions for guest parking, which were not addressed in the staff's report.

Mr. Konz stated that guest parking is required in the R3 zoning district. He noted that many of the larger apartment complexes were developed based on a standard of one parking stall per bedroom. However, he observed that a significant number of these parking stalls are currently underutilized.

He cited examples such as the apartments on Roosevelt Circle, as well as those near the university such as Highland Hills and College Town, where units have larger bedroom counts but an excess of parking. Mr. Konz suggested that some of this unused parking could potentially be repurposed for additional units or other project-related uses.

Mr. Konz added that, because these developments would come through as conditional use permits, they could be evaluated on a project-by-project basis. He acknowledged that while the City of Mankato has historically evaluated parking needs based on bedroom count, this approach may not be the most effective moving forward.

Mr. Dieken added that in areas with higher student populations, fewer vehicles are typically expected. He referenced the apartments on Roosevelt Circle, noting that parking availability there can vary depending on the time of day, with more congestion typically occurring at night. He also pointed out that while student density in those apartments may be lower, the developments include garage stalls, which further affect the overall parking usage.

Ms. Surdy expressed concern about reducing parking requirements. She notes that while purchasing a vehicle may currently be unaffordable for some residents, this situation could change over time. If more residents begin owning vehicles in the future, it could lead to increased congestion. She specifically highlighted concerns about the downtown district, where parking is already limited, and on-street parking can be especially challenging during events.

Mr. Dieken questioned whether there would be consideration for a parking requirement of one stall per bedroom. He referenced the plat approval for the Victory Ridge Apartments, which was voted on earlier that evening, and inquired about the proportion of one- and two-bedroom units compared to any five-bedroom units within the development. He also questioned the difference between the current standard of 2 stalls per unit and the potential standard of 1 stall

per bedroom.

Mr. Konz explained that for a development with over 100 units, requiring two parking stalls per unit would result in approximately 200 parking stalls, noting that the current standard is not based on bedroom count. He added that the Planning Commission has the authority to require more than two stalls per unit if they feel it is appropriate. The proposed adjustment would effectively reduce the requirement from 200 stalls to 150 stalls.

From the City of Mankato's perspective, Mr. Konz emphasized the impact of large parking lots on stormwater management. The city must construct stormwater ponds to manage runoff from these expansive parking areas, which adds significant costs beyond just paving. Allowing smaller parking requirements for complexes with smaller units could reduce the amount of impervious surface and, consequently, the volume of stormwater runoff. This reduction could lessen infrastructure costs and provide environmental benefits to the community. Nevertheless, the Planning Commission would retain flexibility to require additional parking when necessary.

Mr. Filipovitch added that with the significant increase in remote work, many residents may use a bedroom not only for sleeping but also as a workspace. This does not necessarily generate the need for an additional vehicle. He noted that as cultural shifts change the way housing is used, these factors should be considered in evaluating parking requirements.

Mr. Dieken expressed concern that residents in market-rate apartments should be guaranteed a parking spot, ensuring there is adequate parking for everyone in the building.

Mr. Wilke noted that, based on the discussion, none of the members appeared opposed to the land use and zoning aspects of the proposal. He thanked the City of Mankato staff for their hard work. Regarding the parking requirements, he expressed support for the proposed changes, emphasizing the need for flexibility, particularly for off-campus, non-student housing. He observed that units with more than one or two bedrooms likely house families with young children who typically do not have vehicles. Mr. Wilke also thanked Mr. Konz for highlighting additional concerns related to parking lots and underscored the importance of balancing multiple factors. He felt the proposal strikes a good balance while retaining the Planning Commission's ability to adjust parking requirements as needed.

Ms. Surdy added that it is reassuring to know the Planning Commission can advocate for additional parking if needed, rather than being limited to the 1.5 stalls per unit standard. She also sought clarification on the proposed use amendment, asking if it would consolidate multiple items into a single amendment rather than addressing them separately.

Mr. Konz explained that the current process for approving uses typically takes about seven to eight months. If the use were designated as a conditional use, the approval process would be significantly shorter. He emphasized that this change would help developers start projects sooner and reduce the uncertainty and variability caused by delays of a year or more.

Mr. Wilke added that it is good practice for a planning agency to avoid rezoning and changing land use parcel by parcel. He expressed support for eliminating that approach, considering it a positive decision.

Chair Zehnder stated that the process would be expedited because adding this conditional use to the B3 district would significantly reduce the number of rezoning and land use changes required.

Ms. Surdy added that Blue Earth County implemented similar code changes, which helped reduce the number of repeated presentations.

Mr. Iddings expressed his support for the proposed changes and emphasized that the City Council would retain authority to require additional parking if necessary.

Mr. Konz added that for the Trellis project reviewed a few months ago, the developers requested a reduction in parking, which the City of Mankato deemed appropriate. He noted that in that case, the city required “proof of parking,” meaning that if parking demand increased, space was set aside to add additional parking later. He suggested this could be a component considered in evaluating future projects under the proposed changes.

Chair Zehnder asked whether the “proof of parking” requirement would need to be formally added to the City Code or if it would be addressed on a case-by-case basis through the conditional use permit process.

Mr. Konz indicated that the “proof of parking” requirement could be handled either way. If it is included in the City Code, developers would know to expect it upfront when proposing a project. Alternatively, if addressed through the conditional use permit process, developers would respond to specific requirements on a case-by-case basis.

Ms. Surdy indicated that this approach sounded more appealing, as it would help reduce stormwater runoff and potentially create additional green space.

Mr. Dieken indicated that he would also support the proposal if a “proof of parking” component was included.

Chair Zehnder opened the public hearing for comment.

**James Arentson-105 Cody Ct, Mankato, MN.** Mr. Arentson, a staff member of the Southwest Minnesota Housing Partnership, expressed support for reducing the parking requirement to 1.5 stalls per unit. He indicated that he does not believe the City of Mankato would regret this change and encouraged the Commission to approve the recommendation. Mr. Arentson also highlighted the real impacts of stormwater issues, referencing a brief flooding incident at the Homestead Apartments in July. He advocated for future flexibility regarding parking requirements, suggesting that the ability to adjust parking could be beneficial.

**Nathan Hermer-304 Victoria Blvd, Mankato, MN.** Mr. Hermer expressed agreement with many of Mr. Arentson’s points. He noted a significant reduction in parking demand for residential projects, largely due to a shift from multiple-bedroom units to one- and two-bedroom units. He mentioned that other communities have implemented similar policy changes, which have successfully reduced parking requirements. Mr. Hermer emphasized that developers understand the demand for various housing types and will provide parking accordingly. He added that lowering the minimum parking requirement in the City of Mankato would create greater flexibility for different residential product types.

With no one wishing to speak further, the public hearing was closed.

Mr. Dieken moved to amend the motion by adding a “proof of parking” requirement to the proposed 1.5 stalls per unit standard. Ms. Surdy seconded the amendment. The amendment failed with a vote of 3-3, with Mr. Dieken, Ms. Surdy, and Chair Zehnder voted in favor; Mr. Fillipovitch, Mr. Wilke, and Mr. Iddings voted against and Ms. Miller abstaining (no comment).

Mr. Wilke made a motion to approve the proposed use amendment and parking amendments. The motion was seconded by Mr. Filipovitch. The motion passed with a vote of 5-2, with Ms. Surdy and Mr. Dieken voting no.

*The anticipated date of City Council action is September 8, 2025.*

7. CYL45-25

**Request of Brian Keenan, on behalf of MNCSG 2019-57 LLC, with permission of the property owner, for an amendment of a current Interim Use Permit, IUP, to allow an extension of the timeframe for an additional 12 months for the work to begin on the project. The subject property is described as The Northeast Quarter of the Northwest Quarter, except railroad right of ways, and the Northwest Quarter of the Northeast Quarter, both in Section 29, Township 109, Range 26, excepting from said Northwest Quarter Northeast Quarter that part of said Northwest Quarter Northeast Quarter described as, beginning at a point 1315.8 feet South of the Northeast corner of Section 29-109-26, thence West 1808.8 feet to the East line of the Right of Way of the Chicago & Northwestern Railway, thence southwesterly along the said Right of Way line, 1264.6 feet, thence East 1692.3 feet to the East line of said Section 29, thence North along the section line 1249.8 feet to the place of beginning. A strip of land one (1) rod wide now used as a road, extending from East to West upon, over and across the North side of the Northwest Quarter of the Northwest Quarter (NW1/4 NW1/4) of Section 29, Township 109 North of Range 26 West, beginning at or near the Northeast corner of said NW1/4 NW1/4 of Sec. 29, and thence West along or near the North line of said NW1/4 NW1/4 of said Sec. 29, to the public highway known as the Mankato and St. Peter Road. The East 302.00 feet of the Northwest Quarter of the Northwest Quarter of Section 29, Township 109, Range 26, Blue Earth County, Minnesota, except the South 16.5 feet thereof. Except therefrom: Part of the Northwest Quarter of the Northwest Quarter and part of the Northeast Quarter of the Northwest Quarter of Section 29, Township 109 North, Range 26 West, Blue Earth County, Minnesota described as: Commencing at the Southeast corner of said Northwest Quarter of the Northwest Quarter; thence North 89 degrees 41 minutes 42 seconds West (bearings are based on Blue Earth County Coordinates NAD83, 1996 Adjustment) on the south line of said Northwest Quarter of the Northwest Quarter, a distance of 78.00 feet; thence North 12 degrees 41 minutes 56 seconds East, a distance of 16.89 feet to the north line of the south 16.5 feet of said Northwest Quarter of the Northwest Quarter and the point of beginning; thence North 12 degrees 41 minutes 56 seconds East, a distance of 589.95 feet to the westerly right of way of the abandoned Chicago, Milwaukee, St. Paul and Pacific Railroad Company; thence South 05 degrees 40 minutes 37 seconds West on said westerly right of way, a distance of 558.85 feet to the east line of said Northwest Quarter of the Northwest Quarter; thence South 00 degrees 11 minutes 26 seconds West on said east line, a distance of 19.81 to the north line of the south 16.5 feet of said Northwest Quarter of the Northwest Quarter; thence North 89 degrees 41 minutes 42 seconds West on said north line, a distance of 74.34 feet to the point of beginning. (23759 3rd Avenue; Blue Earth County PID R400429200017).**

Ms. Potts reports that staff respectfully submits the previously approved findings from the September 2024 report:

1. Use. - The proposed US Solar community solar is listed as an interim use located on Parcel Identification Number R400429200017.
2. Prohibitions. - The property is not located in shoreland, floodplain, or habitat areas. The site does contain wetlands, but a wetland delineation was conducted, and the project will not impact wetlands. The site is outside of any areas identified as flight zones.
3. Maximum Size and Capacity. - The proposed community solar facility is a 1-megawatt facility. The site encompasses approximately 7.2 acres.
4. Standards for Community Solar Energy Systems. - The site has access via 238th Street off

of 3rd Avenue. The applicant uses piles as the foundation. The report documents the use of steel and concrete piles. The applicant conforms to the impervious standards of Lime Township. The submittal for the land development permit will include documentation related to conformance with the building code. The applicant has submitted the appropriate documentation to the Blue Earth County Technical Evaluation Panel and it has been approved.
5. Signage. - The applicant will only be utilizing signage required by the regulatory agency requirements.
6. Power and Communication Lines. - The applicant has an interconnection agreement with Xcel Energy.
7. Waste Disposal. - The applicant will be providing portable waste facilities during construction for contractors and employees.
8. Interconnection. - The applicant has an interconnection agreement with Xcel Energy.
9. Decommissioning Plan. - The applicant has submitted a decommissioning plan. The plan addresses costs for decommissioning totaling $293,916.93. The applicant will be submitting a cash escrow or irrevocable letter of credit for the amount of approximately $367,396.16.
10. Noise. - The applicant will conform to the noise standards. Suspected violations will be forwarded to the MPCA for enforcement.
11. Electrical Codes and Standards. - The applicant will work with the State of Minnesota on the enforcement and/or compliance with the electrical code.
12. Minnesota State Building Code. - The applicant will submit documentation of this with the land development permit.
13. Maximum Height. - The proposed modules will range between 8 feet and 12 feet in height.
14. Glare. - The applicant conducted a glare study. The assessment passed the Forge Solar FAA policy adherence.
15. Setbacks. - The site conforms to the rear, side yard, and principal dwelling setback requirements.
16. Security Fencing. - The proposal will have an 8-foot fence with more than a five-inch separation from the ground.
17. Screening. - The applicant is not proposing a vegetative screening due to the natural barrier of trees located on the property.
18. Inspections and Reports. - The applicant will prepare the information for the boards and allow for inspections.
19. Tile Lines. – Tiles lines will be identified on the submittal for the land development permit.
20. Roads. - The applicant will be accessing the site via 3rd Avenue onto 238th Street. The applicant is currently working with Union Pacific for a private road agreement.
21. Vegetation Requirements & Management. – The trees on the site will not be cleared. The proposal indicates that a DNR approved pollinator seed mix will be used for the site.
22. Inspection Fees — Inspection fees will be paid to the Lime Township Board per the standards in the ordinance.
23. Natural Heritage Information System Review — The applicant has submitted a review of the cultural features of the site.
24. Utility Notification — The utility companies were notified with the standard notification process for the interim use permit.

Ms. Potts reports that staff recommends approval of the extension of an Interim Use Permit to allow for a community solar facility in Lime Township with the previously approved conditions found in the September 2024 report.

**Jesse Diamond. Stillwater, MN**. Mr. Diamond appeared on behalf of the applicant. He stated that while developing community solar projects, delays are common and often outside the developer's control. He referenced ongoing discussions with the railroad that have caused unexpected delays. Mr. Diamond emphasized that the applicant still intends to move forward with the project without any changes but is simply requesting additional time.

Mr. Wilke asked when the applicant was hoping to begin the project.

Mr. Diamond indicated they would like to have it completed by the end of next year.

Chair Zehnder opened the public hearing for comment. With no one wishing to speak, the public hearing was closed.

Mr. Filipovitch made a motion to approve the extension of the interim use permit that was previously approved in the September 2024 report. The motion was seconded by Ms. Surdy. The motion passed unanimously.

*The anticipated date of Lime Township Board action is September 9, 2025.*

6. **MISCELLANEOUS**

No Miscellaneous items

7. **ADJOURNMENT**

There being no further business, Ms. Surdy moved to adjourn the meeting. The motion was seconded by Mr. Filipovitch with all in favor. The meeting adjourned at 7:41 pm.

MINUTES APPROVED.

_____

Chair, Mankato Planning Commission

**Meeting Date:** 09/24/2025

**Title**

CY 46-25

**Request of Widseth, on behalf of the developer, Southwest Minnesota Housing Partnership, with permission of the property owner, for a final plat review of Good Counsel Meadows plat. The subject property is generally described as Outlot C, School Sisters of Notre Dame Subdivision; part of vacated Ruth Street; part of Outlot B, School Sisters of Notre Dame Subdivision, etal.**

*The anticipated date of City Council action is October 14, 2025.*

**Applicant**

The applicant is Widseth, on behalf of Southwest Minnesota Housing Partnership.

**Request**

The applicant is requesting a final plat review of Good Counsel Meadows subdivision.

**Location**

The subject property is described as part of Outlot C, School Sisters of Notre Dame Subdivision, a portion of vacated Ruth Street as shown in the Subdivision of Outlots Dukes Second Addition – Highwood, part of Outlot B, School Sisters of Notre Dame Subdivision, part of Lots 1, 2, 17, 18, Block 13, Shaw's Subdivision, City of Mankato, Blue Earth County (Blue Earth County PID R010905379004, R010905379005, etal).

**Existing Land Use**

The land use is currently defined as public-semi-public.

**Zoning**

The subject property is zoned R-2, one and two family dwelling district.

**Other Board or Commission**

The Mankato City Council approved the preliminary plat on July 14, 2025, with the following conditions:

1. The applicant shall provide a hydraulic report in conformance with the grading manual.
2. The applicant shall enter into a subdivision agreement for any public improvements made to the property.
3. The proposed ponds should be located on separate outlots and publicly owned.
4. The lighting in the residential areas shall meet the city lighting standards for residential neighborhoods.
5. The applicant dedicate any easements or right-of-way on the final plat.
6. The applicant shall work with the Department of Public Works to determine if the access road be considered private or a public alley.
7. The applicant shall obtain a final plat prior to any construction beginning on the site.
8. The applicant shall be required to pay water and sewer connection fees. That fee will be $2,527.07 per residential unit and would apply at time of permitting.

**Environmentally Sensitive Areas**

The subject property contains environmentally sensitive areas, including sloped and woodland areas. Due to the proximity to Thompson Creek, a portion of the subject property is also located within a Shoreland District.

**Public Utilities**

The property is not currently served by public utilities. The developer will be responsible for connecting to existing utilities located in N. 4th Street and will be subject to the associated connection fees.

**City Code**

The R-2 zoning district can be viewed at the link below.

https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=PTIICOOR_CH10LAUSDE_ARTIIREDI_DIV4OMIDWDI_S10-131PU

**Site Plan Review Comments**

The site plan and traffic advisory committee met on September 9th, 2025 and submitted the following comments:

1. The applicant shall be aware of inconsistency of outlot labeling between the preliminary and final plat.
2. The applicant shall confirm the development window of lot 1 block 2.
3. The applicant shall be aware that the City of Mankato Public Works department has not received a proper drainage plan and storm water management plan to conduct an appropriate review of this project.
4. The applicant shall be aware that addresses are forthcoming.
5. The applicant shall provide a woodland impact plan in accordance with the Mankato City Code.

**Review**

**History**
At its July 14, 2025, meeting, the Mankato City Council approved the preliminary plat of the Good Counsel Subdivision, which encompasses a portion of Outlot C of the School Sisters of Notre Dame Subdivision. The approval was granted subject to several conditions intended to ensure conformance with city standards and policies.
The conditions of approval included the submission of a hydraulic report in compliance with the grading manual, which the applicant has now provided for review with the final plat. A subdivision agreement was also required for any public improvements associated with the development, and the applicant has submitted cost estimates and civil design plans to facilitate preparation of this agreement. The Council directed that stormwater ponds be located on separate, publicly owned outlots; however, because no public stormwater will utilize the proposed ponds, they will be privately owned and maintained. Residential lighting within the subdivision must meet city standards, and this requirement will be reviewed at the time of building permit application. The Council also required the dedication of necessary easements and rights-of-way, which have been provided on the final plat. Further, the Department of Public Works determined that the subdivision's access road will function as a private alley rather than a public facility. The applicant is addressing the condition that a final plat be obtained prior to construction through the current submittal. Finally, water and sewer connection fees of $2,527.07 per unit will be assessed at the time of permitting.
**Current Proposal**
The applicant is requesting approval of the final plat for Good Counsel Meadows. The subdivision consists of two blocks and four outlots. Block 1 contains eight lots, each approximately 0.15 acres (6,535 square feet) in size, while Block 2 contains three lots: Lots 1 and 2 at 0.37 acres each, and Lot 3 at 0.84 acres. Standard easements are identified throughout the plat. The proposed land use for all lots is single-family residential development.
The final plat reflects modifications to the outlots. Outlot A will be dedicated to the City of Mankato, as utilities are located within this portion of the subdivision. The applicant intends to request access across Outlot A for a private road that will connect to Outlot B. An easement agreement will be executed to address access rights, as well as provisions for maintenance, repair, reconstruction, snow removal, and liability. Outlot B will function as the private drive serving the subdivision and will be privately owned and maintained by the applicant or successors in title.
Stormwater management for the development will be provided through a retention pond identified as Outlot C. The drainage study prepared for the project determined the pond was necessary to serve private stormwater needs. Outlot C will therefore function as a stormwater facility and open space. Outlot D is proposed to remain undeveloped.
**Access**
Access to Block 1 will be provided by a private drive connecting to North 4th Street at the intersections of East Ruth Street and East Mabel Street. The applicant will be responsible for providing refuse collection facilities and for submitting a snow removal plan covering both the private drive and the sidewalks serving the development. Adequate emergency vehicle access and turnaround areas will also be required to be provided within the private drive providing access to the rear of the properties.
Block 2 will obtain access through individual driveways connecting directly to North 4th Street.
**Utilities**
Public utilities will be extended to serve the subdivision. Water and sanitary sewer connections will be made to existing mains located within the North 4th Street right-of-way. The lots in Block 1 will connect directly to these mains, while a secondary main will be extended to serve Block 2.
Stormwater generated within the subdivision will be directed to the retention pond in Outlot C, located east of Block 1. The pond will ultimately discharge into the stormwater system within North 4th Street.

## Findings

The staff recommend the following findings of fact:

General Requirements:

1. The site is designed in conformance with the location and width of streets, the general drainage location, lot sizes and arrangement.
2. A drainage study has been submitted to verify compliance with the city drainage requirements.
3. The site provides storm drains and stormwater ponds that outlet into the city's stormwater facilities at the rates and volumes allowed by the MS4 permit.

Streets:

1. The street right-of-way widths conform to the standards listed in Chapter 10 of the Mankato City code by meeting the right-of-way standards.
2. The proposal will vacate a portion of Ruth Street right-of-way.

Easements:

1. The proposed preliminary plat provides the standard easements required in Chapter 10 of the Mankato City Code.

Block Standards:

1. The blocks within the subdivision were designed for the intended end use as residential lots.

Lot Standards:

1. The lots within the subdivision are intended for residential development. The lots are designed in conformance with the standards set forth in Chapter 10.
2. The concept plan for the residential areas conforms to the minimum lot size requirements.

Public Sites and Open Spaces:

1. The applicant is not required to make a parkland dedication, as the property was previously platted.

## Recommendation

Based on conformance with the preliminary plat, staff recommends approval of the final plat.

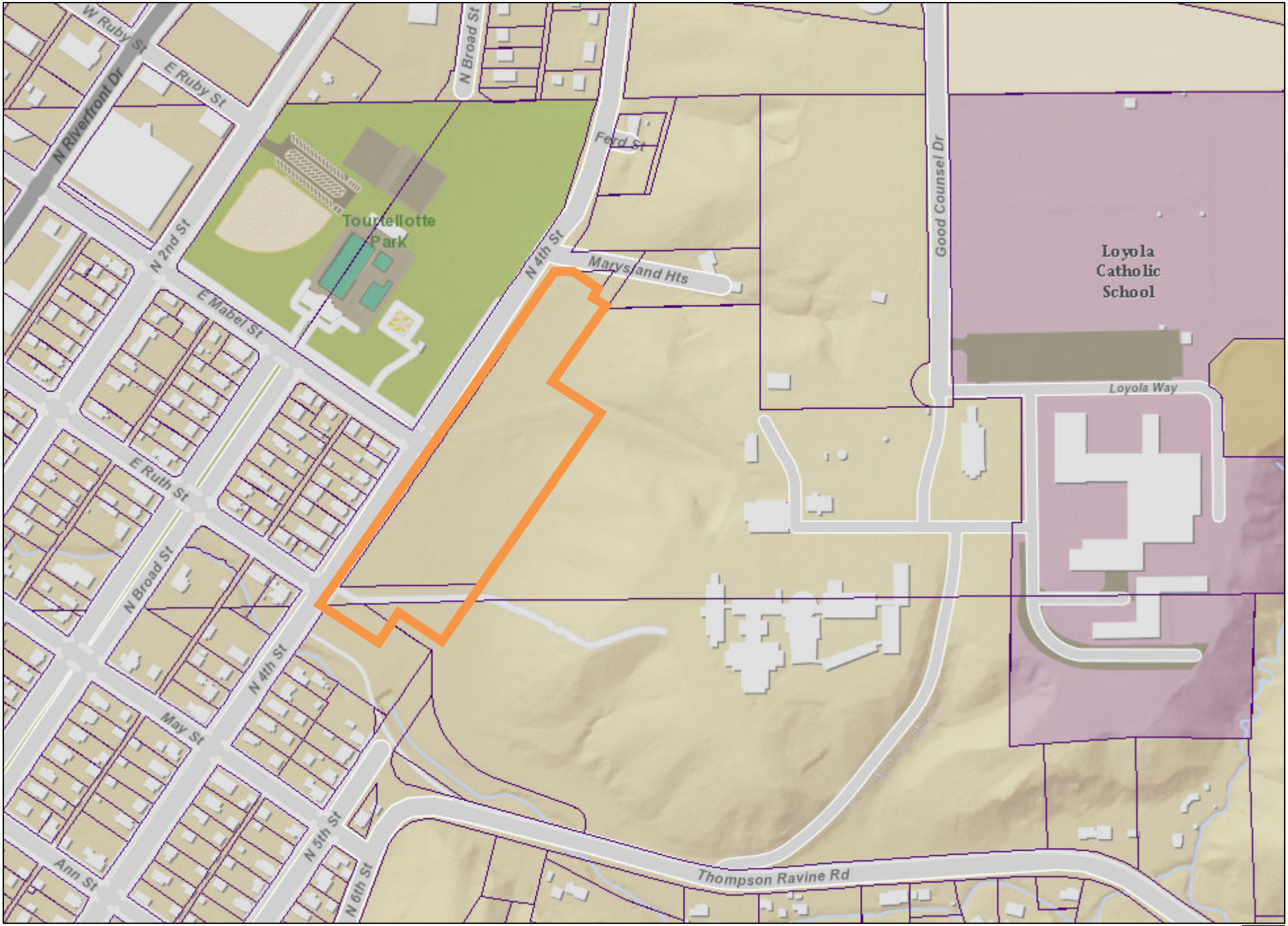
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## Attachments

General Location Map
Aerial Plan
Preliminary Plat
Final Plat
Drainage Report
Concept Plan

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# General Location Map




**Date: June 2025**

**Author:**

This information is to be used for reference purposes only. The City of Mankato does not guarantee accuracy of the material contained herein and is not responsible for misuse or misinterpretation.

N

# Aerial Map




**Date: June 2025**

**Author:**

This information is to be used for reference purposes only. The City of Mankato does not guarantee accuracy of the material contained herein and is not responsible for misuse or misinterpretation.

N

# GOOD COUNSEL MEADOWS

## SEC. 5 & 8, TWN.108, RGE. 26

## PRELIMINARY PLAT NOTES

### *OWNER/DEVELOPER*

Southwest Minnesota Housing Partnership
140 Homestead Road
Mankato, MN 56001
(507) 836-1608

### *LAND SURVEYOR*

Widseth
3777 40th Ave. NW Suite 200
Rochester, MN 55901
(507) 292-8743

### *WETLAND SPECIALIST*

ISG
115 E Hickory St. Suite 300
Mankato, MN 56001
(507) 387-6651

### *PROPERTY LEGAL DESCRIPTION*

Outlot C, SCHOOL SISTERS OF NOTRE DAME SUBDIVISION, according to the plat thereof on file at the County Recorder's Office, Blue Earth County, Minnesota.

ALSO

That part of vacated Ruth Street as shown in SUBDIVISION OF OUTLOTS DUKES SECOND ADDITION — HIGHWOOD, according to the plat thereof on file at the County Recorder's Office, Blue Earth County, Minnesota, lying easterly of 4th Street.

ALSO

That part of Outlot B, SCHOOL SISTERS OF NOTRE DAME SUBDIVISION, according to the plat thereof on file at the County Recorder's Office, Blue Earth County, Minnesota, described as follows:

Beginning at the most westerly corner of said Outlot B; thence North 85 degrees 05 minutes 18 seconds East along the southerly right-of-way of vacated Ruth Street as shown in the SUBDIVISION OF OUTLOTS DUKES SECOND ADDITION — HIGHWOOD, according to the plat thereof on file at the County Recorder's Office, Blue Earth County, Minnesota, 89.61 feet; thence South 34 degrees 13 minutes 52 seconds West 51.66 feet to the southerly line of said Outlot B; thence North 55 degrees 42 minutes 25 seconds West, along said southerly line, 73.28 feet to the point of beginning.

ALSO

That part of Lots 1, 2, 17 and 18, Block 13, SHAW'S SUBDIVISION, according to the plat thereof on file at the County Recorder's Office, Blue Earth County, Minnesota, described as follows:

Beginning at the most westerly corner of Outlot B, SCHOOL SISTERS OF NOTRE DAME SUBDIVISION, according to the plat thereof on file at the County Recorder's Office, Blue Earth County, Minnesota; thence South 89 degrees 05 minutes 18 seconds West, along the southerly right-of-way of vacated Ruth Street as shown in the SUBDIVISION OF OUTLOTS DUKES SECOND ADDITION — HIGHWOOD, according to the plat thereof on file at the County Recorder's Office, Blue Earth County, Minnesota, 97.49 feet to the easterly right-of-way of 4th Street; thence South 55 degrees 46 minutes 08 seconds East 153.00 feet to the east line of said SHAW'S SUBDIVISION; thence North 34 degrees 13 minutes 52 seconds East, along said easterly line, 56.04 feet to the southerly line of said Outlot B; thence North 55 degrees 42 minutes 25 seconds West, along said southerly line, 73.28 feet to the point of beginning.

### *SURVEY NOTES*

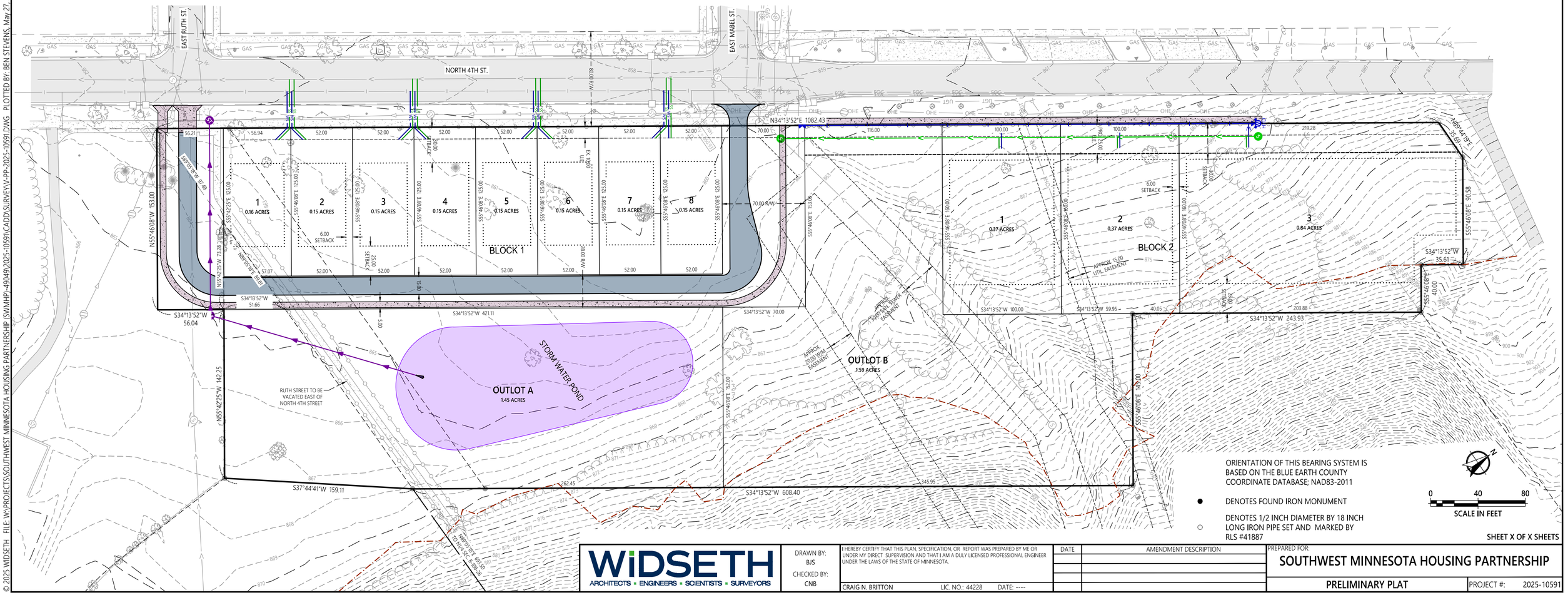
1. Orientation of this bearing system is based on Blue Earth County Coordinate System; NAD83-2011.
2. Benchmark: TNH at intersection of North 4th St. and East Mabel Street. Elev: 860.93.
3. The E911 address of the subject property is: Not Assigned.
4. Property Identification Number: R01.09.05.379.004.
5. Total Acreage: 284,767.28 sq.ft. or 6.54 acres.
6. Contours shown are 1 foot contours, NAVD88 Datum.
7. There are no wetlands on the subject property according to the Wetland Delineation completed by Nick McCabe, ISG, Certified Wetland Delineator No. <Lic. Number>, on April 27, 2021.
8. According to FEMA Community Panel Number 115, Map No. 27013C0115F, effective date February 22, 2024 the property is within Zone X (Area of Minimal Flood Hazard).
9. The property is zoned R-2 One & Two Family Dwelling per City of Mankato zoning map. Building setback distances are:
   a. Front Yard: 30 feet
   b. Side Yard: 6 feet
   c. Rear Yard: 25 feet
10. The building setback lines are shown according to the City of Mankato zoning ordinance.
11. This survey was completed without the benefit of a title commitment or opinion. There may be easements or other limiting factors not shown on this survey which affect the subject property.
12. The underground utilities shown on this survey are according to observed evidence and Gopher One, Ticket No. 251221584 together with plans. Widseth assumes no responsibility for the completeness and accuracy of these locations. Further locations and verifications are recommended before any construction or excavation.
13. The fieldwork was performed on May 7, 8 & 15, 2025.

**EXISTING LEGEND**

- SECTION LINE
- EASEMENT LINE
- DEEDED LOT LINE(S)
- PLATTED LOT LINE(S)
- SUBJECT TRACT(S) BOUNDARY
- SUBJECT TRACT SETBACK LINE(S)
- 1230 MAJOR CONTOURS (WITH LABEL)
- 1234 MINOR CONTOURS (WITH LABEL)
- TREE - CONIFER
- TREE - DECIDUOUS
- EDGE OF WOODS
- BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- GUY WIRE ANCHOR
- SIGN - SINGLE
- FENCE - CHAINLINK
- TELECOM MANHOLE
- TELECOM PEDESTAL
- FOC UNDERGROUND FIBER OPTIC CABLE
- UGT UNDERGROUND TELEPHONE CABLE
- LIGHT POLE
- MANHOLE
- PEDESTAL
- ELECTRIC POLE
- TRANSFORMER
- OHE OVERHEAD ELECTRIC WIRE
- UGE UNDERGROUND ELECTRIC WIRE
- GAS NATURAL GAS MAIN PIPE
- MANHOLE
- GRAVITY MAIN PIPE
- CATCH BASIN
- INLET STRUCTURE
- MANHOLE
- GRAVITY MAIN PIPE
- HYD HYDRANT
- W MANHOLE
- W WATER MAIN VALVE
- WATER MAIN PIPE
- BLUFFLAND LINE

**PROPOSED LEGEND**

- BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- CURB & GUTTER
- MANHOLE
- GRAVITY MAIN PIPE
- SS SERVICE PIPE
- ST MANHOLE
- GRAVITY MAIN PIPE
- HYD HYDRANT
- W WATER MAIN VALVE
- WATER MAIN PIPE
- WS WATER SERVICE PIPE




SHEET X OF X SHEETS

WIDSETH
ARCHITECTS ▪ ENGINEERS ▪ SCIENTISTS ▪ SURVEYORS

DRAWN BY: BJS
CHECKED BY: CNB

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CRAIG N. BRITTON LIC. NO.: 44228 DATE: ----

| DATE | AMENDMENT DESCRIPTION |
|---|---|
| | |

PREPARED FOR:
SOUTHWEST MINNESOTA HOUSING PARTNERSHIP

PRELIMINARY PLAT | PROJECT #: 2025-10591

© 2025 WIDSETH FILE: W:\PROJECTS\SOUTHWEST MINNESOTA HOUSING PARTNERSHIP (SWMHP)-49049\2025-10591\CADD\SURVEY\V-PP-2025-10591.DWG PLOTTED BY: BEN STEVENS, May 27, 2025

# GOOD COUNSEL MEADOWS

INSTRUMENT OF DEDICATION

KNOW ALL PERSONS BY THESE PRESENTS: That School Sisters of Notre Dame Central Pacific Province, Inc., a nonprofit corporation, owner and proprietor of the following described property situated in the City of Mankato, County of Blue Earth, Minnesota, to wit:

Outlot C, SCHOOL SISTERS OF NOTRE DAME SUBDIVISION, according to the plat thereof on file at the County Recorder's Office, Blue Earth County, Minnesota.

ALSO

That part of vacated Ruth Street as shown in SUBDIVISION OF OUTLOTS DUKES SECOND ADDITION — HIGHWOOD, according to the plat thereof on file at the County Recorder's Office, Blue Earth County, Minnesota, lying easterly of 4th Street.

ALSO

That part of Outlot B, SCHOOL SISTERS OF NOTRE DAME SUBDIVISION, according to the plat thereof on file at the County Recorder's Office, Blue Earth County, Minnesota, described as follows:

Beginning at the most westerly corner of said Outlot B; thence North 89 degrees 05 minutes 18 seconds East along the southerly right-of-way of vacated Ruth Street as shown in the SUBDIVISION OF OUTLOTS DUKES SECOND ADDITION — HIGHWOOD, according to the plat thereof on file at the County Recorder's Office, Blue Earth County, Minnesota, 275.49 feet; thence South 37 degrees 44 minutes 41 seconds West 159.11 feet to the southerly line of said Outlot B; thence North 55 degrees 42 minutes 25 seconds West, along said southerly line, 215.53 feet to the point of beginning.

Has caused the same to be surveyed and platted as GOOD COUNSEL MEADOWS, and does hereby dedicate to the public for public use the drainage and utility easements as created by this plat.

IN WITNESS WHEREOF, said School Sisters of Notre Dame Central Pacific Province, Inc., a nonprofit corporation, have hereunto set their hands this _____ day of _____, 20___.

_____
Debra M. Sciano, President

State of _____

County of _____

This instrument was acknowledged before me on _____ by Debra M. Sciano, President of School Sisters of Notre Dame Central Pacific Province, Inc., a nonprofit corporation, on behalf of the corporation.

_____

_____

Notary Public _____

My Commission Expires: _____

SURVEYOR'S CERTIFICATE

I, Peter G. Oetliker, do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this_____ day of _____,20___ .

_____
Peter G. Oetliker, Licensed Land Surveyor
Minnesota License Number 41887

WIDSETH
ARCHITECTS ▪ ENGINEERS ▪ SCIENTISTS ▪ SURVEYORS

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State of Minnesota
County of Olmsted

This instrument was acknowledged before me on _____ by Peter G. Oetliker.

_____

_____
Notary Public, _____ County, Minnesota
My Commission Expires: _____

TITLE OPINION

I, _____, a licensed attorney in the State of Minnesota, do hereby certify that the owner indicated hereon represents the only fee owner of the real property encompassed by this plat as of this_____ day of _____, 20____.

_____
_____, Attorney

REVIEW

This plat was duly reviewed by the Planning Commission of the City of Mankato, Minnesota, on this _____ day of _____. 20___.

_____ _____
Chair Person Secretary

APPROVAL

I / We do hereby certify that on the _____ day of _____. 20___, the City Council of Mankato, Minnesota, approved this plat of GOOD COUNSEL MEADOWS, and is in compliance with the provisions of MS Section 505.03, Subd. 2.

_____ _____
Mayor City Clerk

TAXPAYER SERVICE DEPARTMENT

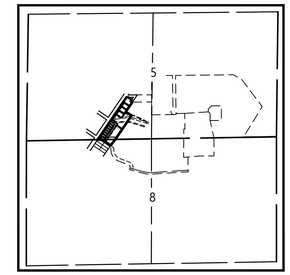
I hereby certify that all taxes for 20___ on the land described hereon are paid and no delinquent taxes are due and transfer entered this day of _____, 20___.

_____
Director of Taxpayer Services

COUNTY RECORDER

I hereby certify that this instrument was filed for record in the office of the County Recorder in and for Blue Earth County, Minnesota on this ___ day of _____, 20___ at _____ o'clock __m as Document No. _____

_____
Blue Earth County Recorder



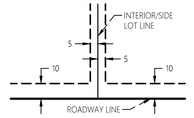

VICINITY MAP
SEC. 5 & 8, TWN. 108, RGE. 26
MANKATO TOWNSHIP
BLUE EARTH COUNTY, MN

ORIENTATION OF THIS BEARING SYSTEM IS BASED ON THE BLUE EARTH COUNTY COORDINATE DATABASE; NAD83

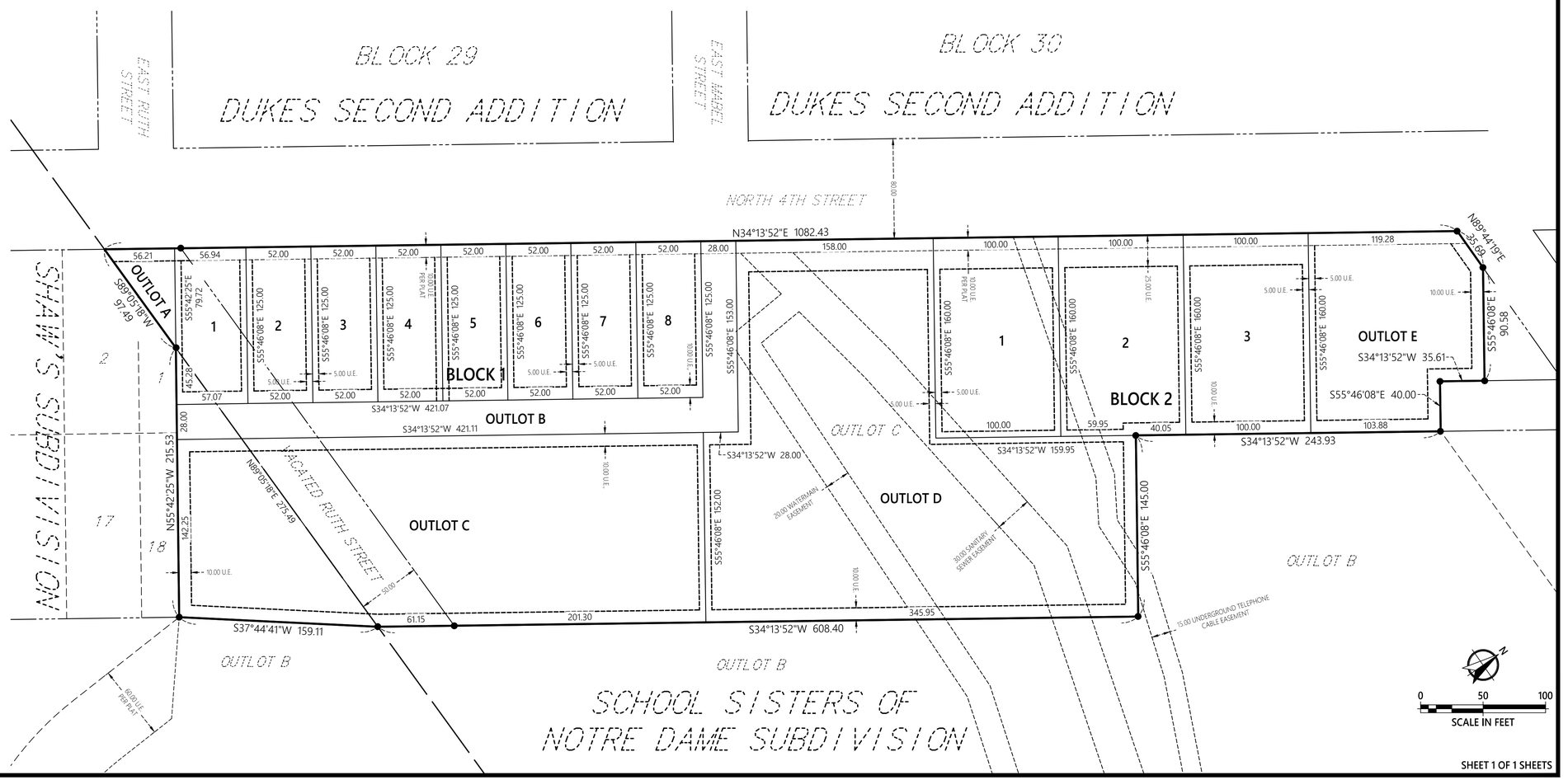
● DENOTES FOUND IRON MONUMENT

○ DENOTES 1/2 INCH DIAMETER BY 18 INCH LONG IRON PIPE SET AND MARKED BY RLS #41887

DRAINAGE & UTILITY EASEMENTS ARE AS SHOWN BELOW




BEING 5 FEET IN WIDTH & ADJOINING ALL INTERIOR LOT LINE(S) AND BEING 10 FEET IN WIDTH & ADJOINING ROADWAY LINE(S)



WiDSETH

# Good Counsel Meadows
# Mankato, MN

## HYDRAULIC DESIGN SUMMARY REPORT

For

## Southwest Minnesota Housing Partnership

August 2025

Prepared by:
Widseth Consulting Engineers, Rochester, Minnesota

Project # 2025-10591

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Andre Ringle 08/27/2025

Andre T. Ringle Lic. No. 60708

# Table of Contents

## Section


**1.0** **Project Summary and Proposed Site Improvements**

**2.0** **Water Quality Volume**

**3.0** **PRE-Improvement, & POST-Improvement Discharge Rates**

**4.0** **Risk Assessment**


## Appendix


**1** **NOAA Atlas 14 Precipitation Frequency Table**

**2** **Hydrologic Soils Group Map**

**3** **Pre-Development Drainage Map & Hydraulic Model for the 2-year, 10-year, & 100-year storm events**

**4** **Post-Development Drainage Map & Hydraulic Model for the 2-year, 10-year, & 100-year storm events**

**DRAINAGE REPORT**

Project Name: **Good Counsel Meadows – Mankato, MN**
Widseth Project # 2025-10591

## SECTION 1.0 – Project Summary and Proposed Site Improvements

We have completed our analysis and design recommendation for the stormwater management system associated with the above referenced project. This design was guided by the MPCA NPDES permit and MnDOT.

### Hydrologic & Hydraulic Modeling

The HydroCAD™ Ver. 10.0 modeling software was utilized to develop the hydrologic contributions serving the proposed project site. This software is adept at modeling urban drainage settings and can provide storage routing calculations under dynamic outlet conditions.

In accordance with MnDOT Technical Memorandum No. 13_08_B_04, NOAA Atlas 14 precipitation frequency data was utilized. Basin characteristics developed using the survey, along with NOAA Atlas 14 rainfall data, peak flows were generated utilizing SCS procedures. Where storage routing calculations were completed, SCS Unit Hydrograph procedures were utilized. See Appendix 1 for NOAA Atlas 14 precipitation frequency table.

### PRE-Improvement Condition

The existing site consists of a grassed meadow east of the existing road, 4th St North.

The existing soils on the project site are classified as HSG C according to web soil survey. Soils in the forested drainage area uphill of the pond are classified as HSG B. See Appendix 2 for Soils Map.

### POST-Improvement Condition

Proposed site improvements include the construction of eight single-family houses with an alley running behind the houses and three single family houses on the north side of the property that will have direct access onto 4th St N.

The stormwater runoff from the site will flow to a proposed stormwater pond in the SE corner of the property and outflow through storm sewer to the storm sewer in 4th St N. The stormwater from the three houses to the north will continue to flow into 4th St and not into the proposed stormwater pond. The water quality volume in the proposed stormwater pond accounts for the three houses on the north side of the property.

## SECTION 2.0 – Water Quality Volume

**Impervious Area:**

| | | |
|---|---|---|
| Proposed impervious surface: | 1.09 | acres |
| Existing impervious surface: | 0.00 | acres |
| New impervious surface: | 1.09 | acres |

**Water Quality Volume:**

| | | |
|---|---|---|
| Proposed Water Quality Volume – Live Storage @ 857.50: | 0.26 | acre-feet |
| Required Water Quality Volume: | 0.09 | acres-feet |
| Excess Water Quality Volume: | 0.17 | acres-feet |

The impervious area for the three single-family homes to the north is included in the calculation for required water quality volume despite not being routed to the proposed stormwater pond.

## SECTION 3.0 – PRE & POST-Improvement Discharge Rates:

Discharge Rates:
See Tables 1 & 2 for the PRE-Improvement & POST-Improvement Conditions for discharge rates for the 2, 10, and 100-year storm events.

*Table 1 – PRE-Improvement Discharge Rates*

| Area | HydroCAD Node | 2-Year Storm (cfs) | 10-Year Storm (cfs) | 100-Year Storm (cfs) |
|---|---|---|---|---|
| 4th Street Surface | 1R | 0.78 | 13.84 | 34.27 |
| 4th Street Storm Sewer | 2R | 0.00 | 0.00 | 0.00 |
| **Total** | **Total** | **0.78** | **13.84** | **34.27** |

*Table 2 – POST-Improvement Discharge Rates*

| Area | HydroCAD Node | 2-Year Storm (cfs) | 10-Year Storm (cfs) | 100-Year Storm (cfs) |
|---|---|---|---|---|
| 4th Street Surface | 1R | 0.00 | 0.00 | 0.00 |
| 4th Street Storm Sewer | 2R | 0.22 | 3.88 | 9.89 |
| **Total** | **Total** | **0.22** | **3.88** | **9.89** |

## SECTION 5.0 – Risk Assessment

The lowest proposed first floor elevation of the houses is 861.70. The 100-year HWL in the proposed stormwater pond is 859.34, which is over two feet below the lowest FFE. Additionally, there is an overflow for the pond with the controlling elevation set at 860.40. The modeling suggests there to be minimal risk of flooding even in extreme events.

Minor Adjustments

Minor adjustments in placement of structures and conveyance piping orientation will not invalidate this design/analysis. A variety of design and performance data can be found in the attached summary results information. Additional calculations and results will be stored in the project design file. Any exceptions to system contribution, sizing, invert elevations or locations should be revisited before final plans, specifications, & engineering.

Appendix

1 NOAA Atlas 14 Precipitation Frequency Table
2 Hydrologic Soils Group Map
3 Pre-Development Drainage Map &Hydrology Calculations for the 2, 10, & 100-year storm events (HydroCAD)
4 Post-Development Drainage Map &Hydrology Calculations for the 2, 10, & 100-year storm events (HydroCAD)

APPENDIX 1

# NOAA Atlas 14
# Precipitation Frequency Table

**NOAA Atlas 14, Volume 8, Version 2**
**Location name: Mankato, Minnesota, USA***
**Latitude: 44.1661°, Longitude: -94.0054°**
**Elevation: 778 ft****
* source: ESRI Maps
** source: USGS

**POINT PRECIPITATION FREQUENCY ESTIMATES**

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

## PF tabular

**PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]**

| Duration | Average recurrence interval (years) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 5 | 10 | 25 | 50 | 100 | 200 | 500 | 1000 |
| 5-min | **0.376** (0.297-0.489) | **0.448** (0.353-0.582) | **0.569** (0.447-0.741) | **0.673** (0.525-0.879) | **0.821** (0.619-1.10) | **0.938** (0.690-1.27) | **1.06** (0.751-1.45) | **1.18** (0.805-1.66) | **1.36** (0.884-1.93) | **1.49** (0.944-2.14) |
| 10-min | **0.551** (0.434-0.715) | **0.656** (0.517-0.853) | **0.833** (0.655-1.08) | **0.985** (0.769-1.29) | **1.20** (0.907-1.61) | **1.37** (1.01-1.86) | **1.55** (1.10-2.13) | **1.74** (1.18-2.43) | **1.99** (1.30-2.83) | **2.18** (1.38-3.14) |
| 15-min | **0.671** (0.530-0.873) | **0.800** (0.631-1.04) | **1.02** (0.798-1.32) | **1.20** (0.938-1.57) | **1.46** (1.11-1.96) | **1.68** (1.23-2.26) | **1.89** (1.34-2.60) | **2.12** (1.44-2.96) | **2.42** (1.58-3.45) | **2.66** (1.69-3.82) |
| 30-min | **0.909** (0.718-1.18) | **1.09** (0.857-1.41) | **1.39** (1.09-1.81) | **1.64** (1.28-2.15) | **2.01** (1.52-2.69) | **2.30** (1.69-3.11) | **2.60** (1.84-3.57) | **2.91** (1.98-4.07) | **3.34** (2.18-4.76) | **3.67** (2.32-5.27) |
| 60-min | **1.18** (0.928-1.53) | **1.40** (1.10-1.81) | **1.78** (1.39-2.31) | **2.11** (1.65-2.76) | **2.60** (1.97-3.51) | **3.01** (2.22-4.08) | **3.44** (2.44-4.74) | **3.89** (2.64-5.45) | **4.52** (2.95-6.46) | **5.02** (3.18-7.21) |
| 2-hr | **1.44** (1.15-1.84) | **1.70** (1.36-2.18) | **2.16** (1.72-2.78) | **2.58** (2.04-3.32) | **3.20** (2.46-4.27) | **3.72** (2.78-4.99) | **4.27** (3.08-5.83) | **4.86** (3.35-6.76) | **5.70** (3.76-8.07) | **6.38** (4.08-9.06) |
| 3-hr | **1.62** (1.30-2.05) | **1.90** (1.53-2.41) | **2.41** (1.93-3.06) | **2.88** (2.29-3.67) | **3.59** (2.79-4.77) | **4.20** (3.17-5.61) | **4.85** (3.52-6.59) | **5.56** (3.86-7.69) | **6.58** (4.38-9.26) | **7.40** (4.76-10.4) |
| 6-hr | **1.90** (1.55-2.38) | **2.23** (1.82-2.79) | **2.83** (2.30-3.55) | **3.39** (2.74-4.26) | **4.26** (3.35-5.59) | **5.00** (3.82-6.59) | **5.80** (4.27-7.79) | **6.68** (4.70-9.14) | **7.94** (5.35-11.1) | **8.98** (5.84-12.5) |
| 12-hr | **2.17** (1.79-2.66) | **2.55** (2.10-3.14) | **3.24** (2.67-4.00) | **3.88** (3.18-4.81) | **4.87** (3.88-6.29) | **5.70** (4.41-7.41) | **6.60** (4.92-8.74) | **7.59** (5.39-10.2) | **9.00** (6.12-12.4) | **10.1** (6.68-14.0) |
| 24-hr | **2.47** (2.07-2.99) | **2.87** (2.40-3.48) | **3.60** (3.00-4.37) | **4.28** (3.55-5.22) | **5.33** (4.31-6.79) | **6.22** (4.88-7.98) | **7.19** (5.42-9.40) | **8.25** (5.94-11.0) | **9.77** (6.72-13.3) | **11.0** (7.32-15.1) |
| 2-day | **2.87** (2.44-3.42) | **3.24** (2.75-3.86) | **3.94** (3.33-4.70) | **4.61** (3.87-5.53) | **5.67** (4.65-7.14) | **6.59** (5.24-8.35) | **7.61** (5.82-9.83) | **8.73** (6.37-11.5) | **10.4** (7.23-14.0) | **11.7** (7.88-15.8) |
| 3-day | **3.14** (2.69-3.70) | **3.52** (3.01-4.15) | **4.23** (3.61-5.01) | **4.91** (4.16-5.84) | **5.99** (4.95-7.46) | **6.92** (5.54-8.68) | **7.94** (6.11-10.2) | **9.07** (6.66-11.9) | **10.7** (7.52-14.4) | **12.1** (8.17-16.2) |
| 4-day | **3.35** (2.89-3.93) | **3.75** (3.23-4.40) | **4.50** (3.86-5.29) | **5.20** (4.43-6.14) | **6.29** (5.22-7.76) | **7.22** (5.81-8.99) | **8.24** (6.37-10.5) | **9.36** (6.90-12.2) | **11.0** (7.74-14.6) | **12.3** (8.38-16.5) |
| 7-day | **3.88** (3.38-4.49) | **4.35** (3.78-5.03) | **5.18** (4.49-6.01) | **5.93** (5.11-6.91) | **7.06** (5.90-8.56) | **8.00** (6.49-9.80) | **9.01** (7.02-11.3) | **10.1** (7.50-13.0) | **11.6** (8.26-15.3) | **12.9** (8.84-17.1) |
| 10-day | **4.39** (3.86-5.04) | **4.92** (4.31-5.64) | **5.82** (5.08-6.69) | **6.61** (5.74-7.64) | **7.77** (6.52-9.30) | **8.72** (7.11-10.6) | **9.72** (7.62-12.0) | **10.8** (8.05-13.7) | **12.3** (8.74-16.0) | **13.4** (9.27-17.7) |
| 20-day | **6.03** (5.37-6.80) | **6.70** (5.96-7.56) | **7.80** (6.90-8.82) | **8.72** (7.67-9.90) | **9.99** (8.46-11.7) | **11.0** (9.06-13.0) | **12.0** (9.49-14.6) | **13.0** (9.81-16.2) | **14.4** (10.4-18.4) | **15.4** (10.8-20.1) |
| 30-day | **7.45** (6.69-8.31) | **8.26** (7.40-9.22) | **9.56** (8.54-10.7) | **10.6** (9.42-11.9) | **12.0** (10.3-13.9) | **13.1** (10.9-15.4) | **14.2** (11.3-17.0) | **15.2** (11.5-18.8) | **16.6** (12.0-21.0) | **17.5** (12.4-22.7) |
| 45-day | **9.24** (8.37-10.2) | **10.3** (9.29-11.4) | **11.9** (10.7-13.2) | **13.2** (11.8-14.7) | **14.9** (12.7-16.9) | **16.1** (13.4-18.6) | **17.2** (13.8-20.5) | **18.3** (14.0-22.4) | **19.7** (14.4-24.8) | **20.7** (14.6-26.6) |
| 60-day | **10.8** (9.80-11.8) | **12.0** (10.9-13.2) | **13.9** (12.6-15.3) | **15.4** (13.9-17.1) | **17.4** (14.9-19.6) | **18.8** (15.7-21.5) | **20.0** (16.1-23.6) | **21.2** (16.3-25.7) | **22.7** (16.6-28.3) | **23.6** (16.8-30.2) |

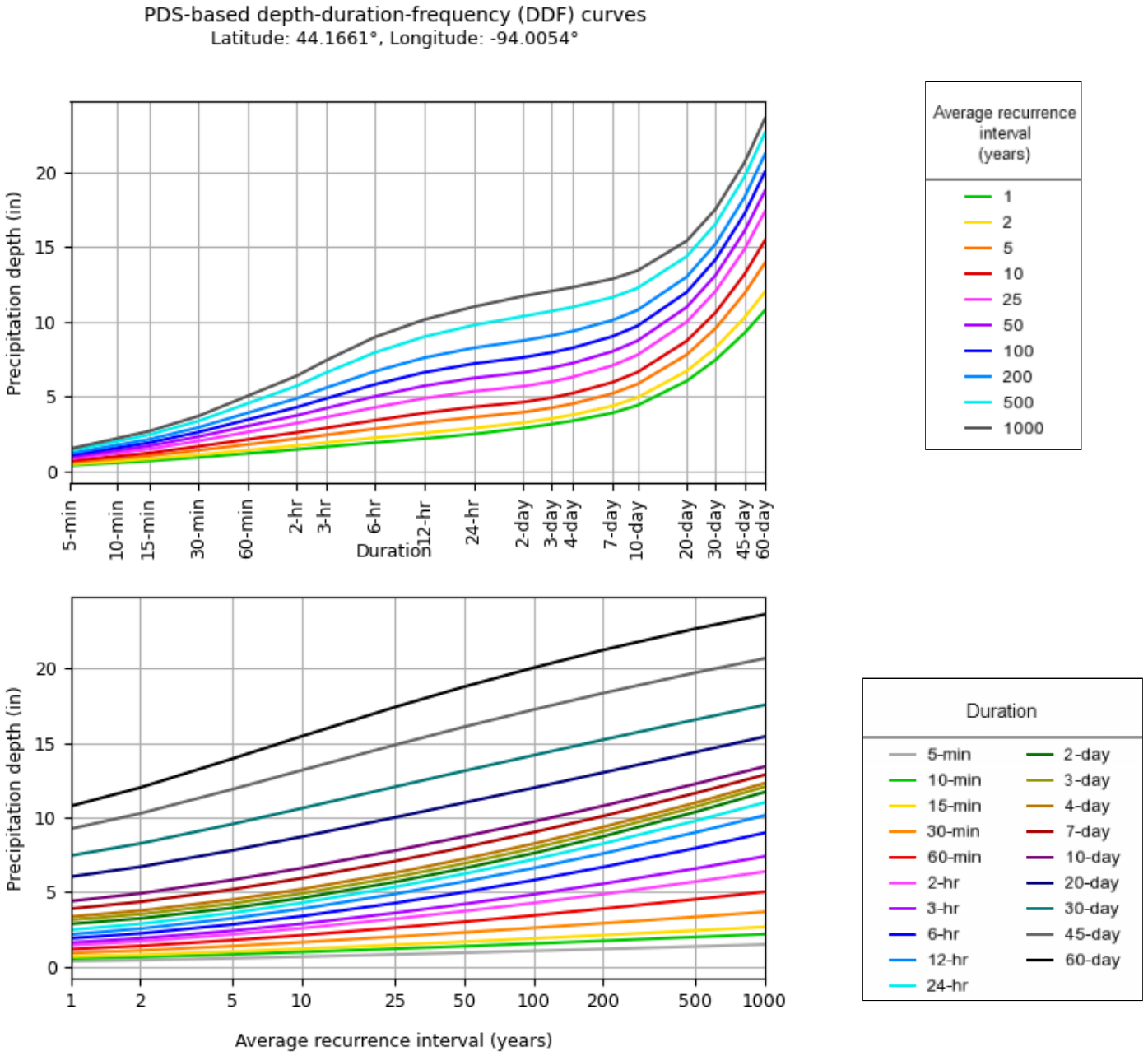
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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## PF graphical



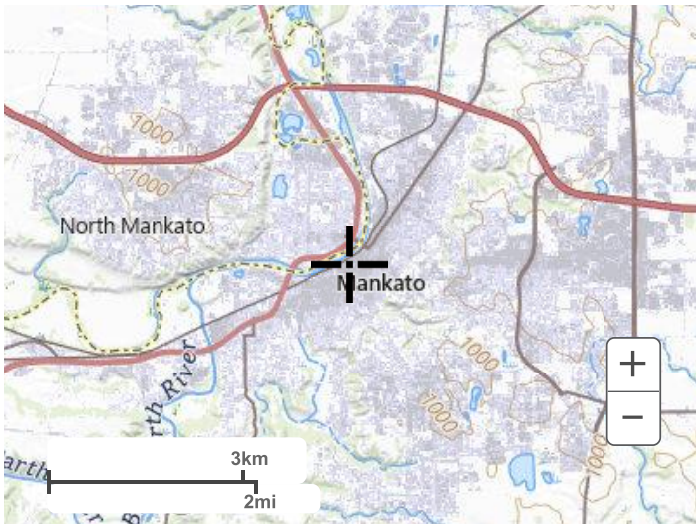

NOAA Atlas 14, Volume 8, Version 2

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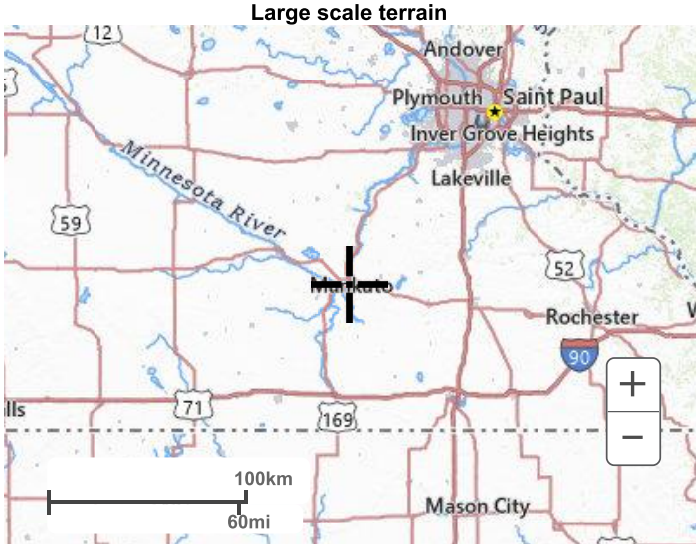
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## Maps & aerials

**Small scale terrain**




**Large scale terrain**




**Large scale map**




**Large scale aerial**




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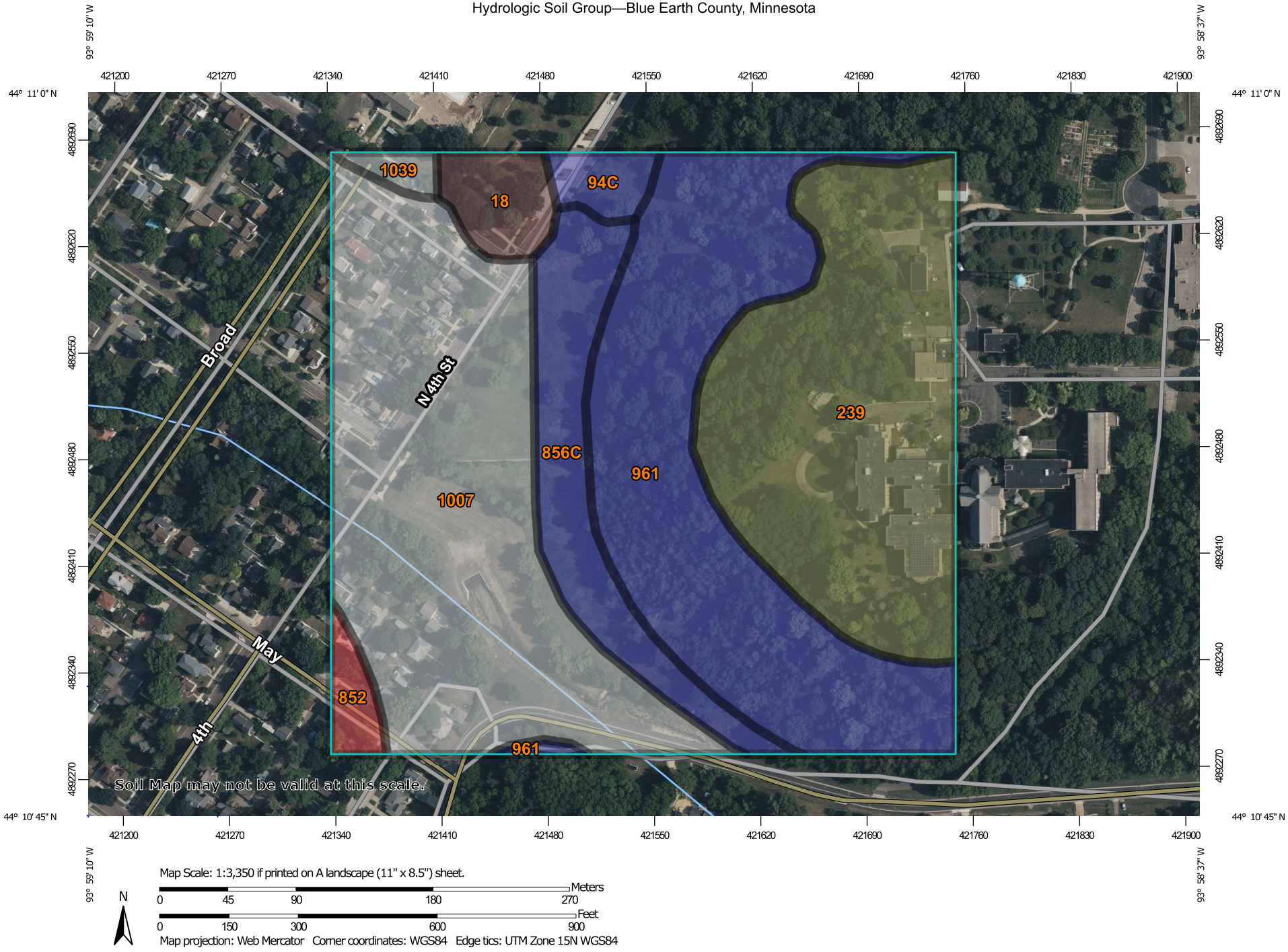
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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

# APPENDIX 2

# Hydrologic Soils Group Map




Map Scale: 1:3,350 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 45 90 180 270

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

## MAP LEGEND

**Area of Interest (AOI)**

Area of Interest (AOI)

**Soils**

**Soil Rating Polygons**

A

A/D

B

B/D

C

C/D

D

Not rated or not available

**Soil Rating Lines**

A

A/D

B

B/D

C

C/D

D

Not rated or not available

**Soil Rating Points**

A

A/D

B

B/D

C

C/D

D

Not rated or not available

**Water Features**

Streams and Canals

**Transportation**

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

**Background**

Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Blue Earth County, Minnesota
Survey Area Data: Version 22, Sep 7, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 2, 2023—Aug 8, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Hydrologic Soil Group

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|---|---|---|---|---|
| 18 | Comfrey clay loam | B/D | 1.1 | 2.8% |
| 94C | Terril loam, 6 to 15 percent slopes | B | 0.7 | 1.7% |
| 239 | Le Sueur loam, 1 to 3 percent slopes | C/D | 10.5 | 26.0% |
| 852 | Copaston-Urban land complex, 1 to 4 percent slopes | D | 0.6 | 1.5% |
| 856C | Terril-Urban land complex, 6 to 15 percent slopes | B | 3.6 | 9.0% |
| 961 | Storden complex, very steep | B | 10.4 | 25.9% |
| 1007 | Alluvial-Urban land complex | | 13.0 | 32.3% |
| 1039 | Urban land, 0 to 2 percent slopes | | 0.3 | 0.8% |
| **Totals for Area of Interest** | | | **40.4** | **100.0%** |

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff: None Specified*

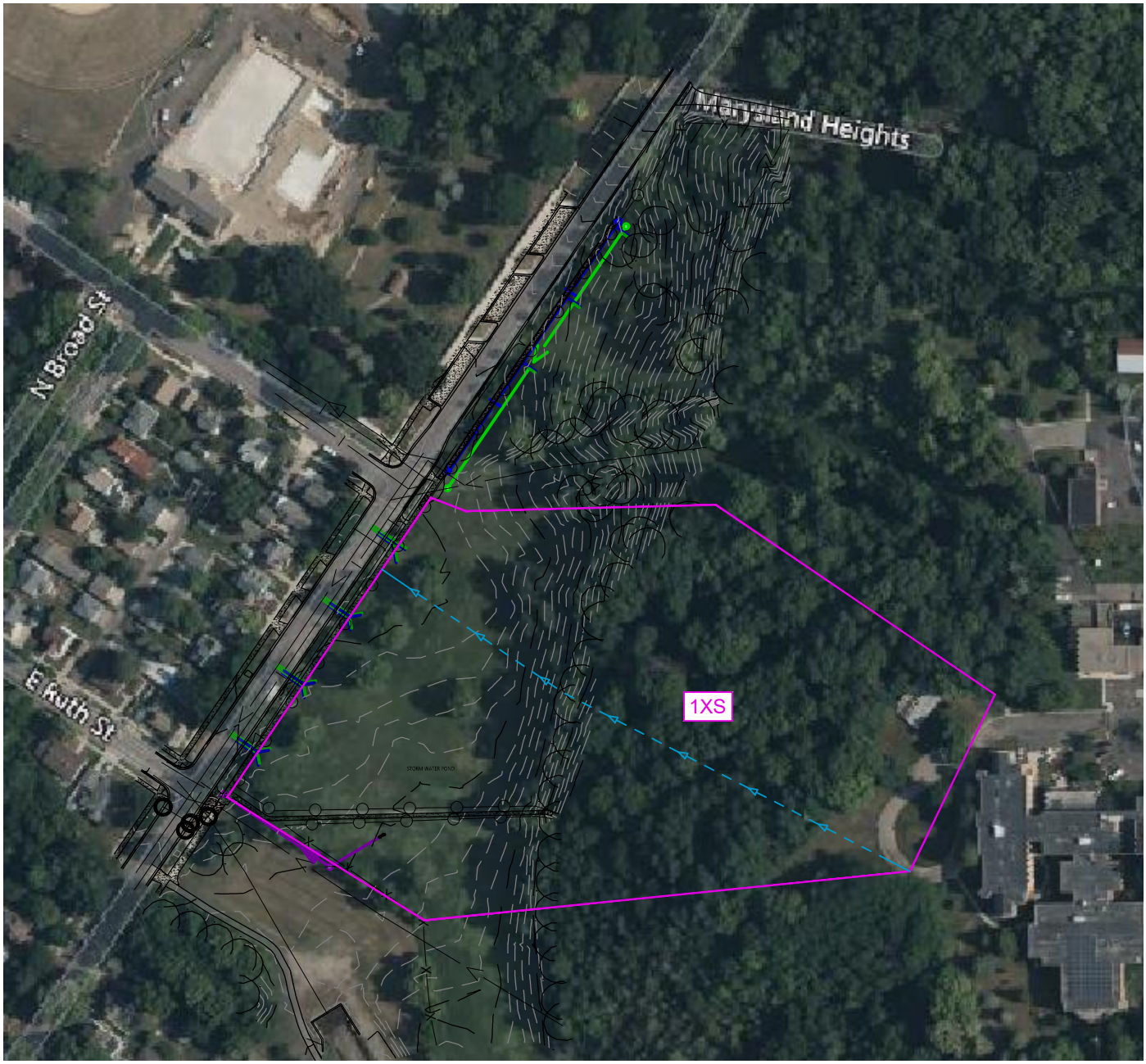
*Tie-break Rule:* Higher

# APPENDIX 3

# Pre-Development Drainage Area Map And HydroCAD Report

# PRE-DEVELOPMENT DRAINAGE MAP

| | |
|---|---|
| EXISTING SUBCATCHMENT BOUNDARY | |
| EXISTING FLOW PATH | |
| EXISTING IMPERVIOUS AREA | |




N

0 200

SCALE IN FEET

DRAWN BY: ATR

CHECKED BY: ATR

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL #### UNDER THE LAWS OF THE STATE OF MINNESOTA.

#### LIC. NO.: #### DATE: ####

| DATE | REV# | REVISIONS DESCRIPTION |
|---|---|---|
| | | |

WIDSETH ARCHITECTS · ENGINEERS · SCIENTISTS · SURVEYORS

GOOD COUNCIL MEADOWS

PRE-DEVELOPMENT DRAINAGE MAP

-

PROJECT #: 2025-10591

© 2025 WIDSETH FILE: W:\PROJECTS\SOUTHWEST MINNESOTA HOUSING PARTNERSHIP (SWMHP)-49049\2025-10591\CADD\CIVIL\C-DR-2025-10591.DWG PLOTTED BY: ANDRE RINGLE, August 26, 2025




4th Ave N Surface




4th Ave N Storm Sewer

Subcat Reach Pond Link

**Routing Diagram for Pre-Development**
Prepared by Widseth Smith Nolting, Printed 8/26/2025
HydroCAD® 10.20-7a s/n 01722 © 2025 HydroCAD Software Solutions LLC

## Rainfall Events Listing

| Event# | Event Name | Storm Type | Curve | Mode | Duration (hours) | B/B | Depth (inches) | AMC |
|---|---|---|---|---|---|---|---|---|
| 1 | 2-YR | Type II 24-hr | | Default | 24.00 | 1 | 1.70 | 2 |
| 2 | 10-YR | Type II 24-hr | | Default | 24.00 | 1 | 4.28 | 2 |
| 3 | 100-YR | Type II 24-hr | | Default | 24.00 | 1 | 7.19 | 2 |

## Area Listing (all nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|---|---|---|
| 3.560 | 74 | >75% Grass cover, Good, HSG C (1XS) |
| 4.866 | 70 | Woods, Good, HSG C (1XS) |
| **8.426** | **72** | **TOTAL AREA** |

## Soil Listing (all nodes)

| Area (acres) | Soil Group | Subcatchment Numbers |
|---|---|---|
| 0.000 | HSG A | |
| 0.000 | HSG B | |
| 8.426 | HSG C | 1XS |
| 0.000 | HSG D | |
| 0.000 | Other | |
| **8.426** | | **TOTAL AREA** |

## Ground Covers (all nodes)

| HSG-A (acres) | HSG-B (acres) | HSG-C (acres) | HSG-D (acres) | Other (acres) | Total (acres) | Ground Cover | Subcatchment Numbers |
|---|---|---|---|---|---|---|---|
| 0.000 | 0.000 | 3.560 | 0.000 | 0.000 | 3.560 | >75% Grass cover, Good | 1XS |
| 0.000 | 0.000 | 4.866 | 0.000 | 0.000 | 4.866 | Woods, Good | 1XS |
| **0.000** | **0.000** | **8.426** | **0.000** | **0.000** | **8.426** | **TOTAL AREA** | |

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1XS:** Runoff Area=367,036 sf 0.00% Impervious Runoff Depth>0.15"
Flow Length=775' Slope=0.1400 '/' Tc=23.1 min CN=72 Runoff=0.78 cfs 0.103 af

**Reach 1R: 4th Ave N Surface** Inflow=0.78 cfs 0.103 af
Outflow=0.78 cfs 0.103 af

**Reach 2R: 4th Ave N Storm Sewer**

**Total Runoff Area = 8.426 ac Runoff Volume = 0.103 af Average Runoff Depth = 0.15"**
**100.00% Pervious = 8.426 ac 0.00% Impervious = 0.000 ac**

## Summary for Subcatchment 1XS:

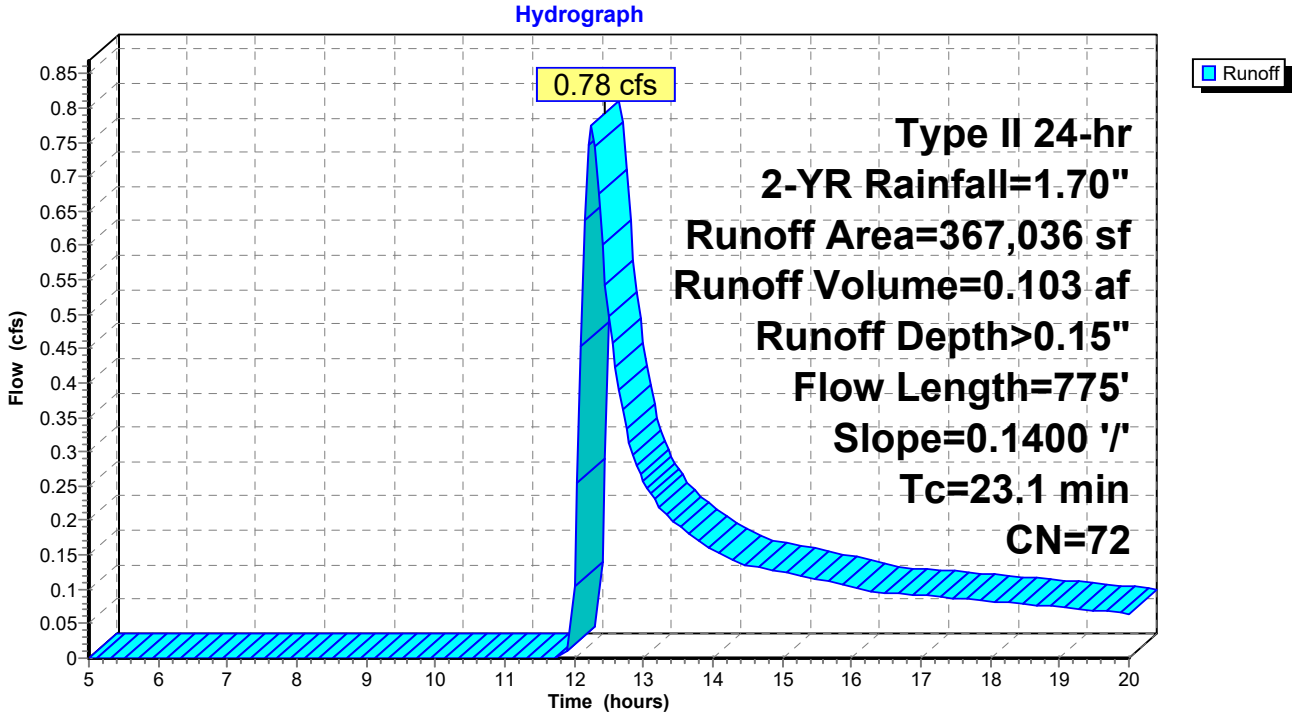
Runoff = 0.78 cfs @ 12.25 hrs, Volume= 0.103 af, Depth> 0.15"
Routed to Reach 1R : 4th Ave N Surface

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=1.70"

| Area (sf) | CN | Description |
|---|---|---|
| 155,068 | 74 | >75% Grass cover, Good, HSG C |
| 211,968 | 70 | Woods, Good, HSG C |
| 367,036 | 72 | Weighted Average |
| 367,036 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 23.1 | 775 | 0.1400 | 0.56 | | **Kerby Method,** Deciduous forest N= 0.60 |

## Subcatchment 1XS:



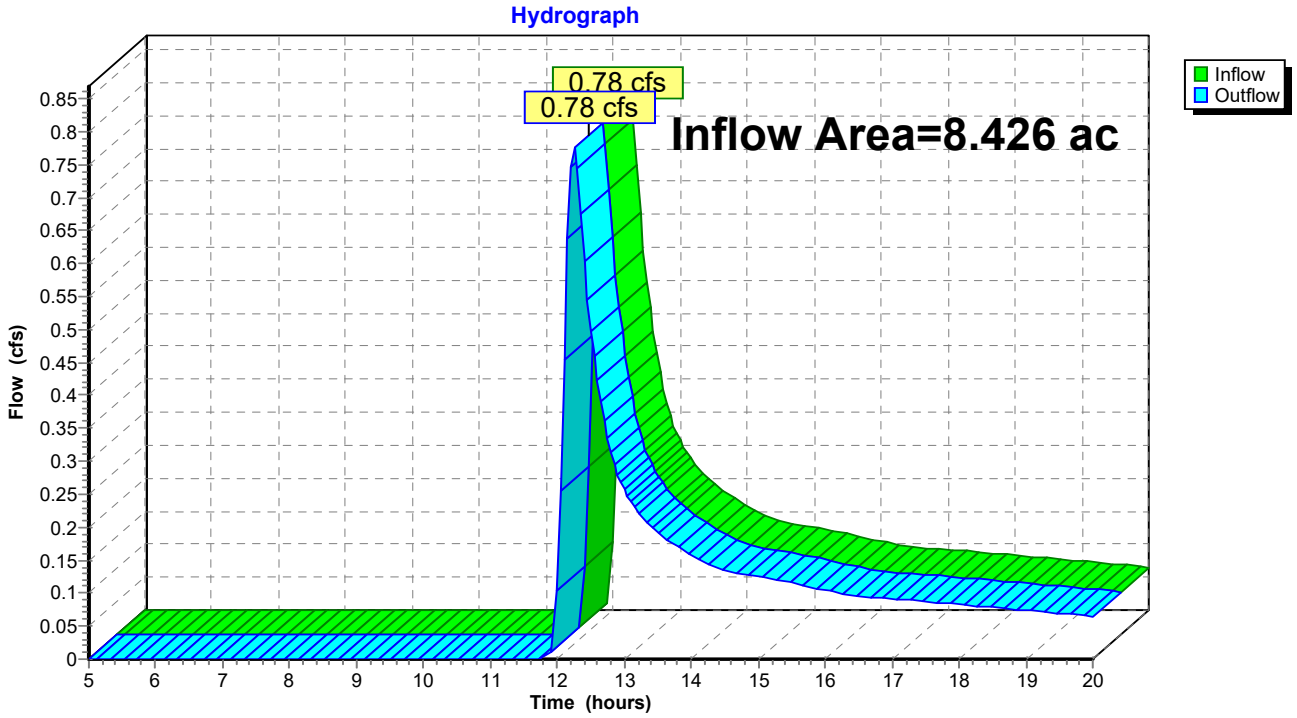
## Summary for Reach 1R: 4th Ave N Surface

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 8.426 ac, 0.00% Impervious, Inflow Depth > 0.15" for 2-YR event
Inflow = 0.78 cfs @ 12.25 hrs, Volume= 0.103 af
Outflow = 0.78 cfs @ 12.25 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Reach 1R: 4th Ave N Surface



## Summary for Reach 2R: 4th Ave N Storm Sewer

[40] Hint: Not Described (Outflow=Inflow)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1XS:** Runoff Area=367,036 sf 0.00% Impervious Runoff Depth>1.50"
Flow Length=775' Slope=0.1400 '/' Tc=23.1 min CN=72 Runoff=13.84 cfs 1.053 af

**Reach 1R: 4th Ave N Surface** Inflow=13.84 cfs 1.053 af
Outflow=13.84 cfs 1.053 af

**Reach 2R: 4th Ave N Storm Sewer**

**Total Runoff Area = 8.426 ac Runoff Volume = 1.053 af Average Runoff Depth = 1.50"**
**100.00% Pervious = 8.426 ac 0.00% Impervious = 0.000 ac**

## Summary for Subcatchment 1XS:

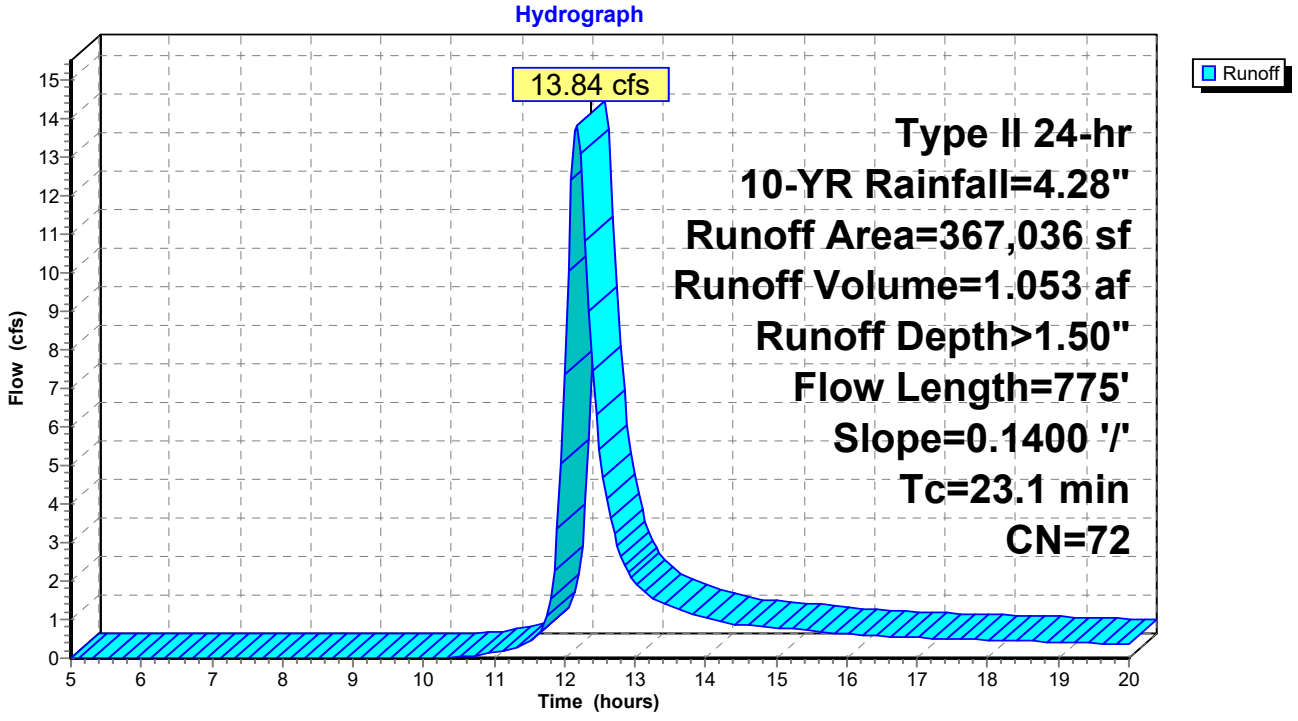
Runoff = 13.84 cfs @ 12.17 hrs, Volume= 1.053 af, Depth> 1.50"
Routed to Reach 1R : 4th Ave N Surface

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.28"

| Area (sf) | CN | Description |
|---|---|---|
| 155,068 | 74 | >75% Grass cover, Good, HSG C |
| 211,968 | 70 | Woods, Good, HSG C |
| 367,036 | 72 | Weighted Average |
| 367,036 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 23.1 | 775 | 0.1400 | 0.56 | | **Kerby Method,** Deciduous forest N= 0.60 |

## Subcatchment 1XS:



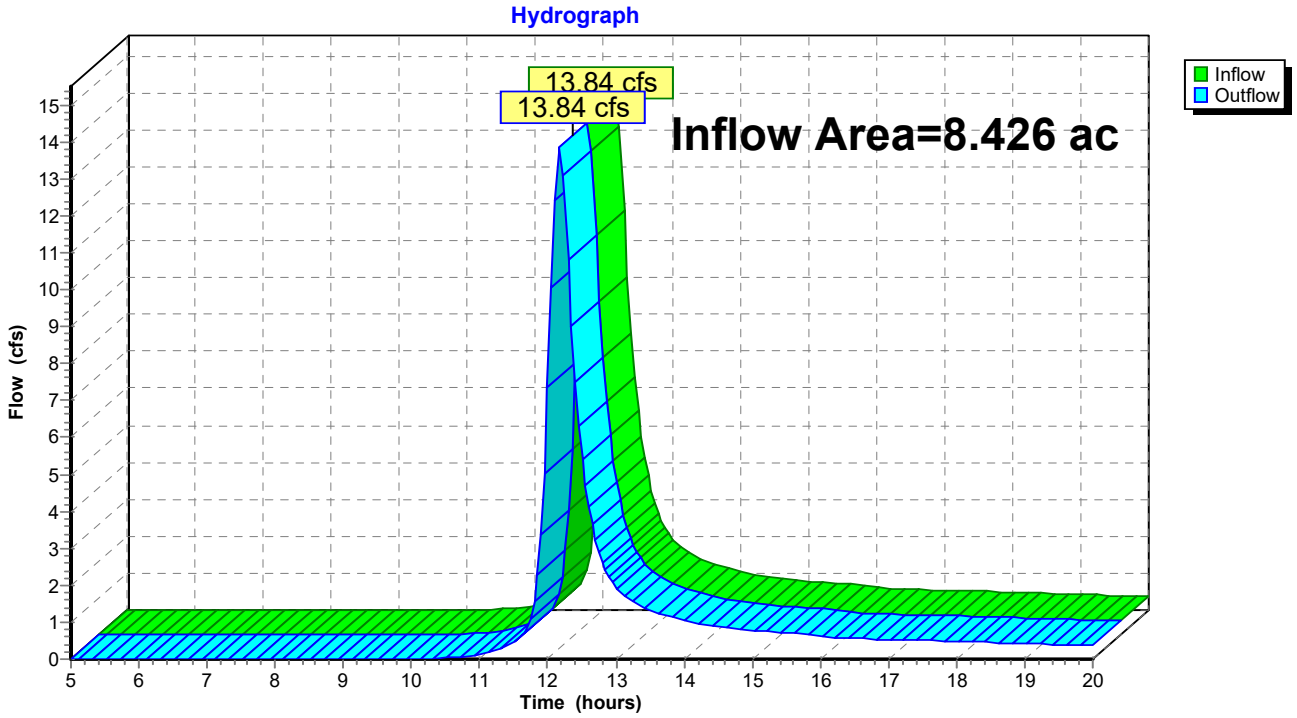
## Summary for Reach 1R: 4th Ave N Surface

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 8.426 ac, 0.00% Impervious, Inflow Depth > 1.50" for 10-YR event
Inflow = 13.84 cfs @ 12.17 hrs, Volume= 1.053 af
Outflow = 13.84 cfs @ 12.17 hrs, Volume= 1.053 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Reach 1R: 4th Ave N Surface



## Summary for Reach 2R: 4th Ave N Storm Sewer

[40] Hint: Not Described (Outflow=Inflow)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1XS:** Runoff Area=367,036 sf 0.00% Impervious Runoff Depth>3.67"
Flow Length=775' Slope=0.1400 '/' Tc=23.1 min CN=72 Runoff=34.27 cfs 2.577 af

**Reach 1R: 4th Ave N Surface** Inflow=34.27 cfs 2.577 af
Outflow=34.27 cfs 2.577 af

**Reach 2R: 4th Ave N Storm Sewer**

**Total Runoff Area = 8.426 ac Runoff Volume = 2.577 af Average Runoff Depth = 3.67"**
**100.00% Pervious = 8.426 ac 0.00% Impervious = 0.000 ac**

## Summary for Subcatchment 1XS:

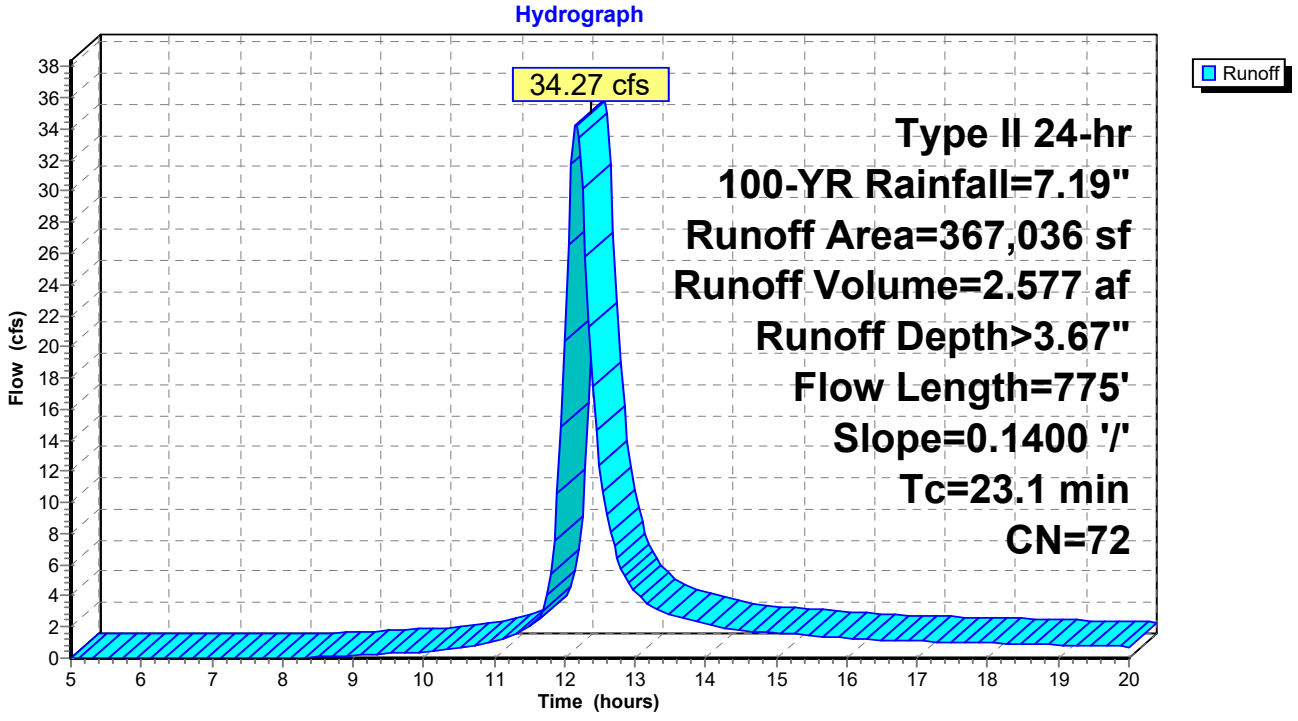
Runoff = 34.27 cfs @ 12.16 hrs, Volume= 2.577 af, Depth> 3.67"
Routed to Reach 1R : 4th Ave N Surface

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.19"

| Area (sf) | CN | Description |
|---|---|---|
| 155,068 | 74 | >75% Grass cover, Good, HSG C |
| 211,968 | 70 | Woods, Good, HSG C |
| 367,036 | 72 | Weighted Average |
| 367,036 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 23.1 | 775 | 0.1400 | 0.56 | | **Kerby Method,** Deciduous forest N= 0.60 |

## Subcatchment 1XS:



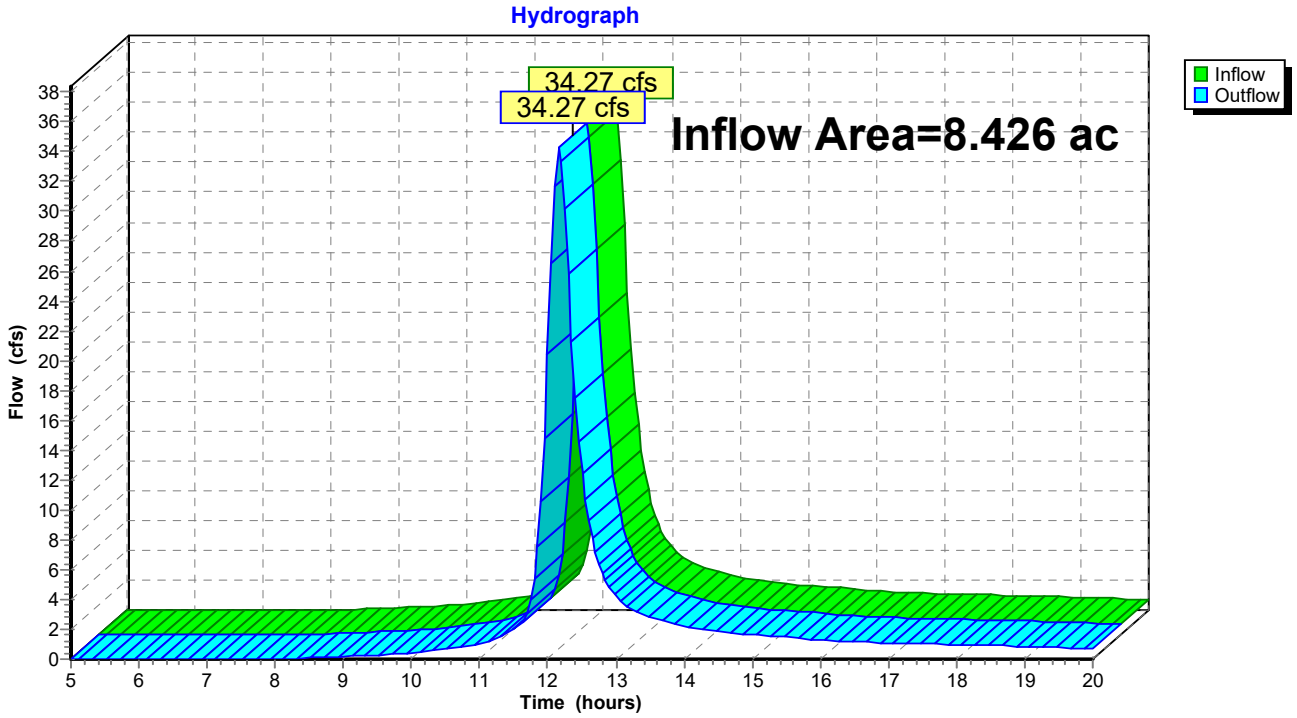
## Summary for Reach 1R: 4th Ave N Surface

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 8.426 ac, 0.00% Impervious, Inflow Depth > 3.67" for 100-YR event
Inflow = 34.27 cfs @ 12.16 hrs, Volume= 2.577 af
Outflow = 34.27 cfs @ 12.16 hrs, Volume= 2.577 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Reach 1R: 4th Ave N Surface



## Summary for Reach 2R: 4th Ave N Storm Sewer

[40] Hint: Not Described (Outflow=Inflow)

# APPENDIX 4

# Post-Development Drainage Area Map And HydroCAD Report

# POST-DEVELOPMENT DRAINAGE MAP

| | |
|---|---|
| PROPOSED SUBCATCHMENT BOUNDARY | |
| PROPOSED FLOW PATH | |
| PROPOSED IMPERVIOUS AREA | |




N

0 200

SCALE IN FEET

| | | | | |
|---|---|---|---|---|
| | DRAWN BY: ATR<br>CHECKED BY: ATR | I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL #### UNDER THE LAWS OF THE STATE OF MINNESOTA.<br>####<br>#### LIC. NO.: #### DATE: #### | DATE / REV# / REVISIONS DESCRIPTION | | |

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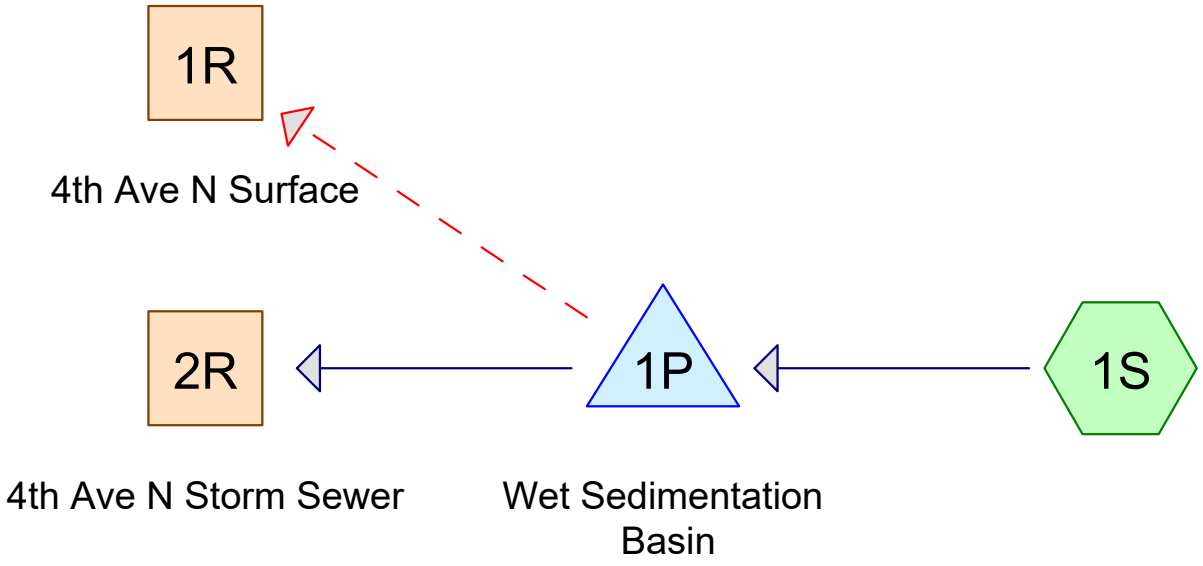
GOOD COUNCIL MEADOWS

POST-DEVELOPMENT DRAINAGE MAP

-

PROJECT #: 2025-10591

© 2025 WIDSETH FILE: W:\PROJECTS\SOUTHWEST MINNESOTA HOUSING PARTNERSHIP (SWMHP)-49049\2025-10591\CADD\CIVIL\C-DR-2025-10591.DWG PLOTTED BY: ANDRE RINGLE, August 27, 2025




Subcat Reach Pond Link

**Routing Diagram for Post-Development**
Prepared by Widseth Smith Nolting, Printed 8/27/2025
HydroCAD® 10.20-7a s/n 01722 © 2025 HydroCAD Software Solutions LLC

## Rainfall Events Listing

| Event# | Event Name | Storm Type | Curve | Mode | Duration (hours) | B/B | Depth (inches) | AMC |
|---|---|---|---|---|---|---|---|---|
| 1 | 2-YR | Type II 24-hr | | Default | 24.00 | 1 | 1.70 | 2 |
| 2 | 10-YR | Type II 24-hr | | Default | 24.00 | 1 | 4.28 | 2 |
| 3 | 100-YR | Type II 24-hr | | Default | 24.00 | 1 | 7.19 | 2 |

## Area Listing (all nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|---|---|---|
| 1.208 | 90 | 1/8 acre lots, 65% imp, HSG C (1S) |
| 2.100 | 74 | >75% Grass cover, Good, HSG C (1S) |
| 0.252 | 98 | Paved parking, HSG C (1S) |
| 4.866 | 70 | Woods, Good, HSG C (1S) |
| **8.426** | **75** | **TOTAL AREA** |

## Soil Listing (all nodes)

| Area (acres) | Soil Group | Subcatchment Numbers |
|---|---|---|
| 0.000 | HSG A | |
| 0.000 | HSG B | |
| 8.426 | HSG C | 1S |
| 0.000 | HSG D | |
| 0.000 | Other | |
| **8.426** | | **TOTAL AREA** |

## Ground Covers (all nodes)

| HSG-A (acres) | HSG-B (acres) | HSG-C (acres) | HSG-D (acres) | Other (acres) | Total (acres) | Ground Cover | Subcatchment Numbers |
|---|---|---|---|---|---|---|---|
| 0.000 | 0.000 | 1.208 | 0.000 | 0.000 | 1.208 | 1/8 acre lots, 65% imp | 1S |
| 0.000 | 0.000 | 2.100 | 0.000 | 0.000 | 2.100 | >75% Grass cover, Good | 1S |
| 0.000 | 0.000 | 0.252 | 0.000 | 0.000 | 0.252 | Paved parking | 1S |
| 0.000 | 0.000 | 4.866 | 0.000 | 0.000 | 4.866 | Woods, Good | 1S |
| **0.000** | **0.000** | **8.426** | **0.000** | **0.000** | **8.426** | **TOTAL AREA** | |

## Pipe Listing (all nodes)

| Line# | Node Number | In-Invert (feet) | Out-Invert (feet) | Length (feet) | Slope (ft/ft) | n | Width (inches) | Diam/Height (inches) | Inside-Fill (inches) | Node Name |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1P | 854.35 | 852.70 | 165.0 | 0.0100 | 0.013 | 0.0 | 15.0 | 0.0 | |

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1S:** Runoff Area=367,036 sf 12.31% Impervious Runoff Depth>0.21"
Flow Length=565' Slope=0.3300 '/' Tc=18.7 min CN=75 Runoff=1.62 cfs 0.147 af

**Reach 1R: 4th Ave N Surface** Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

**Reach 2R: 4th Ave N Storm Sewer** Inflow=0.22 cfs 0.109 af
Outflow=0.22 cfs 0.109 af

**Pond 1P: Wet Sedimentation Basin** Peak Elev=856.96' Storage=39,155 cf Inflow=1.62 cfs 0.147 af
Primary=0.22 cfs 0.109 af Secondary=0.00 cfs 0.000 af Outflow=0.22 cfs 0.109 af

**Total Runoff Area = 8.426 ac Runoff Volume = 0.147 af Average Runoff Depth = 0.21"**
**87.69% Pervious = 7.389 ac 12.31% Impervious = 1.037 ac**

## Summary for Subcatchment 1S:

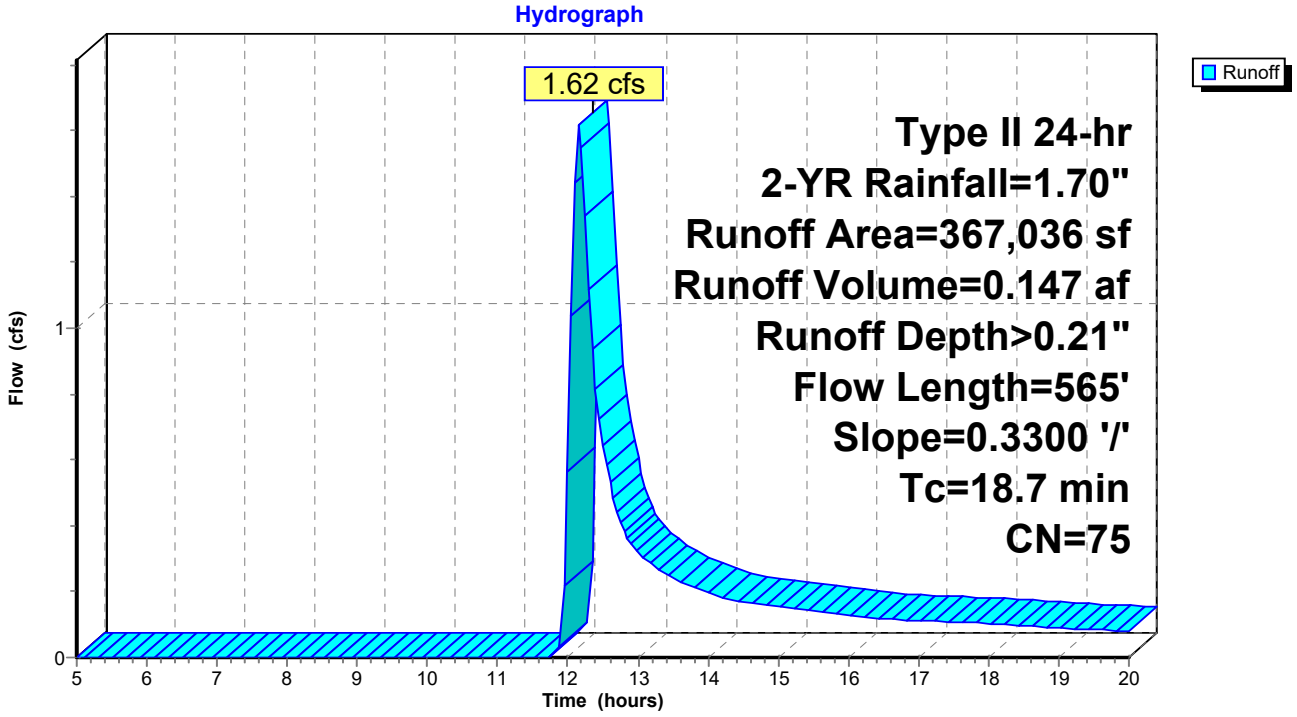
Runoff = 1.62 cfs @ 12.16 hrs, Volume= 0.147 af, Depth> 0.21"
Routed to Pond 1P : Wet Sedimentation Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YR Rainfall=1.70"

| Area (sf) | CN | Description |
|---|---|---|
| 91,485 | 74 | >75% Grass cover, Good, HSG C |
| 211,968 | 70 | Woods, Good, HSG C |
| 52,625 | 90 | 1/8 acre lots, 65% imp, HSG C |
| 10,958 | 98 | Paved parking, HSG C |
| 367,036 | 75 | Weighted Average |
| 321,872 | | 87.69% Pervious Area |
| 45,164 | | 12.31% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 18.7 | 565 | 0.3300 | 0.50 | | **Kerby Method,** Deciduous forest with deep litter N= 0.80 |

## Subcatchment 1S:



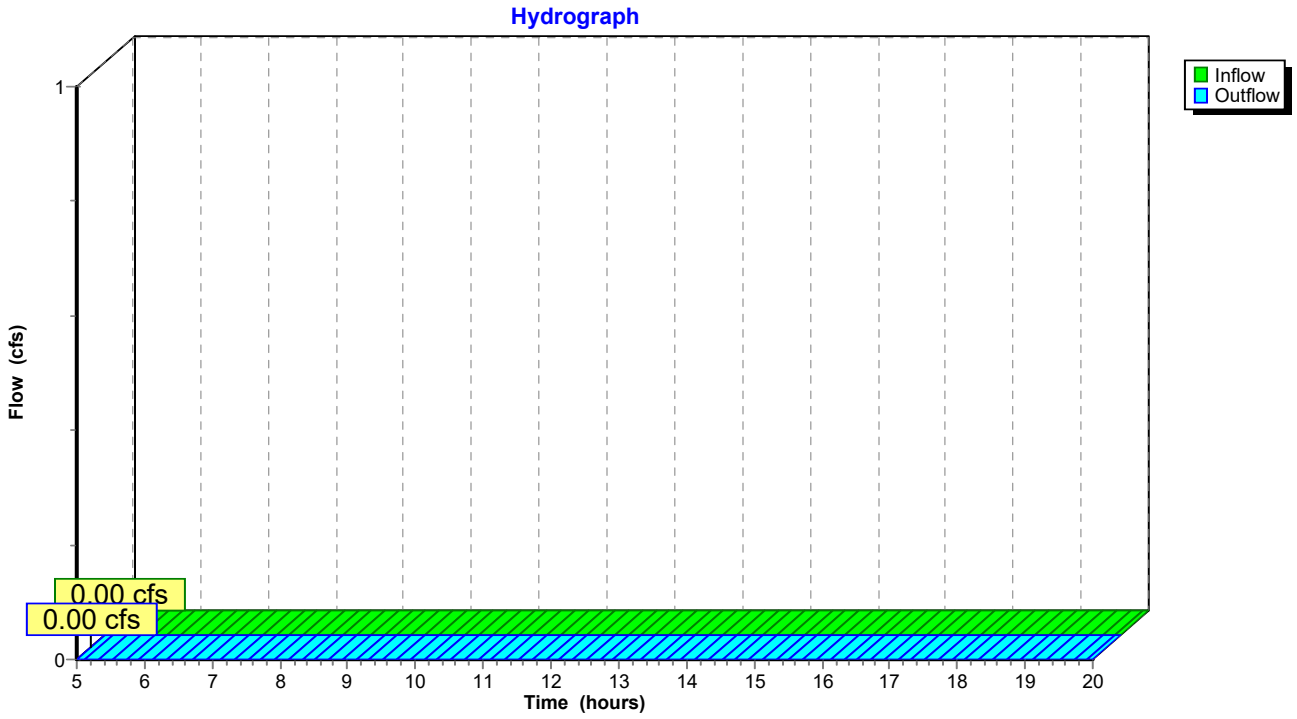
## Summary for Reach 1R: 4th Ave N Surface

[40] Hint: Not Described (Outflow=Inflow)

| | | | | | |
|---|---|---|---|---|---|
| Inflow | = | 0.00 cfs @ | 5.00 hrs, | Volume= | 0.000 af |
| Outflow | = | 0.00 cfs @ | 5.00 hrs, | Volume= | 0.000 af, Atten= 0%, Lag= 0.0 min |

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Reach 1R: 4th Ave N Surface



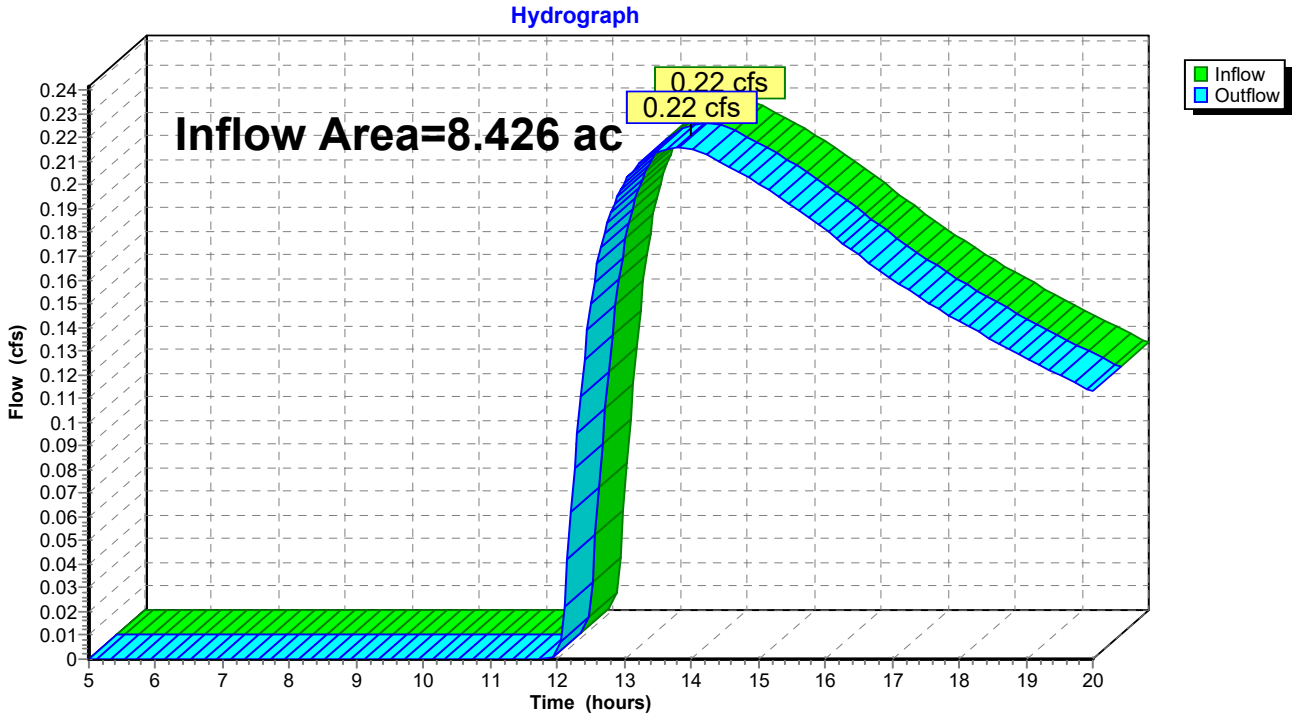
## Summary for Reach 2R: 4th Ave N Storm Sewer

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 8.426 ac, 12.31% Impervious, Inflow Depth > 0.16" for 2-YR event
Inflow = 0.22 cfs @ 13.78 hrs, Volume= 0.109 af
Outflow = 0.22 cfs @ 13.78 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Reach 2R: 4th Ave N Storm Sewer



## Summary for Pond 1P: Wet Sedimentation Basin

Inflow Area = 8.426 ac, 12.31% Impervious, Inflow Depth > 0.21" for 2-YR event
Inflow = 1.62 cfs @ 12.16 hrs, Volume= 0.147 af
Outflow = 0.22 cfs @ 13.78 hrs, Volume= 0.109 af, Atten= 87%, Lag= 97.2 min
Primary = 0.22 cfs @ 13.78 hrs, Volume= 0.109 af
Routed to Reach 2R : 4th Ave N Storm Sewer
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 1R : 4th Ave N Surface

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 856.80' Surf.Area= 15,216 sf Storage= 36,590 cf
Peak Elev= 856.96' @ 13.78 hrs Surf.Area= 16,034 sf Storage= 39,155 cf (2,565 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 92.5 min ( 946.4 - 853.9 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 852.80' | 152,443 cf | **Custom Stage Data (Prismatic)** Listed below (Recalc) |

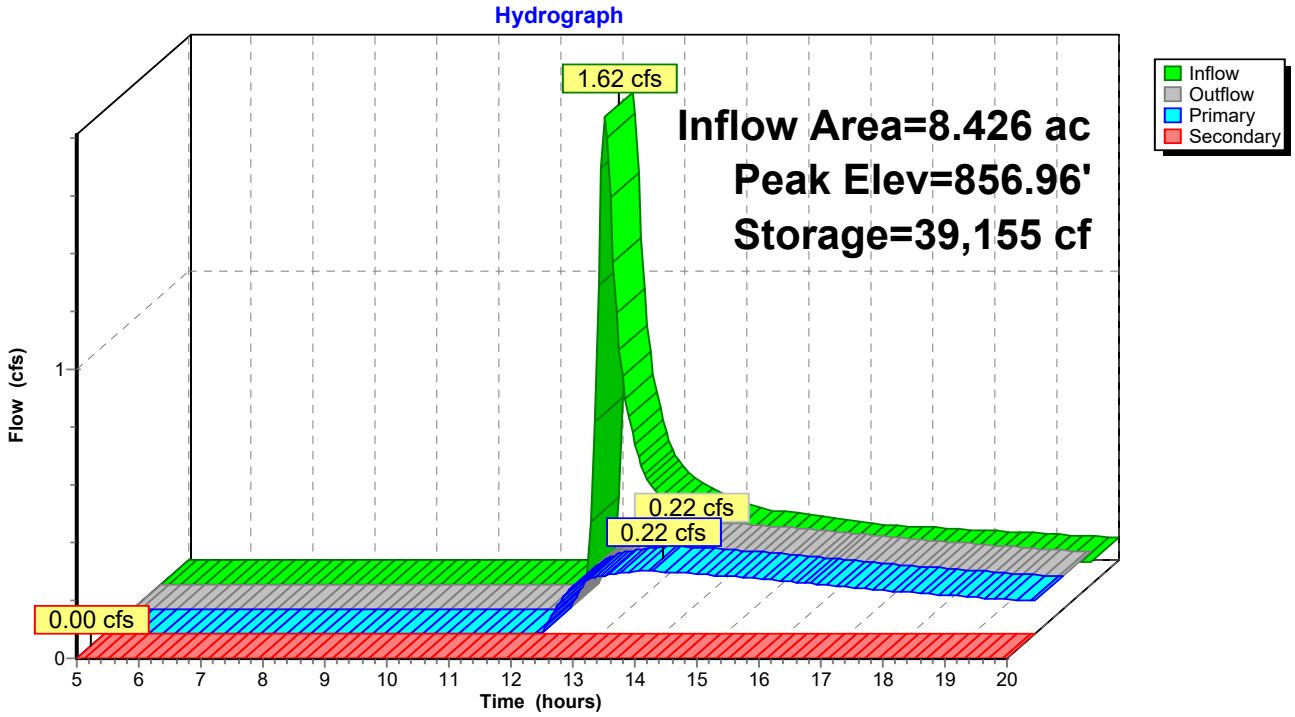
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
|---|---|---|---|
| 852.80 | 5,928 | 0 | 0 |
| 855.80 | 10,045 | 23,960 | 23,960 |
| 856.80 | 15,216 | 12,631 | 36,590 |
| 857.00 | 16,212 | 3,143 | 39,733 |
| 858.00 | 19,492 | 17,852 | 57,585 |
| 859.00 | 28,010 | 23,751 | 81,336 |
| 860.00 | 38,068 | 33,039 | 114,375 |
| 861.00 | 38,068 | 38,068 | 152,443 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 854.35' | **15.0" Round RCP_Round 15"** L= 165.0' Ke= 0.500<br>Inlet / Outlet Invert= 854.35' / 852.70' S= 0.0100 '/' Cc= 0.900<br>n= 0.013 Concrete pipe, straight & clean, Flow Area= 1.23 sf |
| #2 | Device 1 | 856.80' | **1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)<br>2.0' Crest Height |
| #3 | Device 1 | 858.80' | **4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)<br>2.0' Crest Height |
| #4 | Secondary | 860.66' | **10.0' long x 20.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60<br>Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63 |

**Primary OutFlow** Max=0.21 cfs @ 13.78 hrs HW=856.96' (Free Discharge)
└**1=RCP_Round 15"** (Passes 0.21 cfs of 7.39 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.21 cfs @ 1.34 fps)
└**3=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 5.00 hrs HW=856.80' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Pond 1P: Wet Sedimentation Basin



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1S:** Runoff Area=367,036 sf 12.31% Impervious Runoff Depth>1.71"
Flow Length=565' Slope=0.3300 '/' Tc=18.7 min CN=75 Runoff=18.03 cfs 1.202 af

**Reach 1R: 4th Ave N Surface** Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

**Reach 2R: 4th Ave N Storm Sewer** Inflow=3.88 cfs 1.089 af
Outflow=3.88 cfs 1.089 af

**Pond 1P: Wet Sedimentation Basin** Peak Elev=858.10' Storage=59,643 cf Inflow=18.03 cfs 1.202 af
Primary=3.88 cfs 1.089 af Secondary=0.00 cfs 0.000 af Outflow=3.88 cfs 1.089 af

**Total Runoff Area = 8.426 ac Runoff Volume = 1.202 af Average Runoff Depth = 1.71"**
**87.69% Pervious = 7.389 ac 12.31% Impervious = 1.037 ac**

## Summary for Subcatchment 1S:

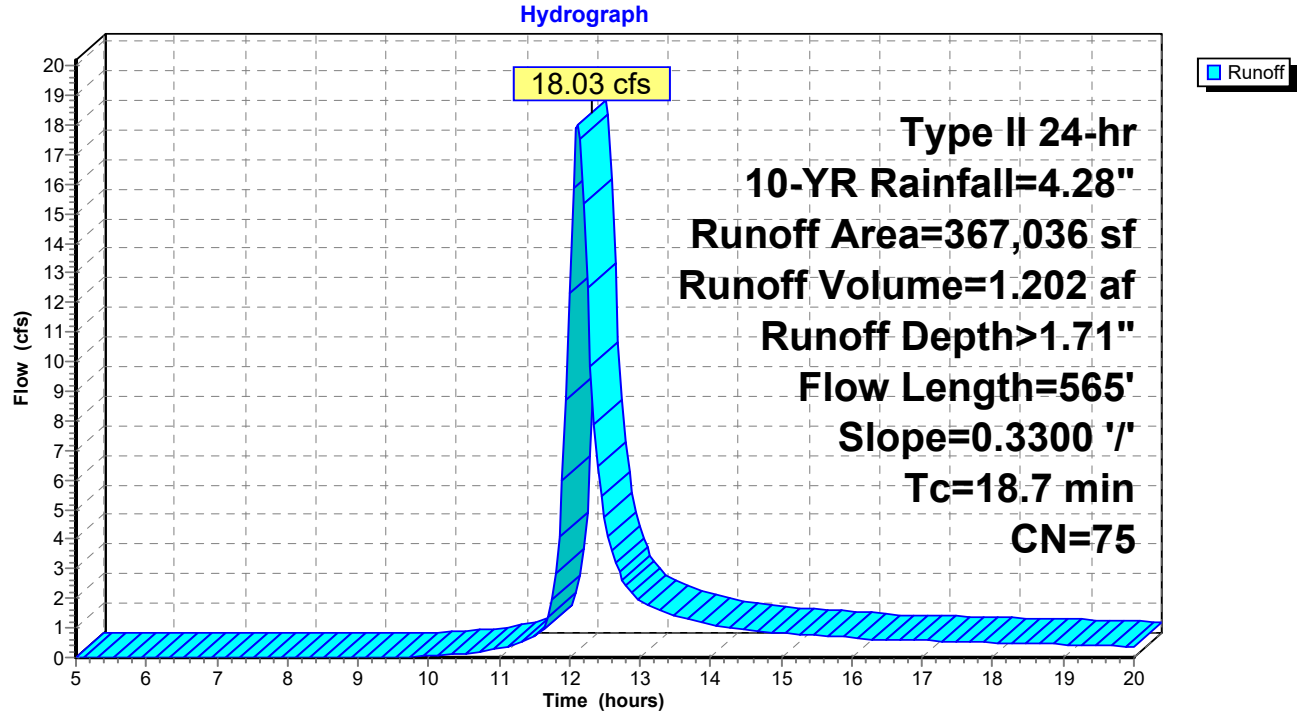
Runoff = 18.03 cfs @ 12.12 hrs, Volume= 1.202 af, Depth> 1.71"
Routed to Pond 1P : Wet Sedimentation Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YR Rainfall=4.28"

| Area (sf) | CN | Description |
|---|---|---|
| 91,485 | 74 | >75% Grass cover, Good, HSG C |
| 211,968 | 70 | Woods, Good, HSG C |
| 52,625 | 90 | 1/8 acre lots, 65% imp, HSG C |
| 10,958 | 98 | Paved parking, HSG C |
| 367,036 | 75 | Weighted Average |
| 321,872 | | 87.69% Pervious Area |
| 45,164 | | 12.31% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 18.7 | 565 | 0.3300 | 0.50 | | **Kerby Method,** Deciduous forest with deep litter N= 0.80 |

## Subcatchment 1S:



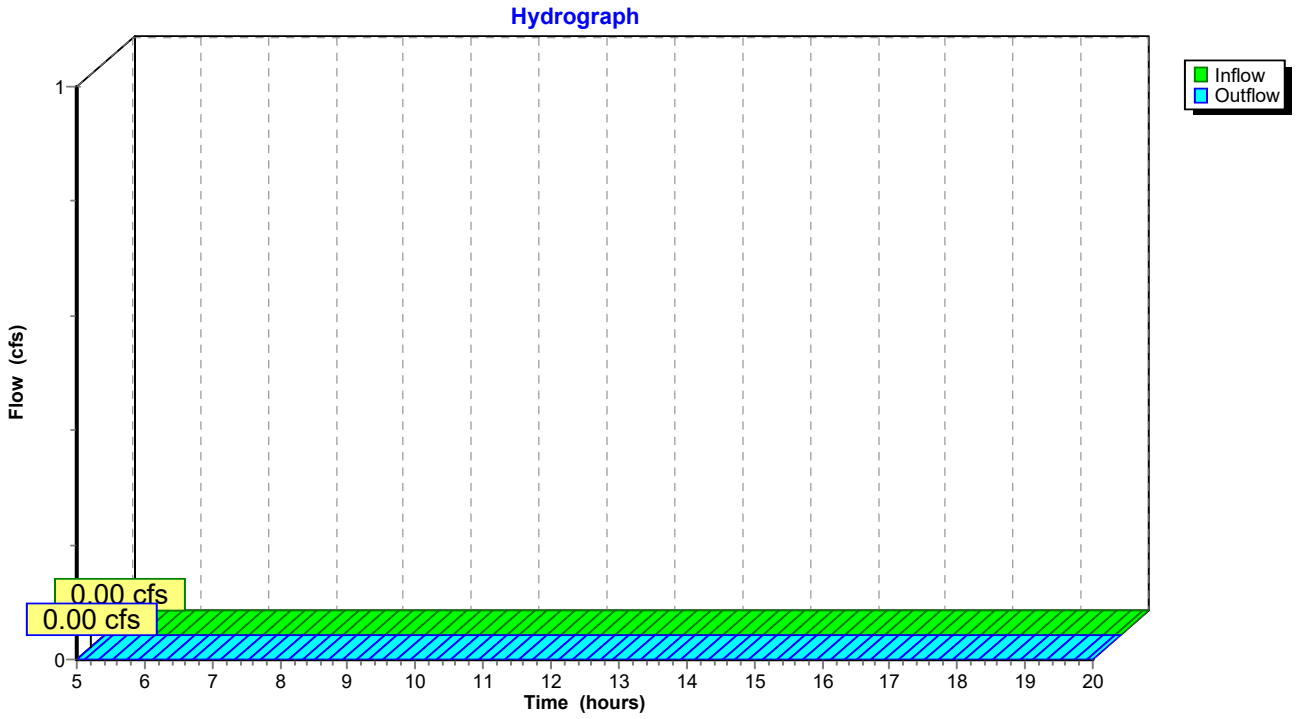
## Summary for Reach 1R: 4th Ave N Surface

[40] Hint: Not Described (Outflow=Inflow)

| | | | | | |
|---|---|---|---|---|---|
| Inflow | = | 0.00 cfs @ | 5.00 hrs, | Volume= | 0.000 af |
| Outflow | = | 0.00 cfs @ | 5.00 hrs, | Volume= | 0.000 af, Atten= 0%, Lag= 0.0 min |

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

## Reach 1R: 4th Ave N Surface



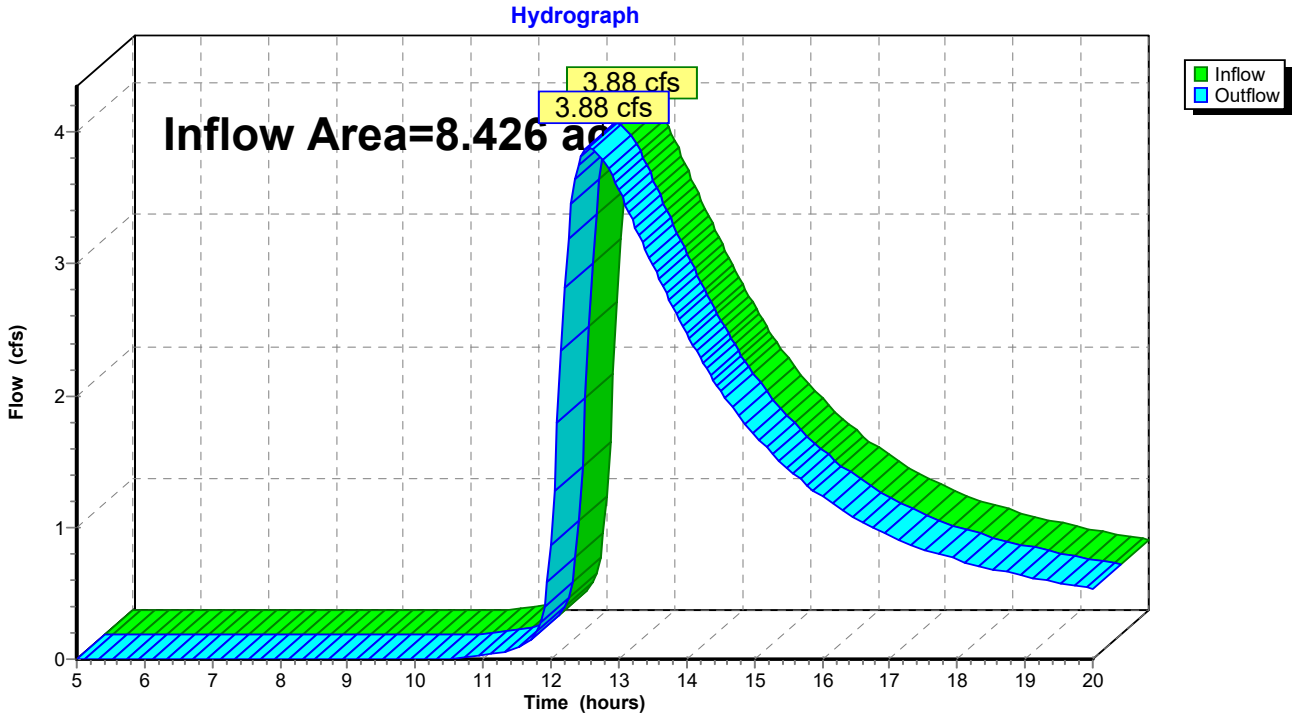
## Summary for Reach 2R: 4th Ave N Storm Sewer

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 8.426 ac, 12.31% Impervious, Inflow Depth > 1.55" for 10-YR event
Inflow = 3.88 cfs @ 12.57 hrs, Volume= 1.089 af
Outflow = 3.88 cfs @ 12.57 hrs, Volume= 1.089 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Reach 2R: 4th Ave N Storm Sewer



## Summary for Pond 1P: Wet Sedimentation Basin

Inflow Area = 8.426 ac, 12.31% Impervious, Inflow Depth > 1.71" for 10-YR event
Inflow = 18.03 cfs @ 12.12 hrs, Volume= 1.202 af
Outflow = 3.88 cfs @ 12.57 hrs, Volume= 1.089 af, Atten= 78%, Lag= 27.3 min
Primary = 3.88 cfs @ 12.57 hrs, Volume= 1.089 af
Routed to Reach 2R : 4th Ave N Storm Sewer
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 1R : 4th Ave N Surface

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 856.80' Surf.Area= 15,216 sf Storage= 36,590 cf
Peak Elev= 858.10' @ 12.57 hrs Surf.Area= 20,371 sf Storage= 59,643 cf (23,053 cf above start)

Plug-Flow detention time= 362.1 min calculated for 0.249 af (21% of inflow)
Center-of-Mass det. time= 73.2 min ( 877.6 - 804.4 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 852.80' | 152,443 cf | **Custom Stage Data (Prismatic)** Listed below (Recalc) |

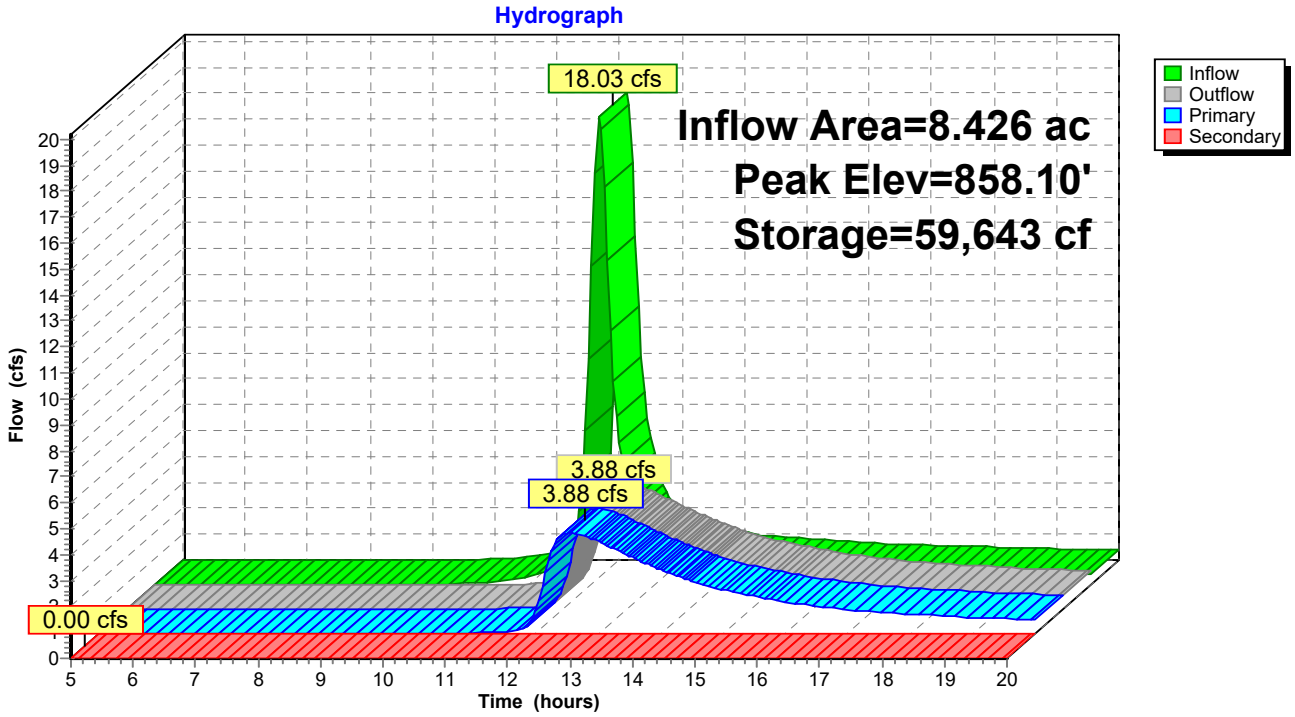
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
|---|---|---|---|
| 852.80 | 5,928 | 0 | 0 |
| 855.80 | 10,045 | 23,960 | 23,960 |
| 856.80 | 15,216 | 12,631 | 36,590 |
| 857.00 | 16,212 | 3,143 | 39,733 |
| 858.00 | 19,492 | 17,852 | 57,585 |
| 859.00 | 28,010 | 23,751 | 81,336 |
| 860.00 | 38,068 | 33,039 | 114,375 |
| 861.00 | 38,068 | 38,068 | 152,443 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 854.35' | **15.0" Round RCP_Round 15"** L= 165.0' Ke= 0.500<br>Inlet / Outlet Invert= 854.35' / 852.70' S= 0.0100 '/' Cc= 0.900<br>n= 0.013 Concrete pipe, straight & clean, Flow Area= 1.23 sf |
| #2 | Device 1 | 856.80' | **1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)<br>2.0' Crest Height |
| #3 | Device 1 | 858.80' | **4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)<br>2.0' Crest Height |
| #4 | Secondary | 860.66' | **10.0' long x 20.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60<br>Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63 |

**Primary OutFlow** Max=3.88 cfs @ 12.57 hrs HW=858.10' (Free Discharge)
└**1=RCP_Round 15"** (Passes 3.88 cfs of 8.68 cfs potential flow)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 3.88 cfs @ 4.03 fps)
└**3=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 5.00 hrs HW=856.80' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Pond 1P: Wet Sedimentation Basin



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment1S:** Runoff Area=367,036 sf 12.31% Impervious Runoff Depth>3.99"
Flow Length=565' Slope=0.3300 '/' Tc=18.7 min CN=75 Runoff=41.75 cfs 2.802 af

**Reach 1R: 4th Ave N Surface** Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

**Reach 2R: 4th Ave N Storm Sewer** Inflow=9.88 cfs 2.622 af
Outflow=9.88 cfs 2.622 af

**Pond 1P: Wet Sedimentation Basin** Peak Elev=859.34' Storage=91,372 cf Inflow=41.75 cfs 2.802 af
Primary=9.88 cfs 2.622 af Secondary=0.00 cfs 0.000 af Outflow=9.88 cfs 2.622 af

**Total Runoff Area = 8.426 ac Runoff Volume = 2.802 af Average Runoff Depth = 3.99"**
**87.69% Pervious = 7.389 ac 12.31% Impervious = 1.037 ac**

## Summary for Subcatchment 1S:

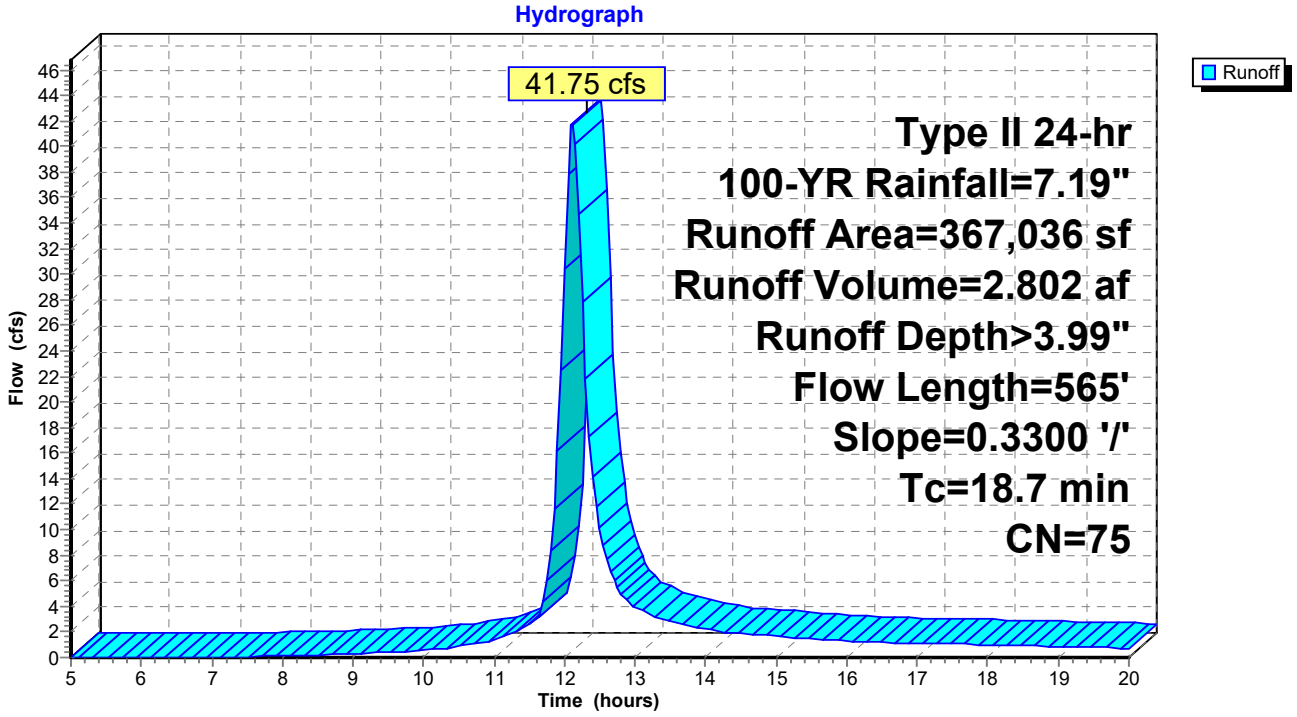
Runoff = 41.75 cfs @ 12.11 hrs, Volume= 2.802 af, Depth> 3.99"
Routed to Pond 1P : Wet Sedimentation Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YR Rainfall=7.19"

| Area (sf) | CN | Description |
|---|---|---|
| 91,485 | 74 | >75% Grass cover, Good, HSG C |
| 211,968 | 70 | Woods, Good, HSG C |
| 52,625 | 90 | 1/8 acre lots, 65% imp, HSG C |
| 10,958 | 98 | Paved parking, HSG C |
| 367,036 | 75 | Weighted Average |
| 321,872 | | 87.69% Pervious Area |
| 45,164 | | 12.31% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 18.7 | 565 | 0.3300 | 0.50 | | **Kerby Method,** Deciduous forest with deep litter N= 0.80 |

## Subcatchment 1S:



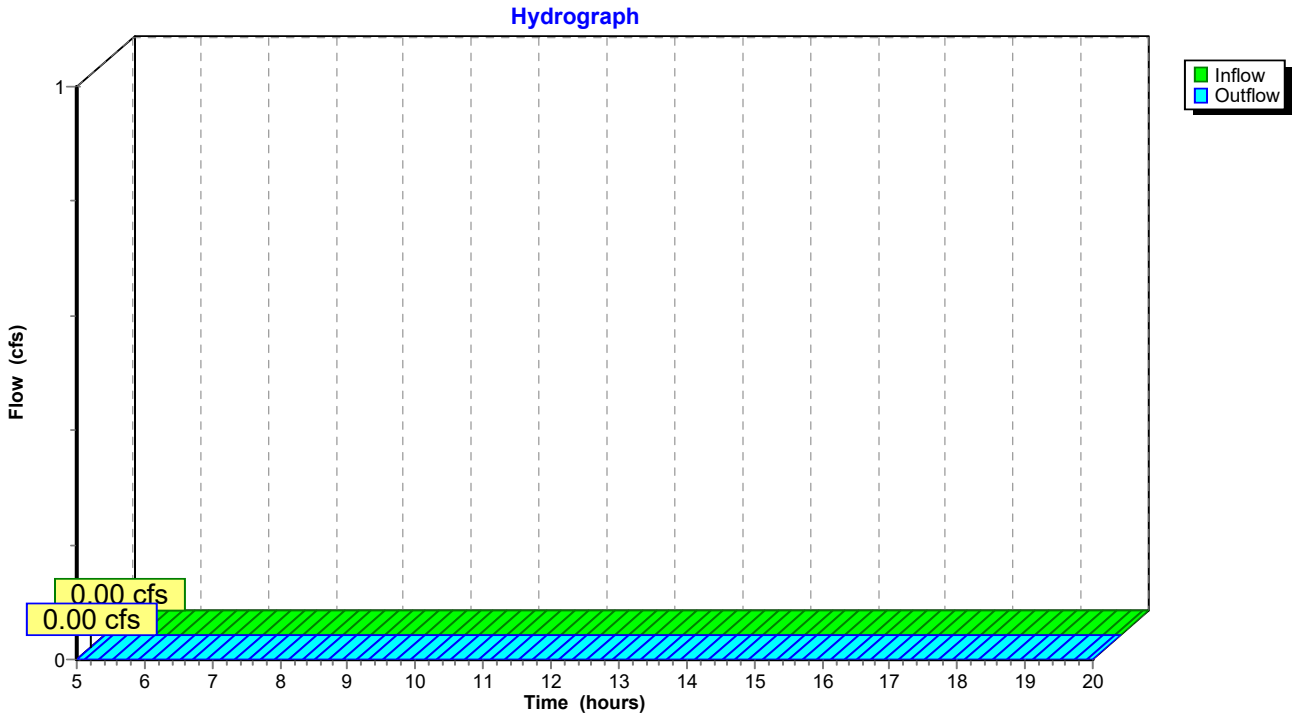
## Summary for Reach 1R: 4th Ave N Surface

[40] Hint: Not Described (Outflow=Inflow)

| | | | | | |
|---|---|---|---|---|---|
| Inflow | = | 0.00 cfs @ | 5.00 hrs, | Volume= | 0.000 af |
| Outflow | = | 0.00 cfs @ | 5.00 hrs, | Volume= | 0.000 af, Atten= 0%, Lag= 0.0 min |

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Reach 1R: 4th Ave N Surface



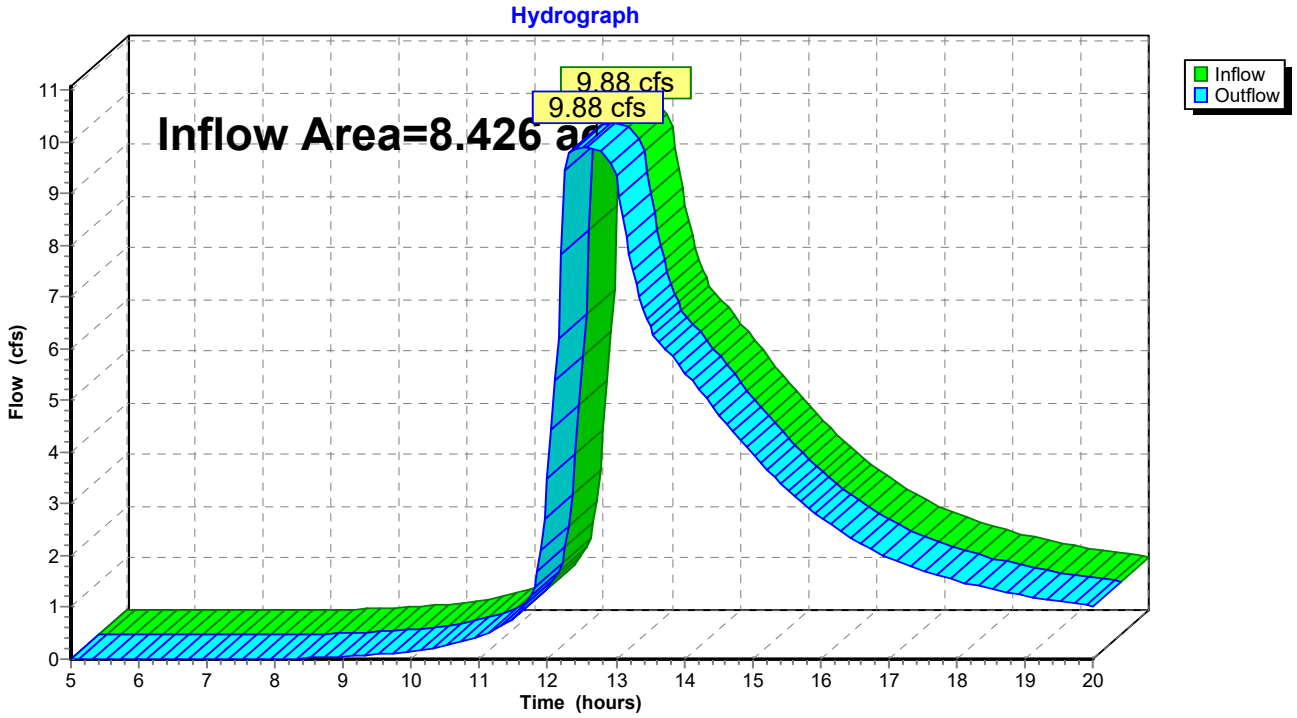
## Summary for Reach 2R: 4th Ave N Storm Sewer

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 8.426 ac, 12.31% Impervious, Inflow Depth > 3.73" for 100-YR event
Inflow = 9.88 cfs @ 12.51 hrs, Volume= 2.622 af
Outflow = 9.88 cfs @ 12.51 hrs, Volume= 2.622 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

### Reach 2R: 4th Ave N Storm Sewer



## Summary for Pond 1P: Wet Sedimentation Basin

Inflow Area = 8.426 ac, 12.31% Impervious, Inflow Depth > 3.99" for 100-YR event
Inflow = 41.75 cfs @ 12.11 hrs, Volume= 2.802 af
Outflow = 9.88 cfs @ 12.51 hrs, Volume= 2.622 af, Atten= 76%, Lag= 23.9 min
Primary = 9.88 cfs @ 12.51 hrs, Volume= 2.622 af
Routed to Reach 2R : 4th Ave N Storm Sewer
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 1R : 4th Ave N Surface

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 856.80' Surf.Area= 15,216 sf Storage= 36,590 cf
Peak Elev= 859.34' @ 12.51 hrs Surf.Area= 31,408 sf Storage= 91,372 cf (54,782 cf above start)

Plug-Flow detention time= 200.7 min calculated for 1.782 af (64% of inflow)
Center-of-Mass det. time= 73.8 min ( 860.2 - 786.5 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 852.80' | 152,443 cf | **Custom Stage Data (Prismatic)** Listed below (Recalc) |

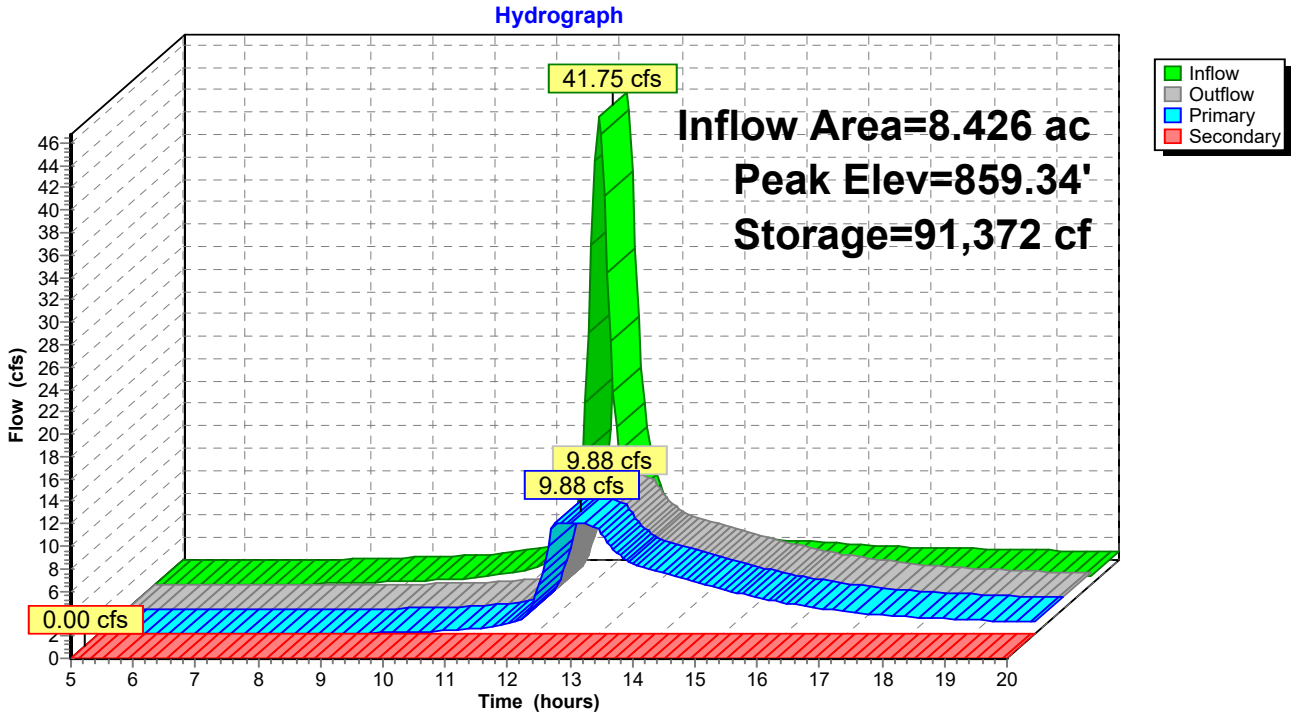
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
|---|---|---|---|
| 852.80 | 5,928 | 0 | 0 |
| 855.80 | 10,045 | 23,960 | 23,960 |
| 856.80 | 15,216 | 12,631 | 36,590 |
| 857.00 | 16,212 | 3,143 | 39,733 |
| 858.00 | 19,492 | 17,852 | 57,585 |
| 859.00 | 28,010 | 23,751 | 81,336 |
| 860.00 | 38,068 | 33,039 | 114,375 |
| 861.00 | 38,068 | 38,068 | 152,443 |

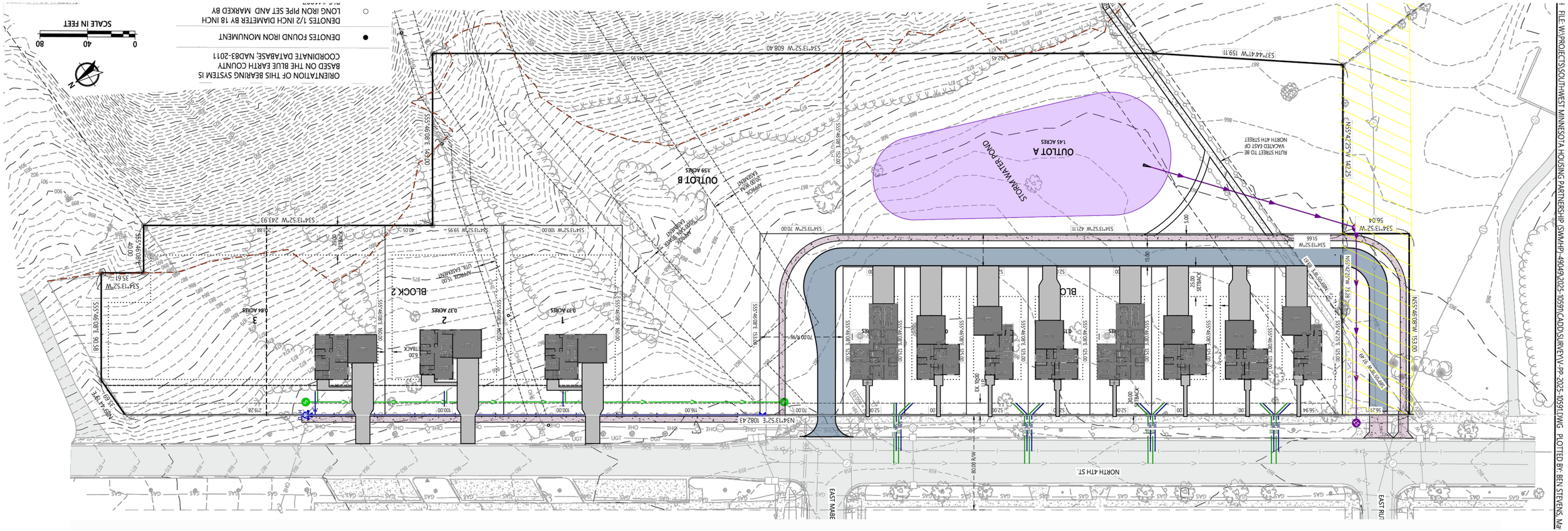
| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 854.35' | **15.0" Round RCP_Round 15"** L= 165.0' Ke= 0.500<br>Inlet / Outlet Invert= 854.35' / 852.70' S= 0.0100 '/' Cc= 0.900<br>n= 0.013 Concrete pipe, straight & clean, Flow Area= 1.23 sf |
| #2 | Device 1 | 856.80' | **1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)<br>2.0' Crest Height |
| #3 | Device 1 | 858.80' | **4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)<br>2.0' Crest Height |
| #4 | Secondary | 860.66' | **10.0' long x 20.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60<br>Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63 |

**Primary OutFlow** Max=9.88 cfs @ 12.51 hrs HW=859.34' (Free Discharge)
└**1=RCP_Round 15"** (Barrel Controls 9.88 cfs @ 8.05 fps)
└**2=Sharp-Crested Rectangular Weir** (Passes < 7.63 cfs potential flow)
└**3=Sharp-Crested Rectangular Weir** (Passes < 5.18 cfs potential flow)

**Secondary OutFlow** Max=0.00 cfs @ 5.00 hrs HW=856.80' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Pond 1P: Wet Sedimentation Basin






SOUTHWEST MINNESOTA Housing Partnership

# GOOD COUNSEL MEADOWS ARCHITECTURAL CONCEPT PLAN JUNE 2025

I FILE: W:\PROJECTS\SOUTHWEST MINNESOTA HOUSING PARTNERSHIP (SWMHP)-49049\2025-1059\CADD\SURVEY\V-PP-2025-10591.DWG PLOTTED BY: BEN.STEVENS, Ma

**Meeting Date:** 09/24/2025

**Title**

CY 47-25

**Request of ISG, with permission of the property owner, for a conditional use permit to allow unenclosed storage of materials, products and equipment in the PI, Planned Industrial, zoning district, and for a conditional use permit to allow for exterior fluid/fuel storage tanks. The subject properties are described as all of Lots 1 thru 3 and all of Lots 6, Lundin Industrial Park. (304 Lundin Blvd; PID R010906126035).**

*The anticipated date of City Council action is October 14, 2025.*

**Applicant**

The applicant is ISG, with permission of the property owner.

**Request**

The applicant is requesting a conditional use permit to allow unenclosed storage of materials, products and equipment in the PI, Planned Industrial, zoning district, and for a conditional use permit to allow for exterior fluid/fuel storage tanks.

**Location**

The subject properties are described as all of Lots 1 thru 3 and all of Lots 6, Lundin Industrial Park. (304 Lundin Blvd; PID R010906126035).

**Existing Land Use**

The property contains a building that has been used for industrial purposes.

**Zoning**

The property is zoned PI, Planned Industrial.

**Environmentally Sensitive Areas**

There are no known environmentally sensitive areas on site.

**Public Utilities**

Public utilities are connected to the existing building. No modifications are proposed with this development.

**City Code**

Mankato City Code Chapter 10. Article VII. Division 2. Provides standards for the PI Planned Industrial District. Linked Here:
https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=CH10LAUSDE_ARTVIIINDI_DIV2PIPLINDI

Mankato City Code Chapter 10. Article X. Division 2. Section 10-1503. Provides standards for Aboveground storage and dispensing of flammable and combustible liquids. Linked Here: https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=PTIICOOR_CH10LAUSDE_ARTXSTGEAP_DIV2SPPRAPSPPECOUS_S10-1503ABSTDIFLCOLI

Mankato City Code Chapter 10. Article X. Division 2. Section 10-1497. Provides standards for Outside storage of materials in commercial, and industrial districts. Linked Here: https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=PTIICOOR_CH10LAUSDE_ARTXSTGEAP_DIV2SPPRAPSPPECOUS_S10-1497OUSTMACOINDI

**Site Plan Review Comments**

The Site Plan and Traffic Committee reviewed the request at their September 9th, 2025 meeting and the following comments were provided. The applicant subsequently replied, as shown in the italics:

a. The applicant shall provide a storm water management plan in accordance with City standards and MS4 permit for the new and fully reconstruct impervious area. *"ISG Response: ISG is coordinating with the Interim City Engineer to address this comment."*
b. The applicant shall provide plans detailing the size, location, status, contents, usage and any associated site improvements for all existing or proposed aboveground tanks on site. *"ISG Response: Please see attached fuel tank exhibit which identifies a new 1,000-gallon diesel / HVO tank., and existing 200-gallon diesel tank to be relocated, and an existing 1,000-lb LP tank to remain".*
c. The applicant shall provide tank detail sheets for all existing or proposed aboveground tanks on site. *"ISG Response: Detail sheets can be provided upon completion of final design."*
d. The applicant shall be aware that dispensing of flammable/combustible liquids stored within exterior above-ground storage tanks is limited to a maximum of three tanks on site. *"ISG Response: Thank you for the information. The design has been modified to now include only a total of three above-ground tanks."*
e. The applicant shall work with the MPCA to obtain any necessary permits or permissions associated with instillation or usage of above-ground tanks on site. *"ISG Response: The MPCA will be consulted, and all required permits will be obtained."*
f. The applicant shall provide proof that they have obtained, or proof that they do not need, an industrial stormwater permit. *"ISG Response: Rolls-Royce currently holds an MPCA Industrial Stormwater Permit (MNR05398F)."*
g. The applicant should be aware that a separate fire permit is needed for the proposed above-ground tanks. *"ISG Response: Understood. Thank you for the information."*
h. The applicant should be aware that all signage must be reviewed and permitted prior to installation. *"ISG Response: Understood. Thank you for the information."*
i. If traffic associated with the use of the property causes undue traffic concerns on Lundin Blvd., the applicant shall be required to complete a traffic study and make the recommended modifications needed to mitigate these conditions. *"ISG Response: Understood. The owner has been advised."*
j. The applicant should be aware that outdoor storage is limited to operable equipment only. Inoperable or unlicensed equipment will not be permitted. Wrecked, dismantled, partially dismantled, inoperative, or abandoned vehicles or machinery shall be prohibited. *"ISG Response: Understood. The owner has been advised."*
k. The applicant shall provide screening of 90% opacity or greater for the proposed exterior storage in accordance with Mankato City Code. *"ISG Response: Please refer to Civil plans and fencing details."*
l. A snow storage plan shall be submitted and approved. Snow storage shall be in conformance with an approved plan. *"ISG Response: Snow will be removed from site by a snow removal contractor."*
m. On-site lighting shall conform to the lighting standards in the Mankato City Code, including but not limited to full-cut, fully shielded fixtures. Conformance shall include, but not limited to, all signage, building, and parking lot lighting. *"ISG Response: Please refer to the photometric plans previously submitted."*
n. Landscaping shall be installed in conformance with the Mankato City Code and in accordance with an approved landscaping plan prior to issuance of a certificate of occupancy. *"ISG Response: Please refer to the plans previously submitted."*
o. The applicant shall provide updated plans that reflect modifications from the originally submitted application documents. *"ISG Response: Please see the attached updated materials."*
p. If not already complete, the applicant shall log into the online portal and make the necessary notification fee payments. *"ISG Response: All fees assessed via the portal have been paid. Should any additional fees come due, please advise and payment will be promptly remitted."*

**Review**

The applicant is requesting a conditional use permit to allow unenclosed storage in the Planned Industrial (PI) Zoning District, as well as a conditional use permit for the installation of exterior fluid and fuel storage tanks on the property located at 304 Lundin Boulevard. The proposed use of the property includes the unenclosed storage of materials, products, equipment, and exterior fuel storage tanks.
The site was previously utilized as a multi-tenant industrial facility. With one tenant relocating, the applicant intends to occupy the entire building. The unenclosed storage area will be located along the western portion of the site. Rolls-Royce Solutions America, Inc. plans to use the building for the assembly of low-power range (LPR) engine-generator sets, marketed under the “mtu, A Rolls-Royce Solution” brand.
Under the Mankato City Code, unenclosed storage of materials, products, and equipment is permitted in the PI District with the issuance of a conditional use permit, provided that the proposal complies with the standards established in Chapter 10, Article X, Division 2.
The submitted site plan depicts the modification of an existing multi-tenant industrial building and associated outdoor storage area on a parcel exceeding 300,000 square feet, located north of Lundin Boulevard. The property has five points of access along Lundin Boulevard: four are existing and will be retained, and one new access will be constructed near the southwest corner of the site. The creation of this new access will coincide with the closure of a nearby existing access, thereby maintaining the total number of access points along Lundin Boulevard.
Parking on the site has been reconfigured to improve circulation and access. The majority of off-street parking will be provided in a large lot north of the building, accommodating most of the development’s 133 stalls. Three stalls will be located south of the building, including one accessible stall. City Code Section 10-1640 requires four off-street parking spaces, plus one additional space per employee on the largest shift, or one space per 300 square feet of floor area, whichever is greater. With 60 employees expected per major shift, a minimum of 64 parking spaces is required. The site plan provides 133 stalls, including 128 standard stalls, five accessible stalls, and five motorcycle stalls, thereby exceeding the minimum requirement.
Because the development provides more than 40 automobile spaces, bicycle parking is also required at a rate of five percent of the total automobile stalls. The applicant has proposed the installation of a seven-stall

wave-style bicycle rack north of the building to meet this requirement.
The designated outdoor storage area will undergo improvements to support the proposed use. The existing bituminous surface will be removed and replaced with heavy-duty concrete. The area will be enclosed by a six-foot chain-link fence with privacy slats and a barbed-wire apron. Consistent with the City Code, the barbed wire will be installed at a height no lower than six and one-half feet, and the enclosure will provide the required 90 percent opacity screening.
Two trash compactors will be installed on the southeast side of the building, screened in compliance with code requirements. Refuse, both pre- and post-compaction, will be stored either within the building or within an enclosure meeting City standards. Additionally, a small outdoor patio with seating will be located at the southwest corner of the building, adjacent to the employee break room.
Three above-ground storage tanks are proposed for the site. An existing 1,000-pound liquid propane tank will remain in place. A 200-gallon diesel fuel tank will be relocated to the southwest corner of the site near the new access drive, and a new 1,000-gallon split diesel/HVO tank with pump will be installed north of the building. The applicant has indicated that all tanks will be double-walled, self-contained units, thereby meeting Minnesota Pollution Control Agency (MPCA) and City requirements without the need for additional spill-containment features. Cut sheets for the tanks will be required prior to issuance of a building permit, and notification of installation must be submitted to the MPCA. The applicant has also acknowledged that fire permits and any additional required permits will be obtained. If on-site fueling of vehicles occurs, the transfer area must comply with MPCA standards.
No changes to the exterior elevations of the building are proposed. Landscaping improvements will include the installation of hydrangeas along the south side of the building. Landscaping will conform to the requirements of Chapter 10, Article X, Division 8 of the City Code.
The proposed lighting plan includes full cut-off LED wall packs at regular intervals along building elevations, along with pole-mounted fixtures in the storage, parking, and loading areas. House-side shields will be installed as necessary. A photometric plan has been submitted demonstrating compliance with the City Code.
The interior floor plan identifies designated areas for assembly, testing bays, fluid storage, office space, and loading operations. Additional spaces within the building include storage areas, restrooms, employee break rooms, and office space for final assembly operations.
The applicant provided a narrative describing the proposed site modifications: "*redeveloping a 91,300 sq ft. existing building to accommodate assembly of the LPR Gensets. Interior modifications will consist of concrete floor slab replacement, additional bridge cranes, break room and office/command center renovations and loading dock upgrades*". Operations on the site was described as: *"Employees will enter the site off Lundin Blvd along the east side of the site and park in the northern parking lot. Incoming small and large parts for assembly will enter through loading docks and at grade overhead doors on the southeastern side of the site. Finished product will exit the west side of the building and be stored in the exterior fenced-in paved area. Flat bed semis will enter the western portion of site, off Lundin Blvd, into a designated area for drivers to park and check into the facility. From there, they will enter the fenced storage area through sliding gates to load finished products and exit the site through another set of sliding gates at the west side of Lundin Blvd"*

**Findings**

Staff respectfully submits the following findings of fact for the Conditional Use Permit:

1. The proposed unenclosed storage of material, products and equipment is considered a Conditional Use in the PI, Planned Industrial Zoning District.
2. The proposed outdoor storage, when implemented with the recommendations and in conformance with Mankato City Code, is in keeping with the comprehensive planning policies of the City. The underlying land use plan identifies this parcel as "Light Industrial".
3. The proposal does not interfere with or diminish the use of property in the immediate vicinity.
4. The proposal does not cause undue traffic congestion. The number of site accesses along Lundin Blvd will not increase.
5. To the extent known, the development conforms with all other applicable regulations of the district, and other applicable ordinances.
6. There are no known historical or architectural resources on the site.
7. There are no known significant natural or environmental features on the property.
8. It will not cause a negative cumulative effect and effect on the City as a whole.
9. The proposal will not jeopardize the public's health, safety, or general welfare.
10. The applicant has identified the three following aboveground storage tanks that will be constructed or remain on-site: 1) a new 1,000-gallon diesel / HVO tank, 2) an existing 200-gallon diesel tank, relocated on site, and 3) an existing 1,000-lb LP tank to remain as is.

**Recommendation**

Staff recommends approval of the Conditional Use Permit to allow unenclosed storage in the PI, Planned Industrial, zoning district and a conditional use permit to allow for exterior fluid/fuel storage tanks with the following conditions:

1. The applicant shall provide a complete set of civil construction plans, including a SWPPP, and a stormwater management plan that meet the City of Mankato standards and MS4 permit. Approval by the City Engineer will be required prior to issuance of a building permit.
2. Outdoor storage is limited to operable equipment only. Inoperable or unlicensed equipment or construction materials will not be permitted. Wrecked, dismantled, partially dismantled, inoperative, or abandoned vehicles or machinery shall be prohibited.
3. The outdoor storage of any refuse or waste material must conform to section 11-32 and section 10-1743, including full enclosure of any refuse containers.
4. Signage for the development shall conform to Mankato City Code standards and a sign permit shall be obtained for any proposed signage prior to fabrication and installation.
5. The applicant shall provide proper notification to MPCA regarding the installation of the above-ground storage tanks on site. If fueling of vehicles occurs on site, MPCA substance transfer area requirements may need to be met
6. The applicant shall receive fire permits for the proposed above-ground storage tanks prior to issuance of a certificate of occupancy.
7. The applicant shall provide tank detail sheets for all existing or proposed aboveground tanks on site prior to issuance of a building permit.
8. Dispensing of flammable/combustible liquids stored within exterior above-ground storage tanks is limited to a maximum of three tanks on site.
9. If traffic associated with the use of the property causes undue traffic concerns on Lundin Blvd., the applicant shall be required to complete a traffic study and make the recommended modifications needed to mitigate these conditions.
10. The applicant shall provide screening of 90% opacity or greater for the proposed exterior storage in accordance with Mankato City Code. Screening shall be installed prior to issuance of a certificate of occupancy.
11. On-site lighting shall conform to the lighting standards in the Mankato City Code, including but not limited to full-cut, fully shielded fixtures. Conformance shall include, but not limited to, all signage, building, and parking lot lighting. Conforming lighting shall be installed prior to issuance of a certificate of occupancy.
12. Landscaping shall be installed in conformance with the Mankato City Code and in accordance with an approved landscaping plan prior to issuance of a certificate of occupancy.
13. Barbed wire, if installed, must be installed above a height of 6 1/2 feet. A fence permit must be obtained prior to modification to or instillation of fencing on site.
14. Noise levels shall conform to Minnesota Administrative Rules Chapter 7030, Noise Pollution Control, and all other applicable noise regulations.

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**Attachments**

General Location Map

Aerial Map

Site Plan

Exterior Elevations

Fence Cut Sheet

Floor Plan - First Floor

Fuel Tanks - Site Plan

Grading Plan

Planting Plan

Photometric Plan

Narrative

Plan Details - Misc

Lighting Cut Sheets

Site Plan Comments Response

Staff Comments Response

Existing Conditions

Stormwater Management Memo

Stormwater Memo Response

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# General Location Map




**Date: September 2025**

**Author:**

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N

# Aerial




**Date: September 2025**

**Author:**

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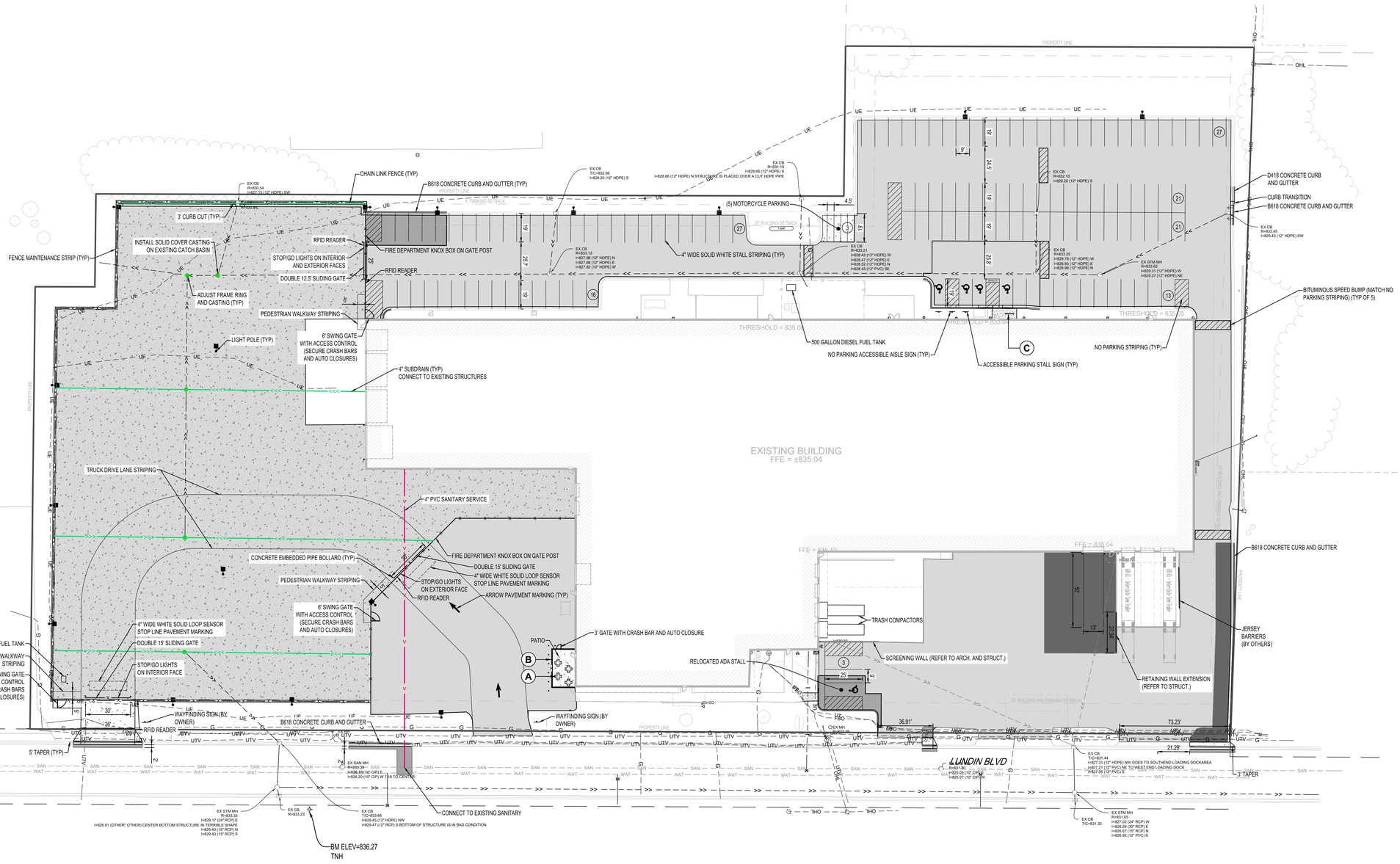
## SITE FURNISHING LEGEND

| | |
|---|---|
| A | PATIO SEATING (BY OWNER) |
| B | DECORATIVE FENCE (57 LF) MONTAGE (MAJESTIC STYLE) BY AMERISTAR |
| C | HEAVY DUTY WINDER BIKE RACK BY MADRAX (7 BIKES) |

## PAVEMENT LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | OVERLAY BITUMINOUS PAVEMENT |
| | STANDARD BITUMINOUS PAVEMENT |
| | HEAVY DUTY BITUMINOUS PAVEMENT |
| | CONCRETE PAVEMENT |
| | HEAVY DUTY CONCRETE PAVEMENT |
| | CONCRETE WALK |
| | REVERSE PITCH CONCRETE CURB AND GUTTER |

NOTE: PROVIDE PRIVACY SLATS IN ALL CHAIN-LINK GATES AND FENCES EXCEPT FOR THE EAST GATE AND FENCE SECTION IN THE REAR (NORTH SIDE) OF THE BUILDING




I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

BRYAN M. PETZEL

DATE _____ LIC. NO. 53191

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BRETT A. HARRIS

DATE _____ LIC. NO. 60537

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN LPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
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|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | 32426-C3-SITE |
| DRAWN BY | AAQ |
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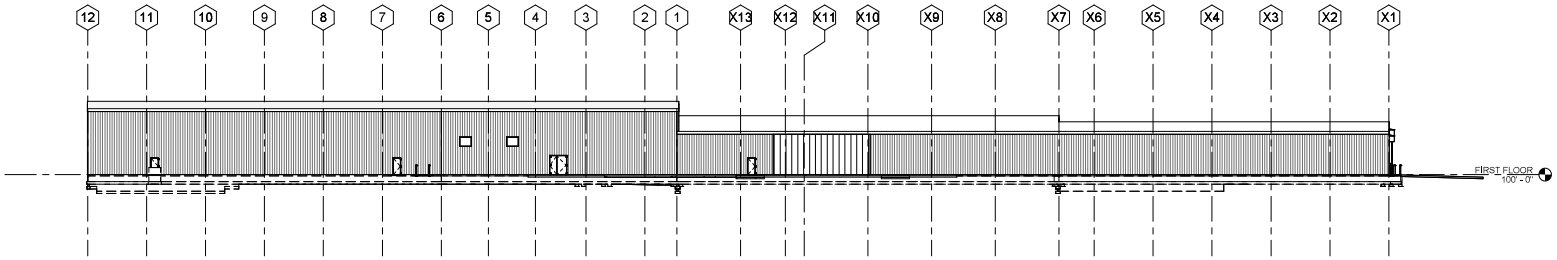
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**SITE AND UTILITY PLAN**

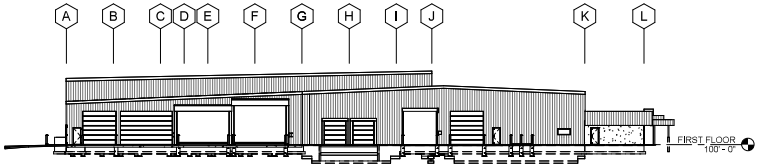
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**C3-10**

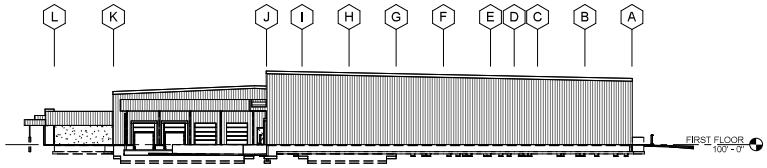
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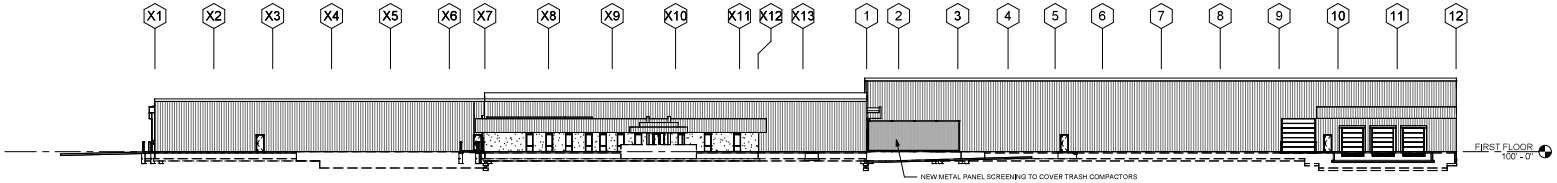

1 NORTH ELEVATION
3/64" = 1'-0"




2 WEST ELEVATION
3/64" = 1'-0"




3 EAST ELEVATION
3/64" = 1'-0"




4 SOUTH ELEVATION
3/64" = 1'-0"

REFERENCE SCALE
1" = 1'
0 1 2

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC. LUNDIN LPR #1180**

MANKATO MINNESOTA

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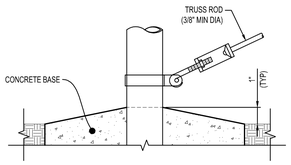
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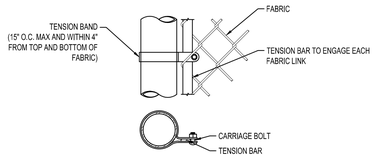
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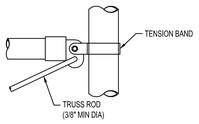
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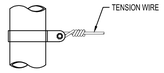

TRUSS ROD & BAND




END OR GATE POST




ROUND POST

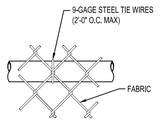



TENSION BAND

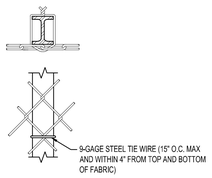


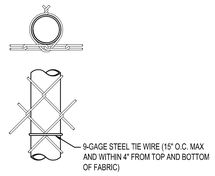
H-BEAM

BRACE RAIL CLAMP




TOP OR BRACE RAIL ATTACHMENT



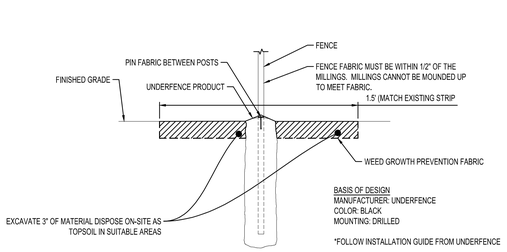




LINE POST ATTACHMENT

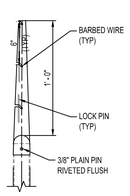
## NOTES:

1. PERIMETER FENCE SHALL BE SECURED AT ALL TIMES. THE FENCE IS CONSIDERED SECURE WHEN IT IS IN ITS FULL UPRIGHT POSITION, INCLUDING BARBED WIRE.
2. FENCE SHALL BE GROUNDED IN ACCORDANCE TO STANDARD SPECIFICATIONS, AND AT ALL LOCATIONS WHERE THE FENCE CROSSES OVERHEAD POWER LINES.
3. CONTRACTOR IS REQUIRED TO LOCATE ALL UTILITIES, INCLUDING PRIVATE UTILITIES, CROSSING EXISTING AND PROPOSED FENCE LINE.
4. EXCAVATED MATERIAL TO BE DISPOSED ON-SITE SHALL BE THINLY SPREAD INSIDE FENCE LINE.
5. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPES OF FENCE SECTIONS AND METHODS OF INSTALLATION THAT COMPLY WITH THE SPECIFICATIONS.
6. WIRE TIES, RAILS, POSTS AND BRACES SHALL BE CONSTRUCTED ON THE SECURE SIDE OF THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE SIDE OPPOSITE THE SECURE AREA.
7. UNLESS SPECIFICALLY SHOWN OR SPECIFIED, ALL FENCE SHALL HAVE APRON EXTENDED OUTWARD FROM THE AREA BEING PROTECTED.
8. C-SECTION POSTS SHALL BE INSTALLED SO THAT THE VOID INSIDE THE POST IS COMPLETELY FILLED WITH CONCRETE UP TO THE TOP OF THE FOUNDATION.
9. ALL CORNER, END, PULL, AND LINE POSTS SHALL BE SIZED AND DESIGNED BY FENCE SUPPLIER USING THE WIND LOAD CRITERIA LISTED BELOW (REFERENCE ASCE 7-10). FENCE SHALL NOT BE DESIGNED FOR ANY COVERINGS OR PRIVACY SLATTING. PROVIDE CALCULATIONS FOR REVIEW PRIOR TO FABRICATION.
10. ALL MAN GATES SHALL HAVE CRASHBAR HARDWARE INSTALLED ON THE INTERIOR SIDE OF THE GATE.
11. FENCE SHALL HAVE FABRIC PIN/ STAKE BETWEEN POSTS.
12. MATCH EXISTING / ADJACENT FENCE IN ALL ASPECTS.

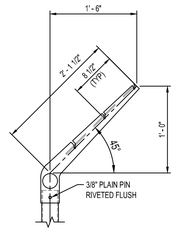
CHAIN-LINK FENCE FASTENING DETAILS



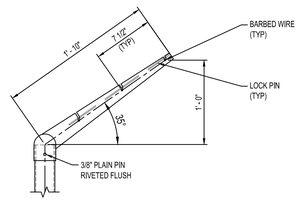

MAINTENANCE STRIP DETAIL




GATE POST

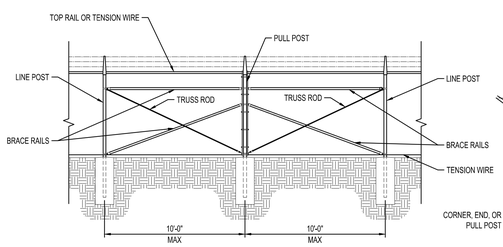



LINE POST




CORNER POST

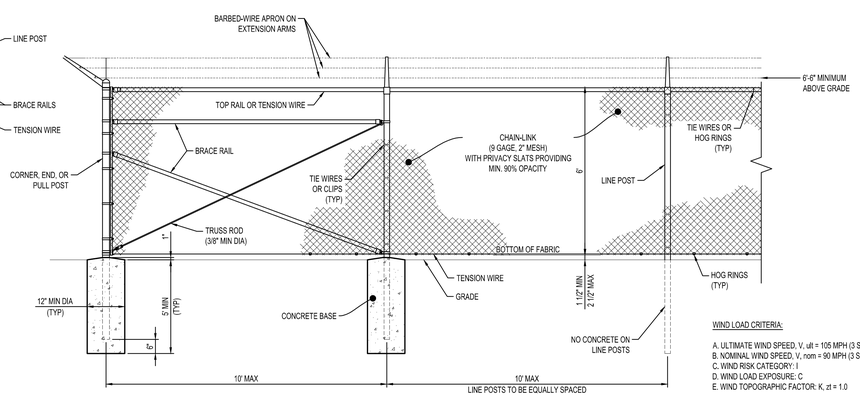
EXTENSION ARM DETAILS




## NOTES:

PROVIDE BRACE PANEL WHENEVER STRAIGHT RUNS EXCEED 500 FEET.

BRACE PANEL




WIND LOAD CRITERIA:

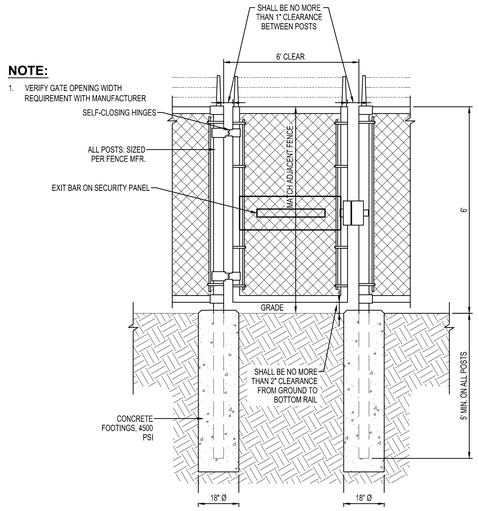
A. ULTIMATE WIND SPEED, V, ult = 105 MPH (3 SEC GUST)
B. NOMINAL WIND SPEED, V, nom = 90 MPH (3 SEC GUST)
C. WIND RISK CATEGORY: I
D. WIND LOAD EXPOSURE: C
E. WIND TOPOGRAPHIC FACTOR: K, zt = 1.0

## NOTES:

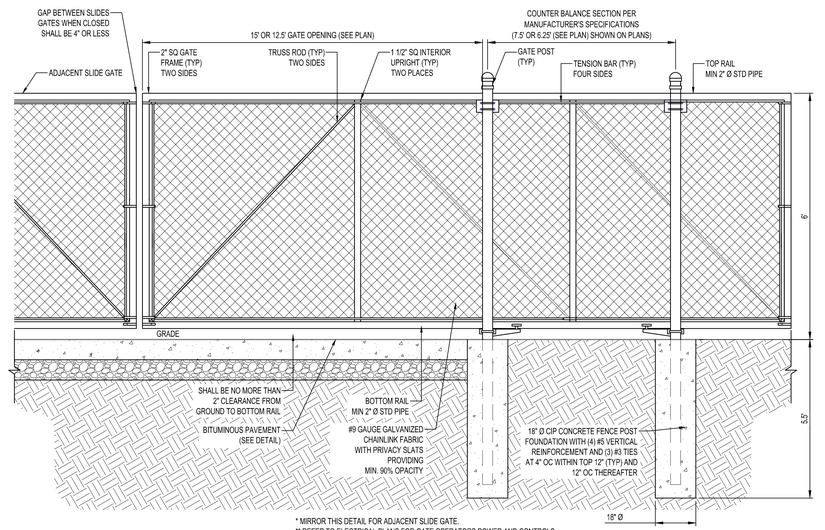
ALL GATE AND CORNER POSTS SHALL BE SET IN CONCRETE.

PROVIDE PRIVACY SLATS FOR ALL FENCES EXCEPT IN AREAS IDENTIFIED AS HAVING NO SLATS ON THE PLANS

BARBED WIRE
CHAIN-LINK FENCE
NTS




MAIN GATE
NTS




* MIRROR THIS DETAIL FOR ADJACENT SLIDE GATE.
** REFER TO ELECTRICAL PLANS FOR GATE OPERATORS POWER AND CONTROLS.
***PROVIDE PRIVACY SLATS FOR ALL GATES EXCEPT IN AREAS IDENTIFIED AS HAVING NO SLATS ON THE PLANS.

15' OR 12.5' (SEE PLAN) AUTOMATED SLIDING GATE
NTS

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BRYAN M. PETZEL
DATE _____ LIC. NO. 53191

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BRETT A. HARRIS
DATE _____ LIC. NO. 60537

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN LPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
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|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | 32426-C0-DETAILS |
| DRAWN BY | AAQ |
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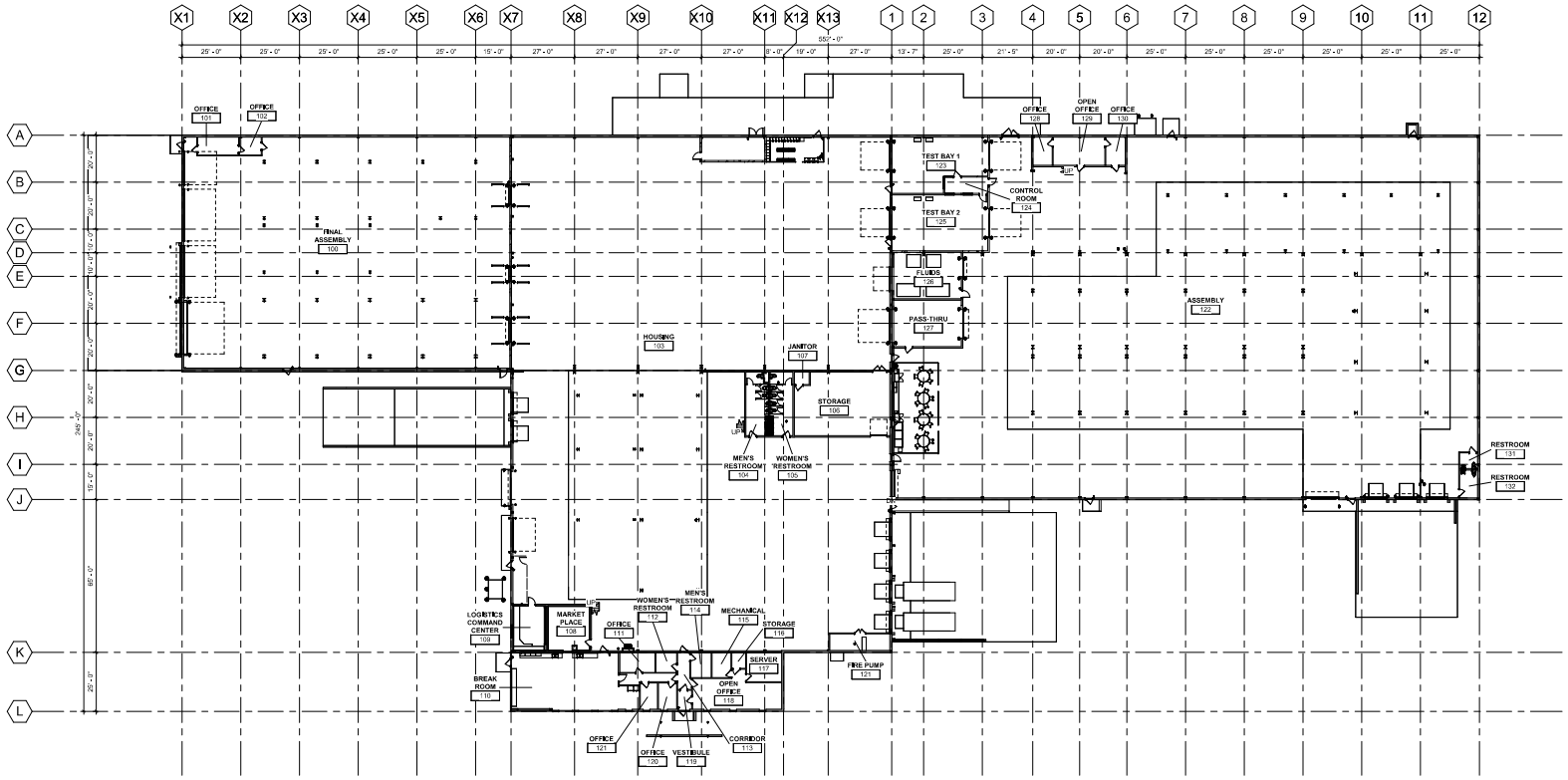
TITLE

**DETAILS**

SHEET

**C0-21**

PRELIMINARY NOT FOR CONSTRUCTION




1 FIRST FLOOR PLAN
3/64" = 1'-0"

REFERENCE SCALE
1" = 1'

8/26/2025 12:07:26 PM

N

ISG

PRELIMINARY NOT FOR CONSTRUCTION

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC.**
**LUNDIN LPR #1180**

MANKATO MINNESOTA

REVISION SCHEDULE

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|---|---|---|
| 08/26/25 | CUP SUBMITTAL | |

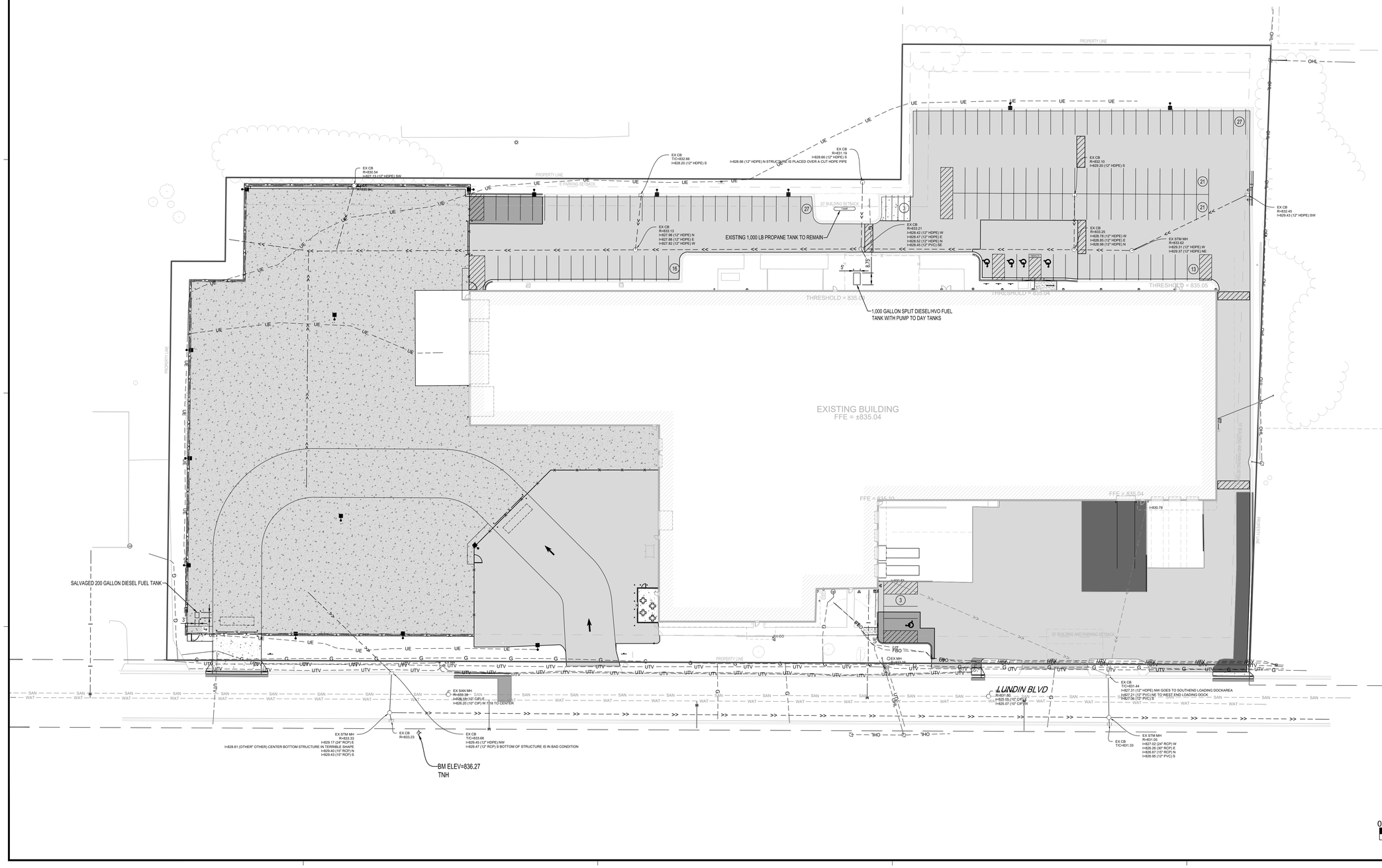
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|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | |
| DRAWN BY | Author |
| DESIGNED BY | Designer |
| REVIEWED BY | Checker |
| ORIGINAL ISSUE DATE | 08/07/2025 |
| CLIENT PROJECT NO. | 1180 |

TITLE

**FIRST FLOOR PLAN - OVERALL**

SHEET

**A1-21CUP**




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BRYAN M. PETZEL

DATE _____ LIC. NO. 53191

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BRETT A. HARRIS

DATE _____ LIC. NO. 60537

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN LPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
|---|---|---|
| | | |

| | |
|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | 32426-C3-SITE |
| DRAWN BY | AAQ |
| DESIGNED BY | AAQ/BMP |
| REVIEWED BY | BMP |
| ORIGINAL ISSUE DATE | --/--/-- |
| CLIENT PROJECT NO. | 1180 |

TITLE

**SITE AND UTILITY PLAN**

SHEET

**C3-10**

## ADA ACCESSIBILITY LEGEND

| | |
|---|---|
| | ACCESSIBLE PARKING / LANDING AREA (MAXIMUM 2.00% SLOPE IN ALL DIRECTIONS) |
| | ACCESSIBLE RAMP (SLOPE GREATER THAN 5.00%, LESS THAN 8.33%) |
| | 0" HEIGHT CURB / WALK (FLUSH WITH PAVEMENT) |

## GRADING LEGEND

| | |
|---|---|
| 101 | EXISTING CONTOUR (MINOR INTERVAL) |
| 100 | EXISTING CONTOUR (MAJOR INTERVAL) |
| 101 | PROPOSED CONTOUR (MINOR INTERVAL) |
| 100 | PROPOSED CONTOUR (MAJOR INTERVAL) |
| XXX.XX | PROPOSED SPOT ELEVATION |
| XXX.XX | PROPOSED TOP BACK OF CURB SPOT ELEVATION |
| XXX.XX TOW<br>XXX.XX BOW | PROPOSED TOP OF RETAINING WALL (TW) AND BOTTOM OF RETAINING WALL (B/W) |
| -X.X% | SURFACE GRADE / DIRECTION |

## GENERAL GRADING NOTES

PROPOSED CONTOURS SHOW FINISHED GRADE ELEVATIONS. BUILDING PAD AND PAVEMENT HOLD DOWNS ARE NOT INCLUDED. WHEN CONSTRUCTING BUILDING PADS WITH A HOLD DOWN, GRADE AREAS TO ENSURE POSITIVE BUILDING PAD DRAINAGE.




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DATE _____ LIC. NO. 53191

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN LPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
|---|---|---|
| | | |

| | |
|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | 32426-C4-GRADE |
| DRAWN BY | AAQ |
| DESIGNED BY | AAQ/BMP |
| REVIEWED BY | BMP |
| ORIGINAL ISSUE DATE | --/--/-- |
| CLIENT PROJECT NO. | 1180 |

TITLE

**GRADING PLAN**

SHEET

**C4-10**

LANDSCAPE EDGING

## ZONING LANDSCAPE REQUIREMENTS

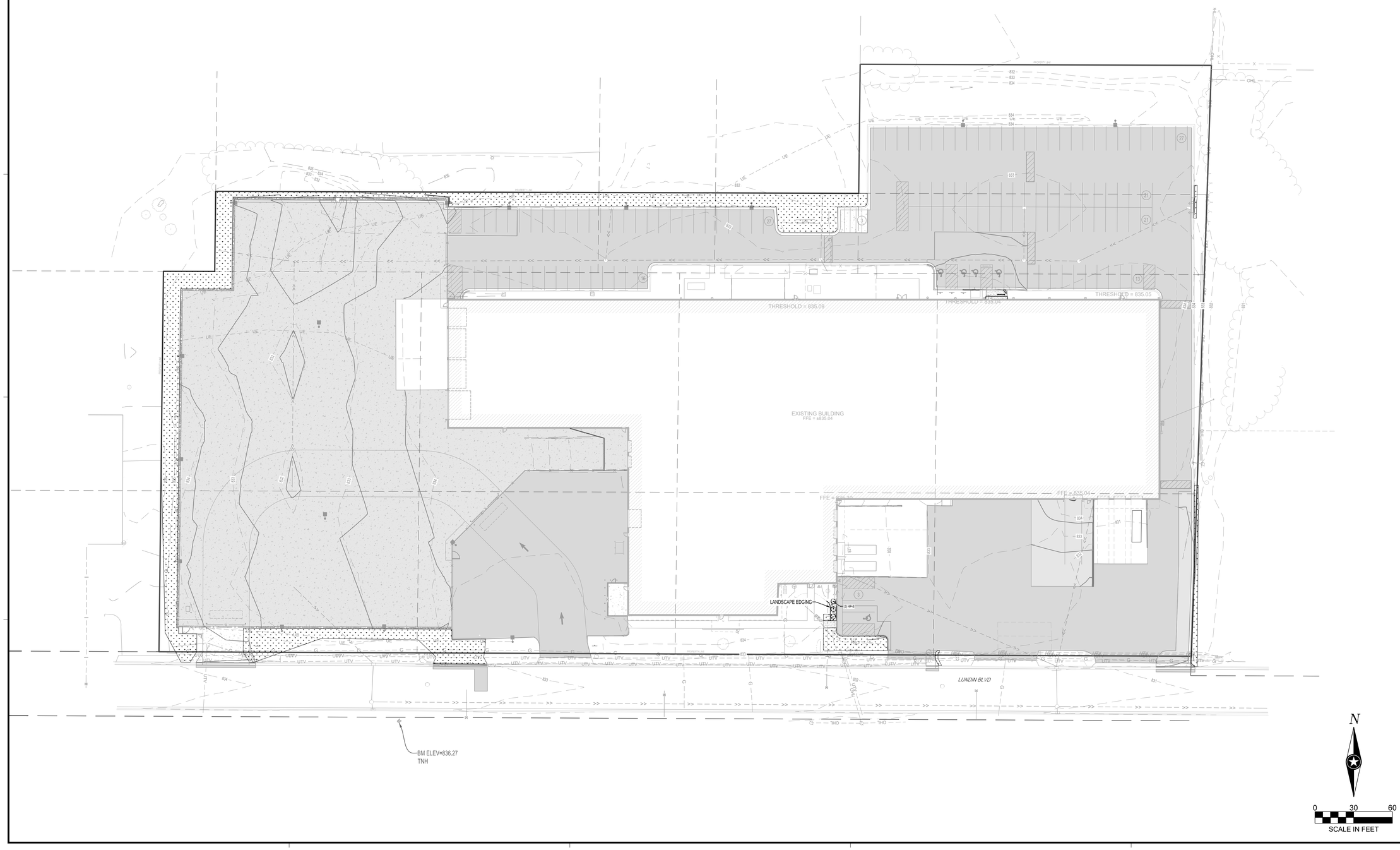
**ZONING:** PI - PLANNED INDUSTRIAL

**SEC. 10-1742. - OFF-STREET LOADING AREAS.**

EVERY OFF-STREET LOADING AREA VISIBLE FROM ANY LOT ZONED FOR RESIDENTIAL USE OR VISIBLE FROM ANY PUBLIC STREET, SHALL BE SCREENED ON ALL SIDES VISIBLE FROM SUCH LOT OR STREET BY AN OPAQUE FENCE, WALL, OR DENSELY PLANTED EVERGREEN HEDGE OF NOT LESS THAN SIX FEET IN HEIGHT, EXCEPT AS NECESSARY FOR ACCESS.

## PLANT SCHEDULE

| SYMBOL | CODE | QTY | BOTANICAL / COMMON NAME | SIZE | ROOT |
|---|---|---|---|---|---|
| **SHRUBS** | | | | | |
| | HP-S | 3 | HYDRANGEA PANICULATA 'SMHPCW' STRAWBERRY SHAKE™ PANICLE HYDRANGEA | 5 GAL | CONT |
| **SYMBOL** | | **QTY** | **BOTANICAL / COMMON NAME** | | |
| **GROUND COVERS** | | | | | |
| | | 81 SF | LANDSCAPE ROCK 3" DEPTH MULCH | | |
| | | 14,302 SF | PREMIUM TURF SOD | | |




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BRYAN M. PETZEL

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN LPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
|---|---|---|
| | | |

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|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | 32426-C5-LAND |
| DRAWN BY | AAQ |
| DESIGNED BY | AAQ/BMP |
| REVIEWED BY | BMP |
| ORIGINAL ISSUE DATE | --/--/-- |
| CLIENT PROJECT NO. | 1180 |

TITLE

**SITE RESTORATION AND PLANTING PLAN**

SHEET

**C5-10**

## SHEET NOTES

1. ALL EXISTING ELECTRICAL EQUIPMENT INDICATED ON PLANS ARE BASED ON INFORMATION FROM CONSTRUCTION DOCUMENTS AND FIELD OBSERVATION OF THE EXISTING BUILDING.

2. "X" = INDICATES EXISTING DEVICE TO REMAIN.

3. MAINTAIN FIRE RATING OF ALL WALLS AND FLOORS. PROVIDE FIRE PROOFING FOR ALL WALL AND FLOOR PENETRATIONS PER CODE.

4. COORDINATE WORK WITH OTHER TRADES.

5. CIRCUIT NUMBERS ARE USED FOR DESIGN INTENT TO EXISTING PANELBOARDS. ELECTRICAL CONTRACTOR SHALL VERIFY EXACT CIRCUIT NUMBERS IN THE FIELD.

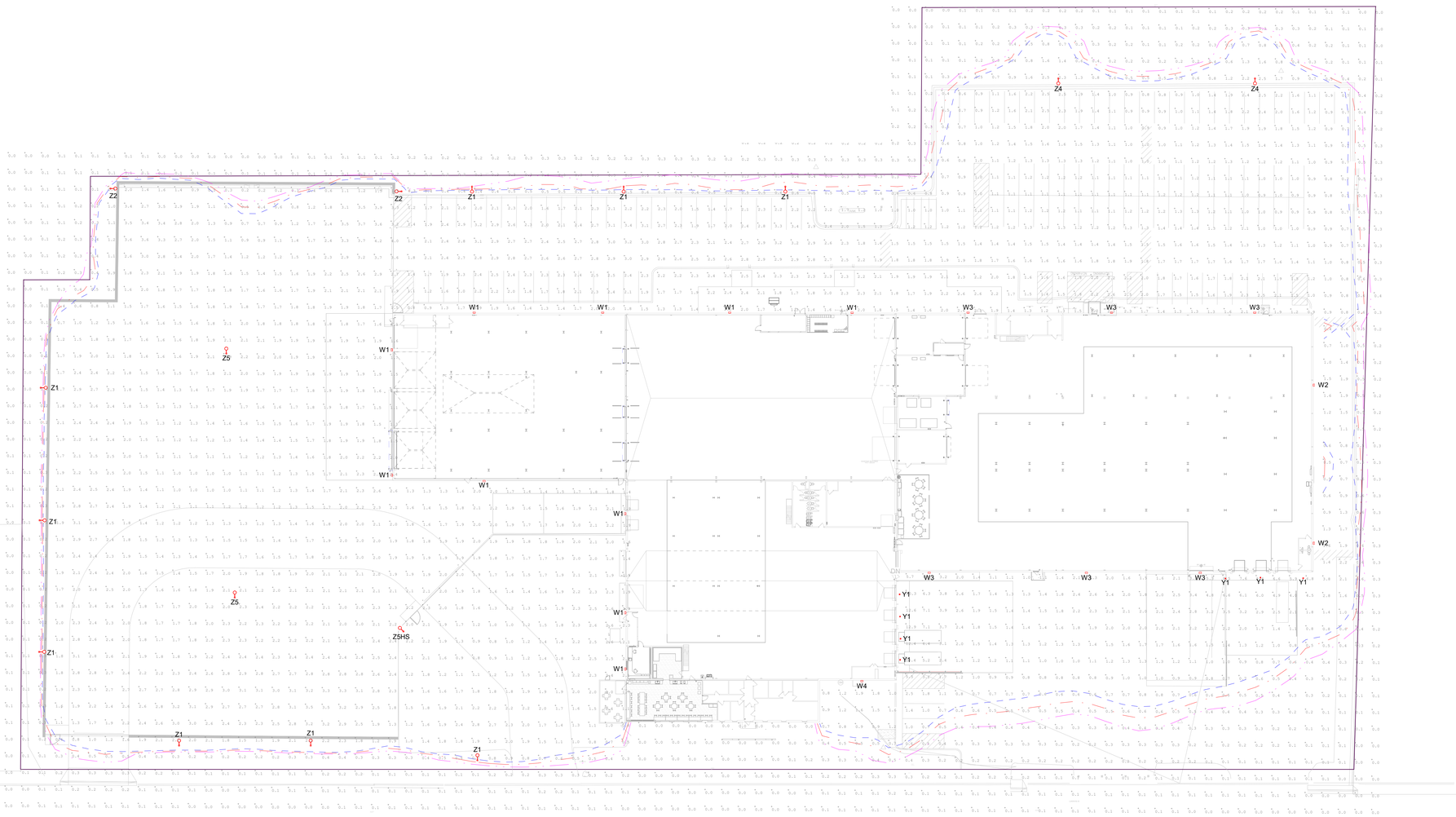
6. RECEPTACLES AND LOW VOLTAGE DEVICES SHALL BE FLUSH MOUNTED IN PRECAST AND MASONRY WALLS AT ALL PUBLIC SPACES.

7. RACEWAYS SHALL BE CONCEALED IN NEW WALLS. INCLUDE RACEWAYS FROM TECHNOLOGY PLANS.

8. ALL NON-LOCKING TYPE 125-VOLT, SINGLE PHASE 15 AND 20 AMPERE RECEPTACLES MOUNTED 5'-6" AND BELOW, SHALL BE LISTED TAMPER-RESISTANT.

## SITE PHOTOMETRIC LEGEND

| | |
|---|---|
| 0.4 Footcandle | |
| 0.5 Footcandle | |
| 0.6 Footcandle | |




1 SITE PHOTOMETRIC PLAN
1" = 30'-0"

## SITE LIGHT FIXTURE SCHEDULE

| TYPE | DESCRIPTION | MANUFACTURER | MODEL | LAMP | WATTS | TYPE COMMENTS |
|---|---|---|---|---|---|---|
| W1 | LED WALL PACK | LITHONIA LIGHTING | DSXW2-P6-30K-80CRI-TFTM-SRM-PIRH1FC3V-DDXD | 10,000LM - 3000K - 80CRI | 70 W | MOUNT FIXTURE AT 25'-0" AFG. |
| W2 | LED WALL PACK | LITHONIA LIGHTING | DSXW2-P1-30K-80CRI-T2S-HS-SRM-PIRH1FC3V-DDXD | 4,200LM - 3000K - 80CRI | 70 W | MOUNT FIXTURE AT 25'-0" AFG. |
| W3 | LED WALL PACK | LITHONIA LIGHTING | DSXW2-P7-30K-80CRI-TFTM-SRM-PIRH1FC3V-DDXD | 14,300LM - 3000K - 80CRI | 70 W | MOUNT FIXTURE AT 25'-0" AFG. |
| W4 | LED WALL PACK | LITHONIA LIGHTING | DSXW2-P1-30K-80CRI-TFTM-SRM-PIRH1FC3V-DDXD | 4,200LM - 3000K - 80CRI | 70 W | MOUNT FIXTURE AT 15'-0" AFG. |
| Y1 | CANOPY LIGHT | LITHONIA LIGHTING | CNY-LED-ALO-SWW2-UVOLT-PE-PIR-DDB-DDB | 5,000LM - 3000K - 80CRI | 100 W | SET ADJUSTABLE LUMEN OUTPUT TO 5,000 LUMENS. SET SWITCHABLE CCT TO 3000K. |
| Z1 | SITE LIGHT | LITHONIA LIGHTING | DSX1 LED-P3-30K-80CRI-BLC3-MVOLT-RPA-PIR-DDBXD | 9,692LM - 3000K - 80CRI | 102 W | MOUNT FIXTURE AT 25'-0" AFG. F&I WITH RTA-22-0-3B-T35-VD-DDBXD. F&I WITH APPLICABLE FUSE OPTION. F&I WITH MOTION SENSOR OPTION. F&I WITH VD VIBRATION DAMPER & FBC BASE COVER. |
| Z2 | SITE LIGHT | LITHONIA LIGHTING | DSX1 LED-P3 30K-80CRI-LCCO-MVOLT-RPA-PIR-DDBXD | 9,692LM - 3000K - 80CRI | 250 W | MOUNT FIXTURE AT 25'-0" AFG. F&I WITH RTA-22-0-3B-T35-VD-DDBXD. F&I WITH APPLICABLE FUSE OPTION. F&I WITH MOTION SENSOR OPTION. F&I WITH VD VIBRATION DAMPER & FBC BASE COVER. |
| Z4 | SITE LIGHT | LITHONIA LIGHTING | DSX1 LED-P4-30K-80CRI-TFTM-MVOLT-RPA-PIR-DDBXD | 9,921LM - 3000K - 80CRI | 124 W | MOUNT FIXTURE AT 25'-0" AFG. F&I WITH RTA-22-0-3B-T35-VD-DDBXD. F&I WITH APPLICABLE FUSE OPTION. F&I WITH MOTION SENSOR OPTION. F&I WITH VD VIBRATION DAMPER & FBC BASE COVER. |
| Z5 | SITE LIGHT | LITHONIA LIGHTING | DSX1 LED-P8-30K-80CRI-T5W-MVOLT-RPA-PIR-DDBXD | 28,000LM - 3000K - 80CRI | 216 W | MOUNT FIXTURE AT 25'-0" AFG. F&I WITH RTA-22-0-3B-T35-VD-DDBXD. F&I WITH APPLICABLE FUSE OPTION. F&I WITH MOTION SENSOR OPTION. F&I WITH VD VIBRATION DAMPER & FBC BASE COVER. |
| Z5HS | SITE LIGHT | LITHONIA LIGHTING | DSX1 LED-P8-30K-80CRI-T5W-MVOLT-RPA-PIR-HS-DDBXD | 28,000LM - 3000K - 80CRI | 216 W | MOUNT FIXTURE AT 25'-0" AFG. F&I WITH RTA-22-0-3B-T35-VD-DDBXD. F&I WITH HS HOUSESIDE SHEILD OPTION. F&I WITH APPLICABLE FUSE OPTION. F&I WITH MOTION SENSOR OPTION. F&I WITH VD VIBRATION DAMPER & FBC BASE COVER. |

N

8/26/2025 1:14:12 PM

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN PPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
|---|---|---|
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| PROJECT NO. | 25-32426 |
| FILE NAME | 32426 ELEC R24.rvt |
| DRAWN BY | RLS |
| DESIGNED BY | RLS |
| REVIEWED BY | MDN |
| ORIGINAL ISSUE DATE | MM/DD/YY |
| CLIENT PROJECT NO. | |

TITLE

**SITE PHOTOMETRIC PLAN**

SHEET

**E2-01**

August 26, 2025

Molly Westman
Planning & Zoning Administrator
City of Mankato
10 Civic Center Plaza
P.O. Box 3368
Mankato, MN 56002-3368
mwestman@mankatomn.gov

ISG

**RE: Conditional Use Permit Request**
**Rolls Royce Solutions America, Inc. – Lundin LPR**
**304 Lundin Blvd – Mankato, MN**

Molly,

Thank you for reviewing the attached materials in support of a Conditional Use Permit request being submitted on behalf of Rolls-Royce Solutions America, Inc.

# PROJECT NARRATIVE

On behalf of Rolls-Royce Solutions America, Inc., we respectfully request review in support of approval for construction of this project. RRSA looks forward to enhancing their facility to continue delivering and servicing powerful and reliable systems worldwide and providing a quality workplace for their staff.

RRSA is a wholly owned subsidiary of Rolls-Royce PLC (Darby, England). RRSA is a manufacturer of low and high-power range (LPR/HPR) engine-generator sets (Gensets) ranging from 30kW to 3.2MW branded under "mtu, A Rolls-Royce Solution" product offering. The prime movers vary by Genset size and include Series 1600, Series 2000, and Series 4000 mtu engines from 450kW – 3.2MW. RRSA also provides specialized Military Gensets referred to as FFG which provide ship power for the US Navy.

Since 1952, RRSA has been producing Gensets in the Mankato community and currently provides jobs to over 475+ employees with approximately 70 employees anticipated to be located at the Lundin site. Production and Logistics operations run on a 4 day/week 10 hour/day shift model working Monday through Thursday. Office staff operate on a 5 day/week 8 hour/day shift model working Monday through Friday.

RRSA is redeveloping a 91,300 sq ft. existing building to accommodate assembly of the LPR Gensets. Interior modifications will consist of concrete floor slab replacement, additional bridge cranes, break room and office/command center renovations and loading dock upgrades. The project will also include exterior fuel and fluids storage on site including an existing liquid propane tank, existing 500-gallon diesel tank, and two new 500-gallon diesel tanks as shown and annotated on the site plans. Based on the scope described, Rolls-Royce is requesting a CUP for the following uses:

- Exterior Storage
- Fluid Storage to accommodate proposed fuel tanks

Employees will enter the site off Lundin Blvd along the east side of the site and park in the northern parking lot. Incoming small and large parts for assembly will enter through loading docks and at grade overhead doors on the southeastern side of the site. Finished product will exit the west side of the building and be stored in the exterior fenced in paved area. Flat bed semis will enter the western portion of site, off Lundin Blvd, into a designated area for drivers to park and check into the facility. From there, they will enter the fenced storage area through sliding gates to load finished products and exit the site through another set of sliding gates at the west side of Lundin Blvd.

# CONDITIONAL USE PERMIT

Further, the proposed project will meet the conditional use criteria of Sec. 10-883 (1-10).

1. ***It is one (1) of the conditional uses listed in the particular district.***

   The proposed uses are conditional uses listed under the P-I Planned Industrial District as stated in Sec. 10-971 (6 & 7) of the City of Mankato's Code.

2. ***It is in keeping with the comprehensive planning policies of the City and this chapter as amended from time to time.***

   The proposed uses align with the goals and intentions of the City of Mankato's Comprehensive Land Use Plan and the P-I Planned Industrial District which encourages industrial development to support local employment and economic growth. The supporting uses of this site for outdoor storage and assembly work are consistent with the City's goal of promoting industrial and manufacturing activities in the Planned Industrial District, thus supporting the City's broader economic and land use objectives.

3. ***It does not interfere with or diminish the use of property in the immediate vicinity.***

   The proposed uses are compatible with surrounding industrial properties. The uses will not negatively impact neighboring properties, and appropriate site screening, fencing, and setbacks will be implemented to minimize visual impacts and noise. The proposed activities will not interfere with existing nearby operations or diminish the use or value of surrounding properties.

4. ***It can be adequately served by public facilities and services.***

   The site will be adequately served by existing public infrastructure, including roadways, water, sewer, and emergency services. Any necessary upgrades will be coordinated with City staff. The proposed uses will not create an excessive burden on public services, and the facility's operation will be well within the capacity of available resources.

5. ***It does not cause undue traffic congestion.***

   The anticipated traffic impact is expected to be minimal. Adequate on-site parking and safe access will be designed to meet city requirements, ensuring safe and efficient use of the facility. Vehicle trips associated with employee traffic, deliveries, and shipping activities will be consistent with other industrial uses within the area. Access to the property will continue to be provided via existing roadways designed to accommodate industrial traffic.

6. ***It preserves significant historical and architectural resources.***

   There are no known significant historical or architectural resources on the site or in the immediate vicinity that would be impacted by the proposed uses. No demolition or modification of historical structures is proposed as part of this request.

7. *It preserves significant natural and environmental features.*

   The site is currently developed and located within an industrial area. No significant natural or environmental features will be impacted. Any outdoor storage will be maintained in a clean, organized manner consistent with City requirements. Additionally, any stormwater runoff will be managed according to City and state regulations to prevent adverse environmental impacts.

8. *It will not cause a negative cumulative effect, when considered in conjunction with the cumulative effect of various special uses of all types on the immediate neighborhood, and the effect of the proposed type of conditional use upon the City as a whole.*

   The proposed uses are consistent with other existing industrial activities in the area and will not result in a negative cumulative impact. The site will remain compatible with the surrounding Planned Industrial District and will not adversely affect the neighborhood. The proposed uses support industrial activity in an appropriate location without negatively affecting residential or commercial areas.

9. *It complies with all other applicable regulations of the district in which it is located and other applicable ordinances, except to the extent such regulations have been modified through the planned development process or the granting of a variance.*

   The proposed project will comply with all applicable zoning and ordinance requirements for the Planned Industrial District, including setbacks, lot coverage, screening, and stormwater management. Any additional reviews will be coordinated with City staff.

10. *It will not jeopardize the public's health, safety, or general welfare.*

    The proposed uses will not pose a risk to the public's health, safety, or general welfare. The site will operate in compliance with all applicable local, state, federal, and environmental regulations. Adequate fire protection, emergency access, fencing, lighting, and security measures will be provided on site.

Thank you again for reviewing the attached materials. Please contact us at 507.387.6651 or via email with any questions or if there is any additional information we can provide in support of this project.

Sincerely,

Emily Nepp
*Development Services Coordinator*
Emily.Nepp@ISGInc.com

Sincerely,

Randy Potter
*Director of Production Operations*
Randy.Potter@ISGInc.com

# SYMBOL LEGEND

| EXISTING | | PROPOSED |
|---|---|---|
| EX STM MH | STORM MANHOLE | |
| EX CB | STORM CATCH BASIN | |
| EX CO | STORM CLEANOUT | |
| | STORM CULVERT | |
| | DOWNSPOUT | |
| | ROOF DRAIN | |
| EX SAN MH | SANITARY MANHOLE | |
| EX CO | SANITARY CLEANOUT | |
| EX LIFT STATION | LIFT STATION | |
| | WATER REDUCER | |
| | WATER VALVE | |
| | WATER VALVE MAHOLE | |
| | WATER CURB STOP | |
| | WATER SHUT-OFF | |
| EX POST INDICATOR VALVE | POST INDICATOR VALVE | |
| | FIRE DEPARTMENT CONNECTION | |
| | WELL | |
| EX MW | MONITORING WELL | |
| | LAWN SPRINKLER BOX | |
| | LAWN SPRINKLER HEAD | |
| | HYDRANT | |
| EX YARD HYD | YARD HYDRANT | |
| | UTILITY POLE | |
| | LIGHT POLE | |
| | GROUND LIGHT | |
| | GUY WIRE | |
| | TRANSFORMER | |
| EX HH | HANDHOLE | |
| EX ELEC MH | ELECTRIC MANHOLE | |
| EM | ELECTRIC METER | |
| | UTILITY VAULT | |
| AC | AIR CONDITIONER | |
| GM | GAS METER | |
| GV | GAS VALVE | |
| SB-1 | SOIL BORING | |
| | FLAG POLE | |
| MB | MAILBOX | |
| EX SIGNAL | TRAFFIC SIGNAL | |
| | SIGN | |
| | STREET SIGN | |
| | WHEEL STOP | |
| RR | RAILROAD CROSSING SIGN | |
| | POST | |
| | DECIDUOUS TREE | |
| | CONIFEROUS TREE | |
| | BUSH | |
| | TREE STUMP | |
| | WETLAND / MARSH | |
| | ROCK / BOULDER | |

NOTE:
CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES.

# LINETYPE LEGEND

| EXISTING | | PROPOSED |
|---|---|---|
| >> | STORM DRAIN | >> |
| > | SANITARY SEWER | > |
| II> | SANITARY SEWER FORCEMAIN | II> |
| W | WATER MAIN | W |
| G | GAS | G |
| OE | OVERHEAD ELECTRIC | OE |
| UE | UNDERGROUND ELECTRIC | UE |
| UT | UNDERGROUND TELEPHONE | UT |
| UTV | UNDERGROUND TV | UTV |
| OHL | OVERHEAD UTILITY | OHL |
| UTL | UNDERGROUND UTILITY | UTL |
| FO | FIBER OPTIC | FO |
| WET | WETLAND | WET |
| | WATER EDGE | |
| | DITCH / SWALE | |
| x x | FENCE LINE | x x |
| | TREE LINE | |
| | PROPERTY / LOT LINE | |
| | RIGHT OF WAY LINE | |
| | ACCESS CONTROL | |
| | EASEMENT LINE | |

NOTE:
CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES.

# ABBREVIATIONS

| | | | | | |
|---|---|---|---|---|---|
| ADA | AMERICANS WITH DISABILITIES ACT | GC | GENERAL CONTRACTOR | PVC | POLYVINYL CHLORIDE |
| ADD | ADDENDUM | GFE | GARAGE FLOOR ELEVATION | PVMT | PAVEMENT |
| AFF | ABOVE FINISHED FLOOR | GL | GUTTER LINE | QTY | QUANTITY |
| AGG | AGGREGATE | GPM | GALLONS PER MINUTE | R | RIM |
| APPROX | APPROXIMATE | GV | GATE VALVE | RAD | RADIUS |
| ARCH | ARCHITECT, ARCHITECTURAL | HDPE | HIGH DENSITY POLYETHYLENE | RCP | REINFORCED CONCRETE PIPE |
| BFE | BASEMENT FLOOR ELEVATION | HD | HEAVY DUTY | RD | ROOF DRAIN |
| BIT | BITUMINOUS | HH | HANDHOLE | REBAR | REINFORCING BAR |
| BLDG | BUILDING | HMA | HOT MIX ASPHALT | REM | REMOVE |
| BM | BENCHMARK | HORIZ | HORIZONTAL | ROW | RIGHT OF WAY |
| CAD | COMPUTER-AIDED DESIGN | HR | HOUR | R/W | RIGHT OF WAY |
| CB | CATCH BASIN | HWL | HIGH WATER LEVEL | SAN | SANITARY |
| CFS | CUBIC FEET PER SECOND | HWY | HIGHWAY | SCH | SCHEDULE |
| CF | CUBIC FOOT | HYD | HYDRANT | SF | SQUARE FOOT |
| CI | CAST IRON | I | INVERT | SPEC | SPECIFICATION |
| CIP | CAST IRON PIPE | ID | INSIDE DIAMETER | SQ | SQUARE |
| CIPC | CAST IN PLACE CONCRETE | IN | INCH | STA | STATION |
| CJ | CONTROL JOINT | INV | INVERT | STM | STORM |
| CL | CENTERLINE | IP | IRON PIPE | SY | SQUARE YARD |
| CMP | CORRUGATED METAL PIPE | IPS | IRON PIPE SIZE | T/C | TOP OF CURB |
| CO | CLEANOUT | J-BOX | JUNCTION BOX | TEL | TELEPHONE |
| CONC | CONCRETE | JT | JOINT | TEMP | TEMPORARY |
| CONST | CONSTRUCTION | LF | LINEAR FEET | THRU | THROUGH |
| CONT | CONTINUOUS | LIN | LINEAR | TNFH | TOP NUT OF FIRE HYDRANT |
| CR | COUNTY ROAD | LPS | LOW PRESSURE STEAM | TRANS | TRANSFORMER |
| CY | CUBIC YARD | LS | LUMP SUM | TV | TELEVISION |
| C&G | CURB AND GUTTER | LSO | LOWEST STRUCTURAL OPENING | T/W | TOP OF WALL |
| DEMO | DEMOLITION | MAX | MAXIMUM | TYP | TYPICAL |
| DI | DROP INTAKE | MB | MAIL BOX | UT | UNDERGROUND TELEPHONE |
| DIA | DIAMETER | MECH | MECHANICAL | VCP | VITRIFIED CLAY PIPE |
| DIM | DIMENSION | MH | MANHOLE | W/O | WITHOUT |
| DS | DOWNSPOUT | MIN | MINIMUM | W/ | WITH |
| EA | EACH | MISC | MISCELLANEOUS | YD | YARD |
| ELEC | ELECTRICAL | NO | NUMBER | YR | YEAR |
| ELEV | ELEVATION | NTS | NOT TO SCALE | | |
| EOF | EMERGENCY OVERFLOW | NWL | NORMAL WATER LEVEL | | |
| EQ | EQUAL | OC | ON CENTER | | |
| EX | EXISTING | OCEW | ON CENTER EACH WAY | | |
| F/G | FORM GRADE | OH | OVERHEAD | | |
| FDC | FIRE DEPARTMENT CONNECTION | OHWL | ORDINARY HIGH WATER LEVEL | | |
| FDN | FOUNDATION | OHD | OVERHEAD DOOR | | |
| FES | FLARED END SECTION | OZ | OUNCE | | |
| FFE | FINISHED FLOOR ELEVATION | PCC | PORTLAND CEMENT CONCRETE | | |
| FPM | FEET PER MINUTE | PED | PEDESTAL, PEDESTRIAN | | |
| FPS | FEET PER SECOND | PERF | PERFORATED | | |
| FT | FOOT, FEET | PL | PROPERTY LINE | | |
| FTG | FOOTING | PP | POLYPROPYLENE | | |
| GA | GAUGE | PSI | POUNDS PER SQUARE INCH | | |
| GAL | GALLON | | | | |
| GALV | GALVANIZED | | | | |




## LOCATION MAP

0 1,000 2,000
SCALE IN FEET

# SITE SUMMARY

| | |
|---|---|
| **PROJECT ADDRESS/LOCATION:** | 304 LUNDIN BOULEVARD MANKATO, MINNESOTA 56001 |
| **ZONING:** | PI - PLANNED INDUSTRIAL DISTRICT |
| **SITE/LOT AREA:** | 311,795 SF (7.2 AC) |

## REQUIRED SETBACKS

| | PARKING | BUILDING |
|---|---|---|
| **FRONT YARD** | 20' | 20' |
| **SIDE YARD** | 15' | 15' |
| **REAR YARD** | 6' | 20' |

## PARKING DATA

| | |
|---|---|
| LAND USE CLASSIFICATION | MANUFACTURING |
| PARKING SPACES REQUIRED (CODE) | FOUR (4) OFF-STREET PARKING SPACES, PLUS ONE (1) SPACE PER EMPLOYEE ON THE MAJOR SHIFT, OR ONE (1) SPACE FOR EACH THREE HUNDRED (300) SQ. FT. OF FLOOR AREA |
| GOVERNING INFORMATION | CITY OF MANKATO CODE OF ORDINANCES |
| PARKING SPACES REQUIRED | 4 SPACES + 60 EMPLOYEES = 64 SPACES |
| PARKING STALLS PROVIDED | |
| STANDARD | 128 |
| ACCESSIBLE | 5 |
| TOTAL | 133 |

## CIVIL SHEET INDEX


C0-10 SITE DATA
C0-20 DETAILS
C0-21 DETAILS
C0-22 DETAILS
C2-10 EXISTING SITE AND REMOVAL PLAN
C3-10 SITE AND UTILITY PLAN
C4-10 GRADING PLAN
C5-10 SITE RESTORATION AND PLANTING PLAN
C5-20 LANDSCAPE DETAILS
E2-01 SITE PHOTOMETRIC PLAN


## PROJECT GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS, WHICH INCLUDE, BUT ARE NOT LIMITED TO, THE OWNER - CONTRACTOR AGREEMENT, THE PROJECT MANUAL (WHICH INCLUDES GENERAL SUPPLEMENTARY CONDITIONS AND SPECIFICATIONS), DRAWINGS OF ALL DISCIPLINES AND ALL ADDENDA, MODIFICATIONS, AND CLARIFICATIONS ISSUED BY ARCHITECT/ENGINEER.
2. CONTRACT DOCUMENTS SHALL BE ISSUED TO ALL SUBCONTRACTORS BY THE GENERAL CONTRACTOR IN COMPLETE SETS IN ORDER TO ACHIEVE THE FULL EXTENT AND COMPLETE COORDINATION OF ALL WORK.
3. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
4. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
5. DETAILS SHOWN ARE INTENDED TO BE INDICATIVE OF THE PROFILES AND TYPE OF DETAILING REQUIRED THROUGHOUT THE WORK. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO DETAILS SHOWN. WHERE SPECIFIC DIMENSIONS, DETAILS, OR DESIGN INTENT CANNOT BE DETERMINED, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
6. ALL MANUFACTURED ARTICLES, MATERIALS, AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, CLEANED, AND CONDITIONED ACCORDING TO MANUFACTURERS' INSTRUCTIONS. IN CASE OF DISCREPANCIES BETWEEN MANUFACTURERS' INSTRUCTIONS AND THE CONTRACT DOCUMENTS, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
7. ALL DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO AVOID GALVANIC CORROSION.
8. THE LOCATION AND TYPE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY AND ARE ACCURATE AND COMPLETE TO THE BEST OF THE KNOWLEDGE OF I & S GROUP, INC. (ISG). NO WARRANTY OR GUARANTEE IS IMPLIED. THE CONTRACTOR SHALL VERIFY THE SIZES, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES OR VARIATIONS FROM PLAN.
9. THE CONTRACTOR IS TO CONTACT "GOPHER STATE ONE CALL" FOR UTILITY LOCATIONS A MINIMUM OF 2 BUSINESS DAYS PRIOR TO ANY EXCAVATION / CONSTRUCTION (1-800-252-1166).

## SPECIFICATIONS REFERENCE

ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF MANKATO REQUIREMENTS AND MnDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2020 EDITION, THE STANDARD SPECIFICATIONS FOR SANITARY SEWER, STORM DRAIN AND WATERMAIN AS PROPOSED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA, 2023 EDITION, AND THE CURRENT VERSION OF THE MINNESOTA STATE PLUMBING CODE UNLESS DIRECTED OTHERWISE.

## PROJECT DATUM

HORIZONTAL COORDINATES HAVE BEEN REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), 1996 ADJUSTMENT (NAD83(1996)) ON THE BLUE EARTH COUNTY COORDINATE SYSTEM, IN U.S. SURVEY FEET.
ELEVATIONS HAVE BEEN REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
RTK GPS METHODS WERE USED TO ESTABLISH HORIZONTAL AND VERTICAL COORDINATES FOR THIS PROJECT.

## TOPOGRAPHIC SURVEY

THIS PROJECT'S TOPOGRAPHIC SURVEY CONSISTS OF DATA COLLECTED IN MARCH 2025 BY ISG.

**B.M. ELEVATION=836.27**
TNFH LOCATED APPROX. 185' EAST OF THE WEST PROPERTY LINE ON THE SOUTH SIDE OF LUNDIN BLVD

ISG

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
BRYAN M. PETZEL
DATE _____ LIC. NO. 53191

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.
BRETT A. HARRIS
DATE _____ LIC. NO. 60537

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN LPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
|---|---|---|
| | | |

| | |
|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | 32426-C0-GENERAL |
| DRAWN BY | AAQ |
| DESIGNED BY | AAQ/BMP |
| REVIEWED BY | BMP |
| ORIGINAL ISSUE DATE | --/--/-- |
| CLIENT PROJECT NO. | 1180 |

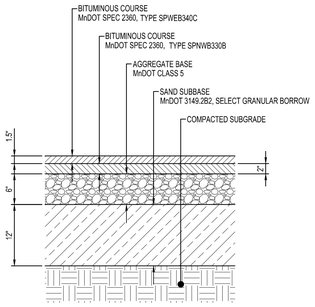
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**SITE DATA**

SHEET

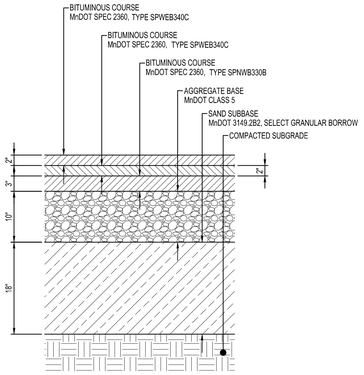
**C0-10**

PRELIMINARY NOT FOR CONSTRUCTION




## MEDIUM DUTY BITUMINOUS PAVEMENT

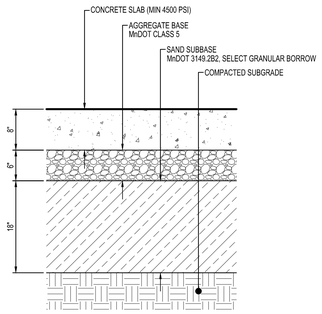
NTS




* CONTRACTOR TO VERIFY AND MATCH EXISTING PAVEMENT IN AREAS OF HEAVY DUTY BITUMINOUS PAVEMENT DESIGNATION.

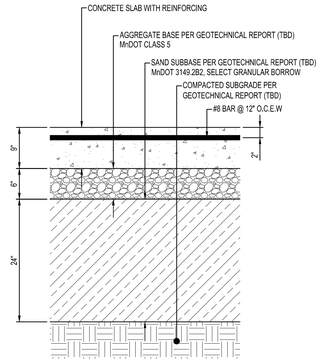
## HEAVY DUTY BITUMINOUS PAVEMENT

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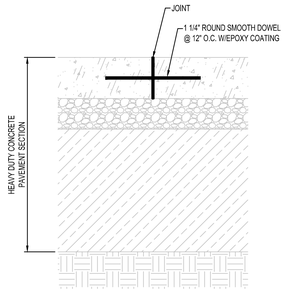

## STANDARD HEAVY DUTY CONCRETE PAVEMENT

NTS



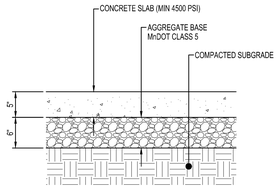

## EXTRA HEAVY DUTY CONCRETE PAVEMENT

NTS



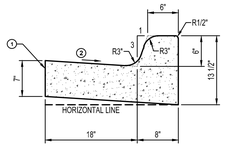

## EXTRA HEAVY DUTY CONCRETE JOINTING DETAIL

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## CONCRETE WALK

NTS




**KEY NOTES:**

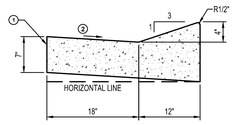
1. LONGITUDINAL JOINT WHEN ADJACENT TO RIGID PAVEMENT OR BASE.
2. SLOPE 0.06FT/FT NORMAL, UNLESS OTHERWISE SPECIFIED. IF A DIFFERENT GUTTER SLOPE IS PERMITTED, THE FORM MAY BE TILTED.

**NOTE:**

1. CURB AND GUTTER FOUNDATION SHALL CONSIST OF MINIMUM 6" THICK MNDOT CLASS 5 AGGREGATE BASE, EXTENDED A MINIMUM OF 12" BEHIND THE BACK OF CURB.

## B618 CONCRETE CURB & GUTTER

NTS




**KEY NOTES:**

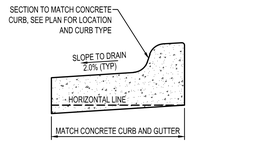
1. LONGITUDINAL JOINT WHEN ADJACENT TO RIGID PAVEMENT OR BASE.
2. SLOPE 0.06FT/FT NORMAL, UNLESS OTHERWISE SPECIFIED. IF A DIFFERENT GUTTER SLOPE IS PERMITTED, THE FORM MAY BE TILTED.

**NOTE:**

1. CURB AND GUTTER FOUNDATION SHALL CONSIST OF MINIMUM 6" THICK MNDOT CLASS 5 AGGREGATE BASE, EXTENDED A MINIMUM OF 12" BEHIND THE BACK OF CURB.

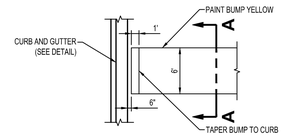
## D418 CONCRETE CURB & GUTTER

NTS

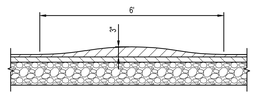



## REVERSE PITCH CONCRETE CURB AND GUTTER

NTS



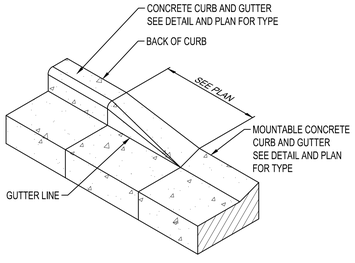

**PLAN VIEW**




**SECTION A-A**

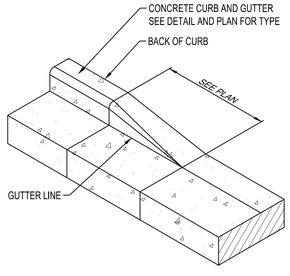
## BITUMINOUS SPEED BUMP

NTS



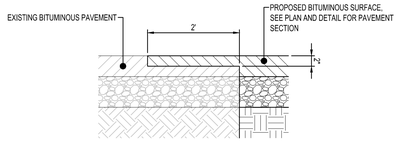

## CURB TRANSITION

NTS




## CURB TAPER

NTS

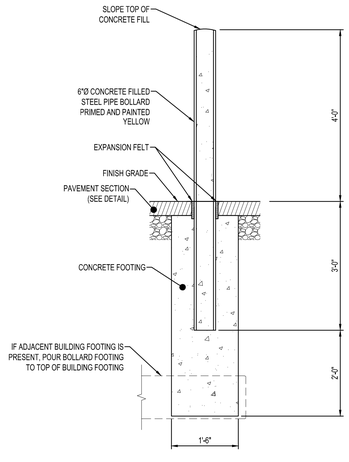



**NOTE:**

1. USE WHENEVER NEW BITUMINOUS ABUTS EXISTING BITUMINOUS.

## EDGE MILLING

NTS




## PIPE BOLLARD - PAINTED

NTS

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN LPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
|---|---|---|
| | | |

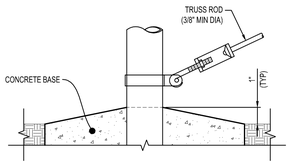
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|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | 32426-C0-DETAILS |
| DRAWN BY | AAQ |
| DESIGNED BY | AAQ/BMP |
| REVIEWED BY | BMP |
| ORIGINAL ISSUE DATE | --/--/-- |
| CLIENT PROJECT NO. | 1180 |

TITLE

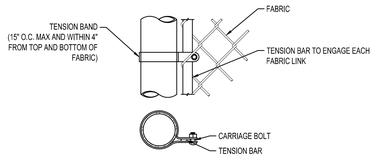
**DETAILS**

SHEET

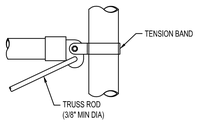
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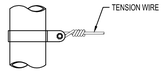

TRUSS ROD & BAND




END OR GATE POST




ROUND POST

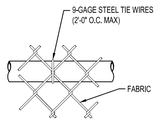



TENSION BAND

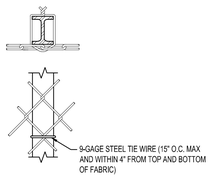


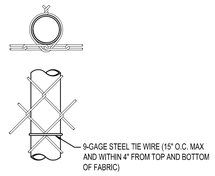
H-BEAM

BRACE RAIL CLAMP




TOP OR BRACE RAIL ATTACHMENT



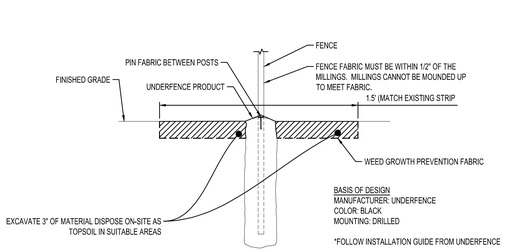




LINE POST ATTACHMENT

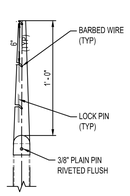
## NOTES:

1. PERIMETER FENCE SHALL BE SECURED AT ALL TIMES. THE FENCE IS CONSIDERED SECURE WHEN IT IS IN ITS FULL UPRIGHT POSITION, INCLUDING BARBED WIRE.
2. FENCE SHALL BE GROUNDED IN ACCORDANCE TO STANDARD SPECIFICATIONS, AND AT ALL LOCATIONS WHERE THE FENCE CROSSES OVERHEAD POWER LINES.
3. CONTRACTOR IS REQUIRED TO LOCATE ALL UTILITIES, INCLUDING PRIVATE UTILITIES, CROSSING EXISTING AND PROPOSED FENCE LINE.
4. EXCAVATED MATERIAL TO BE DISPOSED ON-SITE SHALL BE THINLY SPREAD INSIDE FENCE LINE.
5. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPES OF FENCE SECTIONS AND METHODS OF INSTALLATION THAT COMPLY WITH THE SPECIFICATIONS.
6. WIRE TIES, RAILS, POSTS AND BRACES SHALL BE CONSTRUCTED ON THE SECURE SIDE OF THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE SIDE OPPOSITE THE SECURE AREA.
7. UNLESS SPECIFICALLY SHOWN OR SPECIFIED, ALL FENCE SHALL HAVE APRON EXTENDED OUTWARD FROM THE AREA BEING PROTECTED.
8. C-SECTION POSTS SHALL BE INSTALLED SO THAT THE VOID INSIDE THE POST IS COMPLETELY FILLED WITH CONCRETE UP TO THE TOP OF THE FOUNDATION.
9. ALL CORNER, END, PULL, AND LINE POSTS SHALL BE SIZED AND DESIGNED BY FENCE SUPPLIER USING THE WIND LOAD CRITERIA LISTED BELOW (REFERENCE ASCE 7-10). FENCE SHALL NOT BE DESIGNED FOR ANY COVERINGS OR PRIVACY SLATTING. PROVIDE CALCULATIONS FOR REVIEW PRIOR TO FABRICATION.
10. ALL MAN GATES SHALL HAVE CRASHBAR HARDWARE INSTALLED ON THE INTERIOR SIDE OF THE GATE.
11. FENCE SHALL HAVE FABRIC PIN/ STAKE BETWEEN POSTS.
12. MATCH EXISTING / ADJACENT FENCE IN ALL ASPECTS.

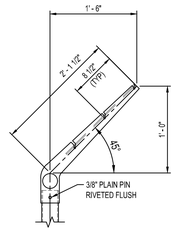
CHAIN-LINK FENCE FASTENING DETAILS



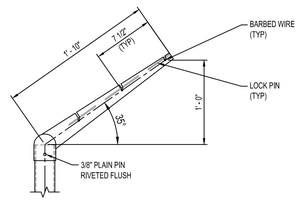

MAINTENANCE STRIP DETAIL




GATE POST

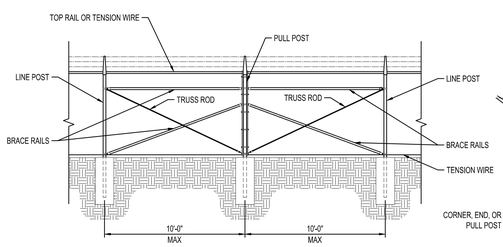



LINE POST




CORNER POST

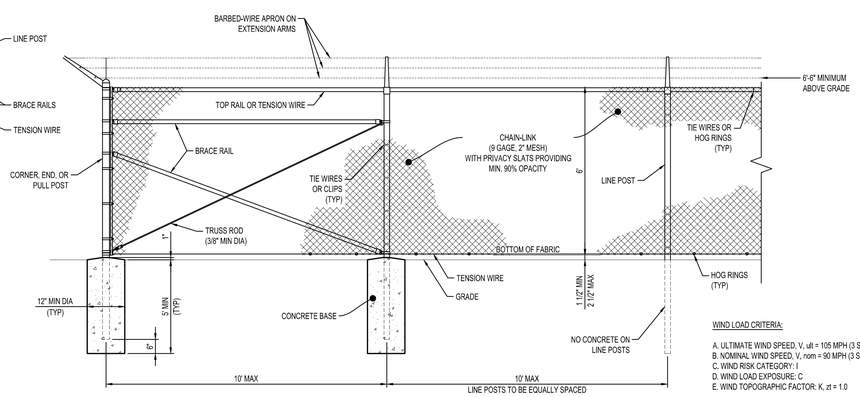
EXTENSION ARM DETAILS




## NOTES:

PROVIDE BRACE PANEL WHENEVER STRAIGHT RUNS EXCEED 500 FEET.

BRACE PANEL




WIND LOAD CRITERIA:

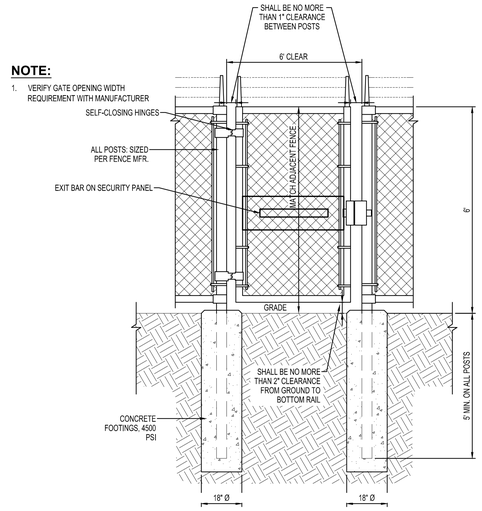
A. ULTIMATE WIND SPEED, V, ult = 105 MPH (3 SEC GUST)
B. NOMINAL WIND SPEED, V, nom = 90 MPH (3 SEC GUST)
C. WIND RISK CATEGORY: I
D. WIND LOAD EXPOSURE: C
E. WIND TOPOGRAPHIC FACTOR: K, zt = 1.0

## NOTES:

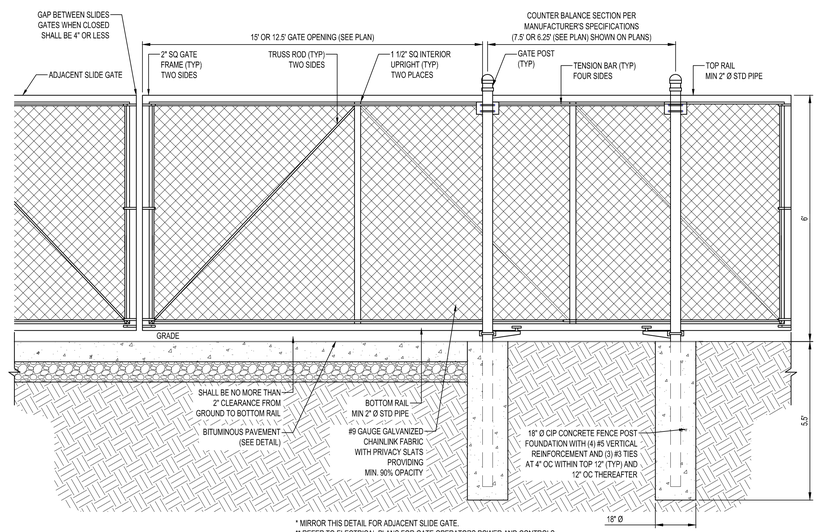
ALL GATE AND CORNER POSTS SHALL BE SET IN CONCRETE.

PROVIDE PRIVACY SLATS FOR ALL FENCES EXCEPT IN AREAS IDENTIFIED AS HAVING NO SLATS ON THE PLANS

BARBED WIRE
CHAIN-LINK FENCE
NTS




MAIN GATE
NTS




* MIRROR THIS DETAIL FOR ADJACENT SLIDE GATE.
** REFER TO ELECTRICAL PLANS FOR GATE OPERATORS POWER AND CONTROLS.
***PROVIDE PRIVACY SLATS FOR ALL GATES EXCEPT IN AREAS IDENTIFIED AS HAVING NO SLATS ON THE PLANS.

15' OR 12.5' (SEE PLAN) AUTOMATED SLIDING GATE
NTS

ISG

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BRYAN M. PETZEL
DATE _____ LIC. NO. 53191

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DATE _____ LIC. NO. 60537

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN LPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
|---|---|---|
| | | |

| | |
|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | 32426-C0-DETAILS |
| DRAWN BY | AAQ |
| DESIGNED BY | AAQ/BMP |
| REVIEWED BY | BMP |
| ORIGINAL ISSUE DATE | --/--/-- |
| CLIENT PROJECT NO. | 1180 |

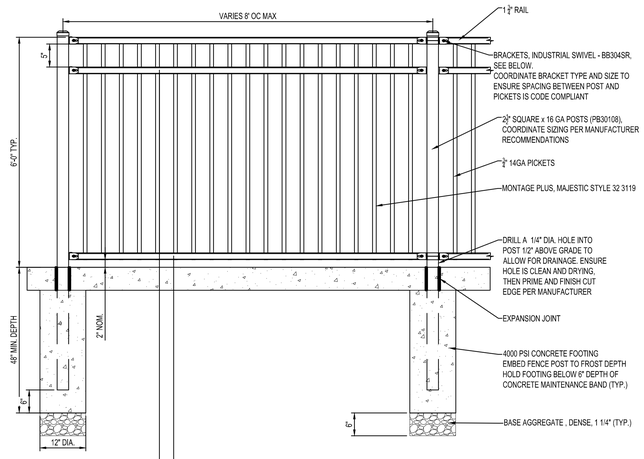
TITLE

**DETAILS**

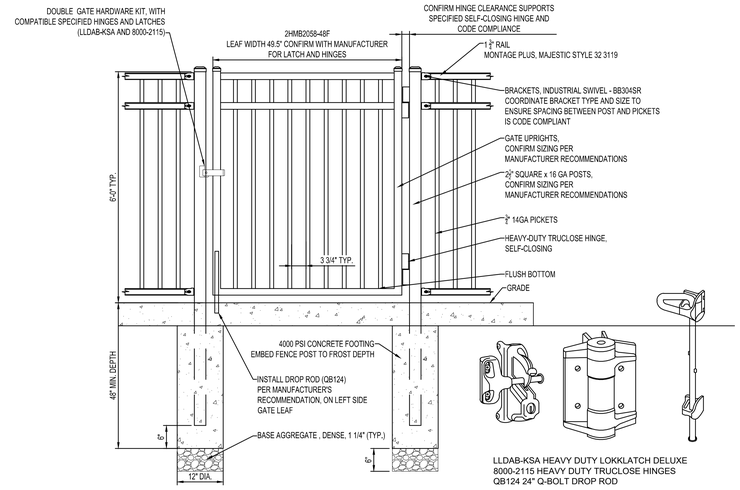
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**C0-21**

PRELIMINARY NOT FOR CONSTRUCTION



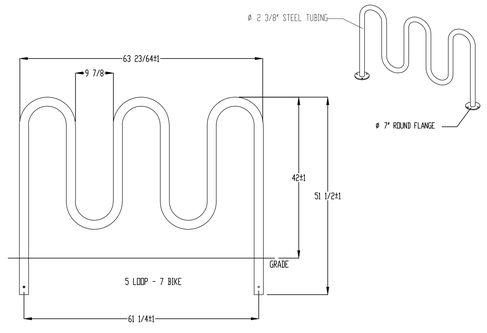

PATIO FENCE
NTS




PATIO FENCE
SWING GATE (SINGLE)
NTS

MADRAX

MADRAX DIVISION
GRABER MANUFACTURING, INC.
1081 UNDEY DRIVE
WAUNAKEE, WI 53597
P(800) 448-7931, P(608) 849-1080, F(608) 849-1081
WWW.MADRAX.COM, E-MAIL: SALES@MADRAX.COM




CHECK DESIRED MOUNT




☐ IN GROUND MOUNT (IG)




☐ SURFACE FLANGE MOUNT (SF)

PRODUCT: HW238-7-(G)(SF)
DESCRIPTION HEAVY DUTY WINDER BIKE RACK
7 BIKE, SURFACE OR IN GROUND MOUNT
DATE: 10-16-18
ENG: SMC

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NOTES:
1. INSTALL BIKE RACKS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. CONSULTANT TO SELECT COLOR (FINISH). SEE MANUFACTURER'S SPECIFICATIONS.
3. SEE SITE PLAN FOR LOCATION OR CONSULT OWNER.

ISG

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN LPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
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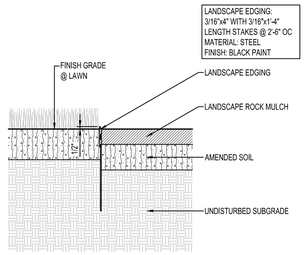
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|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | 32426-C0-DETAILS |
| DRAWN BY | AAQ |
| DESIGNED BY | AAQ/BMP |
| REVIEWED BY | BMP |
| ORIGINAL ISSUE DATE | --/--/-- |
| CLIENT PROJECT NO. | 1180 |

TITLE

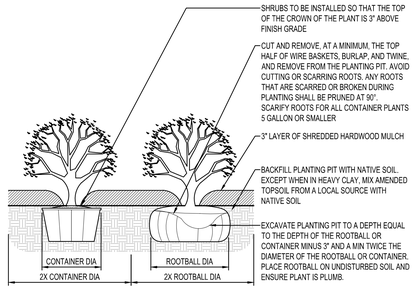
**DETAILS**

SHEET

**C0-22**




LANDSCAPE EDGING
NTS




SHRUB PLANTING
NTS

## PLANTING NOTES

1. COORDINATE LOCATION OF ALL UTILITIES (LINES, DUCTS, CONDUITS, SLEEVES, FOOTINGS, ETC.) WITH LOCATIONS OF PROPOSED LANDSCAPE ELEMENTS (FENCE, FOOTINGS, TREE ROOTBALLS, ETC.). CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO OWNER'S REPRESENTATIVE PRIOR TO CONTINUING WORK.
2. SAVE AND PROTECT ALL EXISTING TREES NOT NOTED TO BE REMOVED.
3. REMOVE ALL CONSTRUCTION DEBRIS AND MATERIALS INJURIOUS TO PLANT GROWTH FROM PLANTING PITS AND BEDS PRIOR TO BACKFILLING WITH PLANTING MIX.
4. REFER TO PLANTING DETAILS FOR AMENDED SOIL DEPTH IN PLANTING BEDS AND SURROUNDING TREES.
5. FIELD STAKE PLANTINGS ACCORDING TO PLAN. OWNER'S REPRESENTATIVE SHALL APPROVE ALL PLANT LOCATIONS PRIOR TO INSTALLATION. OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REVISE PLANTING LAYOUT AT TIME OF INSTALLATION.
6. ALL PLANT MATERIALS SHALL BE TRUE TO THEIR SCIENTIFIC NAME AND SIZE AS INDICATED IN THE PLANT SCHEDULE.
7. IF DISCREPANCIES EXIST BETWEEN THE NUMBER OF PLANTS DRAWN ON THE PLANTING PLAN AND THE NUMBER OF PLANTS IN THE SCHEDULE, THE PLANTING PLAN SHALL GOVERN.
8. ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE, AND ONLY AFTER WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
9. ALL PLANT MATERIALS MUST CONFORM TO AMERICAN STANDARDS FOR NURSERY STOCK (ANSI Z60.1), LATEST EDITION PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, WASHINGTON D.C. LARGER SIZED PLANT MATERIALS OF THE SPECIES LISTED MAY BE USED IF THE STOCK CONFORMS TO ANSI Z60.1.
10. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN A LIVE AND HEALTHY GROWING CONDITION FOR ONE FULL GROWING SEASON (ONE YEAR) AFTER FINAL PROJECT ACCEPTANCE OR SHALL BE REPLACED BY THE CONTRACTOR FREE OF CHARGE WITH THE SAME GRADE AND SPECIES.
11. ALL TREES SHALL HAVE A STRONG CENTRAL LEADER. ANY TREES DEEMED NOT TO HAVE A STRONG CENTRAL LEADER SHALL BE REJECTED.
12. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE DUE TO CONSTRUCTION OPERATIONS. ANY AREAS THAT ARE DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
13. PROVIDE LANDSCAPE ROCK MULCH SURROUNDING ALL PROPOSED TREES (5' Ø) AND WITHIN PLANTING BEDS TO A 3" MINIMUM DEPTH AS SHOWN IN TREE PLANTING DETAIL. DO NOT USE AN UNDERLAYMENT SUCH AS PLASTIC SHEET OR LANDSCAPE FABRIC. APPLY PRE-EMERGENT TO ALL PLANTING BEDS PRIOR TO MULCHING. REFER TO PLANS FOR ADDITIONAL DETAILS. REFER TO STORMWATER DETAILS FOR BASIN CONSTRUCTION AND MULCH APPLICATION.
14. MULCHING MATERIAL SHALL BE LANDSCAPE ROCK MULCH, WITH NO INDIVIDUAL PIECES LARGER THAN 3", FREE OF GROWTH OR GERMINATION INHIBITING INGREDIENTS, 3" MINIMUM DEPTH. MINIMUM DEPTHS AT LOCATIONS INDICATED ON DRAWINGS.
15. CONTRACTOR SHALL PROVIDE SAMPLE OF MULCH TO BE APPROVED BY THE LANDSCAPE ARCHITECT.
16. INDICATED QUANTITIES ARE ESTIMATES AND SHALL BE CONFIRMED BY THE CONTRACTOR.
17. ADJUST SPACING OF PLANT MATERIALS AROUND ADJACENT UTILITY STRUCTURES.

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN LPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
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|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | 32426-C5-LAND |
| DRAWN BY | AAQ |
| DESIGNED BY | AAQ/BMP |
| REVIEWED BY | BMP |
| ORIGINAL ISSUE DATE | --/--/-- |
| CLIENT PROJECT NO. | 1180 |

TITLE

**LANDSCAPE DETAILS**

SHEET

**C5-20**

PRELIMINARY NOT FOR CONSTRUCTION



d-series

# D-Series Size 2
## LED Wall Luminaire

Catalog Number

Notes

Type

*Hit the Tab key or mouse over the page to see all interactive elements.*

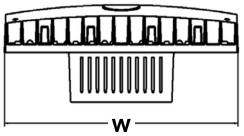
## Specifications

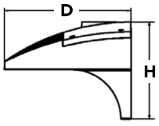
### Luminaire

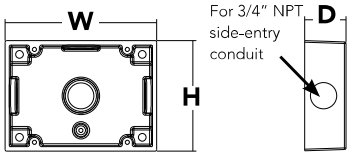
| | | | |
|---|---|---|---|
| **Width:** | 18-1/2" (47.0 cm) | **Weight:** | 21 lbs (9.5 kg) |
| **Depth:** | 10" (25.4 cm) | | |
| **Height:** | 7-5/8" (19.4 cm) | | |

### Back Box (BBW)

| | | | |
|---|---|---|---|
| **Width:** | 5-1/2" (14.0 cm) | **BBW Weight:** | 1 lbs (0.5 kg) |
| **Depth:** | 1-1/2" (3.8 cm) | | |
| **Height:** | 4" (10.2 cm) | | |




A+ Capable options indicated by this color background.

## A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background[1]

To learn more about A+, visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: Link to Roam; Link to DTL DLL

## Ordering Information

**EXAMPLE:** DSXW2 LED P2 40K 70CRI T3M MVOLT SRM DDBTXD

| DSXW2 LED | W2,W4 | | | | W2 | | | |
|---|---|---|---|---|---|---|---|---|
| **Series** | **Lumen Package** | **CCT** | **CRI** | **Distribution** | **Voltage** | **Mounting** | **Control Options** | |
| DSXW2 LED | P1 4200 Lumens | 27K 2700K | 70CRI 70CRI | T2S Type 2 Short | MVOLT | **Shipped included** | **Shipped installed** | |
| | P2 5300 Lumens | 30K 3000K | 80CRI 80CRI[3] | T2M Type 2 Medium | 120[5] | SRM Surface mounting bracket | PE | Photoelectric cell, button type[7] |
| | P3 6100 Lumens | 35K 3500K | AMCRI Amber CRI | T3LG Type 3 Low Glare[4] | 208[5] | | PER | NEMA twist-lock receptacle only (control ordered separate)[8] |
| | P4 7200 Lumens | 40K 4000K | | T3M Type 3 Medium | 240[5] | **Shipped separately**[15] | PER5 | Five-wire receptacle only (control ordered separate)[8,9] |
| | P5 8200 Lumens | 50K 5000K | | T4M Type 4 Medium | 277[5] | BBW Surface-mounted back box (for conduit entry) | PER7 | Seven-wire receptacle only (control ordered separate)[8,9] |
| W1 | P6 10000 Lumens | 57K 5700K | W1,W3,W4 | TFTM Forward Throw Medium | 347[5,6] | | DMG | 0–10v dimming wires pulled outside fixture (for use with an external control, ordered separately) |
| W3 | P7 14300 Lumens | AMBPC Amber PC[1] | | BLC3 Back Light Control Type 3[4] | 480[5,6] | | PIR | 180° motion/ambient light sensor, <15' mtg ht[10,11] |
| | | AMBLW Amber LW[2] | | BLC4 Back Light Control Type 4[4] | HVOLT[6] | | PIRH | 180° motion/ambient light sensor, 15–30' mtg ht[10,11] |
| | | | | | | | PIR1FC3V | Motion/ambient sensor, 8–15' mounting height, ambient sensor enabled at 1fc[11,12] |
| | | | | | | | PIRH1FC3V | Motion/ambient sensor, 15–30' mounting height, ambient sensor enabled at 1fc[11,12] |

| Other Options | | | | Finish *(required)* | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Shipped installed** | | **Shipped separately**[15] | | DDBXD | Dark bronze | DSSXD | Sandstone | DWHGXD | Textured white |
| SF | Single fuse (120, 277, 347V)[5] | BSW | Bird-deterrent spikes | DBLXD | Black | DDBTXD | Textured dark bronze | DSSTXD | Textured sandstone |
| DF | Double fuse (208, 240, 480V)[5] | VG | Vandal guard | DNAXD | Natural aluminum | DBLBXD | Textured black | | |
| HS | House-side shield W2 ONLY | | | DWHXD | White | DNATXD | Textured natural aluminum | | |
| SPD | Separate surge protection[13] | | | | | | | | |



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## Ordering Information

### Accessories

*Ordered and shipped separately.*

| | |
|---|---|
| DLL127F 1.5 JU | Photocell - SSL twist-lock (120-277V) [14] |
| DLL347F 1.5 CUL JU | Photocell - SSL twist-lock (347V) [14] |
| DLL480F 1.5 CUL JU | Photocell - SSL twist-lock (480V) [14] |
| DSHORT SBK U | Shorting cap (Included when ordering PER, PER5 or PER7) [14] |
| DSXWHS U | House-side shield (one per light engine) |
| DSXWBSW U | Bird-deterrent spikes |
| DSXW2VG U | Vandal guard accessory |
| DSXW2BBW DDBXD U | Back box accessory (specify finish) |

*For more control options, visit DTL and ROAM online.*

**NOTES**

1 AMBPC only available with AMCRI
2 AMBLW only available in P1 and P6 Packages and AMBCRI
3 Not available with 57K
4 Not available with HS Option
5 Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
6 Not available with P1 Option
7 Photocontrol (PE) requires 120, 208, 240, 277 or 347 voltage option. Not available with motion/ambient light sensors (PIR or PIRH).
8 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
9 If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
10 Reference Motion Sensor table on page 3.
11 Reference PER Table on page 3 for functionality.
12 PIR and PIR1FC3V specify the SensorSwitch SBGR-10-ODP control; PIRH and PIRH1FC3V specify the SensorSwitch SBGR-6-ODP control; see Motion Sensor Guide for details. Dimming driver standard. Not available with PER5 or PER7. Separate on/off required.
13 See the electrical section on page 2 for more details.
14 Requires luminaire to be specified with PER option. Ordered and shipped as a separate line item. See PER Table.
15 Also available as a separate accessory; see Accessories information.

## Performance Data

### Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08.

| Package | Dist. Type | System Watts | 30K, 70CRI | | 40K, 70CRI | | 50K, 70CRI | |
|---|---|---|---|---|---|---|---|---|
| | | | Lumens | LPW | Lumens | LPW | Lumens | LPW |
| P1 | T2M | 27 | 4,030 | 150 | 4,305 | 160 | 4,365 | 163 |
| | T3M | 27 | 3,913 | 146 | 4,180 | 156 | 4,238 | 158 |
| | T4M | 27 | 3,990 | 149 | 4,262 | 159 | 4,322 | 161 |
| | TFTM | 27 | 3,978 | 148 | 4,250 | 158 | 4,309 | 161 |
| | BLC4 | 27 | 3,028 | 113 | 3,234 | 121 | 3,279 | 122 |
| P2 | T2M | 35 | 5,090 | 146 | 5,438 | 156 | 5,513 | 158 |
| | T3M | 35 | 4,942 | 142 | 5,279 | 152 | 5,352 | 154 |
| | T4M | 35 | 5,040 | 145 | 5,384 | 155 | 5,458 | 157 |
| | TFTM | 35 | 5,024 | 144 | 5,367 | 154 | 5,442 | 156 |
| | BLC4 | 35 | 3,824 | 110 | 4,085 | 117 | 4,142 | 119 |
| P3 | T2M | 41 | 5892 | 143 | 6,294 | 153 | 6,381 | 155 |
| | T3M | 41 | 5720 | 139 | 6,110 | 148 | 6,195 | 150 |
| | T4M | 41 | 5833 | 142 | 6,231 | 151 | 6,318 | 153 |
| | TFTM | 41 | 5816 | 141 | 6,212 | 151 | 6,299 | 153 |
| | BLC4 | 41 | 4426 | 107 | 4,728 | 115 | 4,794 | 116 |
| P4 | T2M | 49 | 6,932 | 141 | 7,405 | 151 | 7,508 | 153 |
| | T3M | 49 | 6,730 | 137 | 7,189 | 146 | 7,289 | 148 |
| | T4M | 49 | 6,863 | 139 | 7,331 | 149 | 7,433 | 151 |
| | TFTM | 49 | 6,842 | 139 | 7,309 | 149 | 7,411 | 151 |
| | BLC4 | 49 | 5,207 | 106 | 5,563 | 113 | 5,640 | 115 |
| P5 | T2M | 57 | 7,882 | 138 | 8,420 | 148 | 8,536 | 150 |
| | T3M | 57 | 7,652 | 134 | 8,174 | 143 | 8,288 | 145 |
| | T4M | 57 | 7,803 | 137 | 8,336 | 146 | 8,452 | 148 |
| | TFTM | 57 | 7,780 | 136 | 8,311 | 146 | 8,426 | 148 |
| | BLC4 | 57 | 5,921 | 104 | 6,325 | 111 | 6,413 | 112 |
| P6 | T2M | 71 | 9,697 | 137 | 10,359 | 146 | 10,503 | 148 |
| | T3M | 71 | 9,415 | 133 | 10,057 | 142 | 10,197 | 144 |
| | T4M | 71 | 9,601 | 135 | 10,256 | 145 | 10,399 | 147 |
| | TFTM | 71 | 9,572 | 135 | 10,225 | 144 | 10,367 | 146 |
| | BLC4 | 71 | 7,285 | 103 | 7,782 | 110 | 7,890 | 111 |
| P7 | T2M | 104 | 13,812 | 133 | 14,755 | 142 | 14,960 | 144 |
| | T3M | 104 | 13,410 | 129 | 14,325 | 138 | 14,524 | 140 |
| | T4M | 104 | 13,675 | 132 | 14,608 | 141 | 14,811 | 143 |
| | TFTM | 104 | 13,634 | 131 | 14,565 | 140 | 14,767 | 142 |
| | BLC4 | 104 | 10,376 | 100 | 11,084 | 107 | 11,238 | 108 |

**Note:**
Available with phosphor-converted amber LED's (nomenclature AMBPC). These LED's produce light with 97+% >530 nm.
Output can be calculated by applying a 0.7 factor to 4000 K lumen values and photometric files.


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# Performance Data

## Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

| Ambient | | Lumen Multiplier |
|---|---|---|
| 0°C | 32°F | 1.04 |
| 10°C | 50°F | 1.02 |
| 20°C | 68°F | 1.01 |
| 25°C | 77°F | 1.00 |
| 30°C | 86°F | 0.99 |
| 40°C | 104°F | 0.97 |

## Electrical Load

| | | | | Current (A) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Performance Package | LEDs | Drive Current (mA) | System Watts | 120V | 208V | 240V | 277V | 347V | 480V |
| DSXW2 P1 | 20 | 425 | 27 | 0.22 | 0.13 | 0.11 | 0.09 | - | - |
| DSXW2 P2 | 20 | 550 | 35 | 0.29 | 0.17 | 0.14 | 0.12 | 0.10 | 0.07 |
| DSXW2 P3 | 20 | 650 | 41 | 0.34 | 0.20 | 0.17 | 0.15 | 0.12 | 0.09 |
| DSXW2 P4 | 20 | 775 | 49 | 0.41 | 0.24 | 0.21 | 0.18 | 0.14 | 0.10 |
| DSXW2 P5 | 20 | 900 | 57 | 0.47 | 0.27 | 0.24 | 0.20 | 0.16 | 0.12 |
| DSXW2 P6 | 30 | 725 | 71 | 0.56 | 0.33 | 0.29 | 0.25 | 0.19 | 0.14 |
| DSXW2 P7 | 30 | 1100 | 104 | 0.86 | 0.49 | 0.42 | 0.37 | 0.30 | 0.22 |

## Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **DSXW2 LED P7** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

| Operating Hours | 0 | 25,000 | 50,000 | 100,000 |
|---|---|---|---|---|
| Lumen Maintenance Factor | 1.0 | 0.95 | 0.91 | 0.82 |

| Motion Sensor Default Settings | | | | | | |
|---|---|---|---|---|---|---|
| Option | Dimmed State | High Level (when triggered) | Photocell Operation | Dwell Time | Ramp-up Time | Ramp-down Time |
| PIR or PIRH | 3V (37%) Output | 10V (100%) Output | Enabled @ 5FC | 5 min | 3 sec | 5 min |
| *PIR1FC3V or PIRH1FC3V | 3V (37%) Output | 10V (100%) Output | Enabled @ 1FC | 5 min | 3 sec | 5 min |

*For use when motion sensor is used as dusk to dawn control

## PER Table

| Control | PER (3 wire) | PER5 (5 wire) | | PER7 (7 wire) | | |
|---|---|---|---|---|---|---|
| | | | Wire 4/Wire5 | | Wire 4/Wire5 | Wire 6/Wire7 |
| Photocontrol Only (On/Off) | ✓ | ⚠ | Wired to dimming leads on driver | ⚠ | Wired to dimming leads on driver | Wires Capped inside fixture |
| ROAM | ⊘ | ✓ | Wired to dimming leads on driver | ⚠ | Wired to dimming leads on driver | Wires Capped inside fixture |
| ROAM with Motion | ⊘ | ⚠ | Wired to dimming leads on driver | ⚠ | Wired to dimming leads on driver | Wires Capped inside fixture |
| Futureproof* | ⊘ | ⚠ | Wired to dimming leads on driver | ✓ | Wired to dimming leads on driver | Wires Capped inside fixture |
| Futureproof* with Motion | ⊘ | ⚠ | Wired to dimming leads on driver | ✓ | Wired to dimming leads on driver | Wires Capped inside fixture |

✓ Recommended

⊘ Will not work

⚠ Alternate

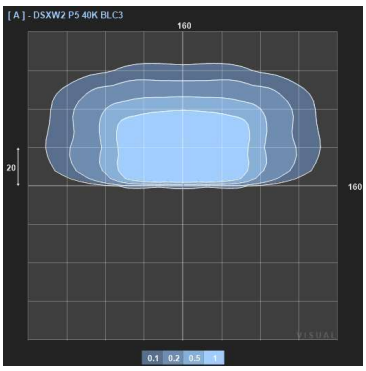
*Futureproof means: Ability to change controls in the future.

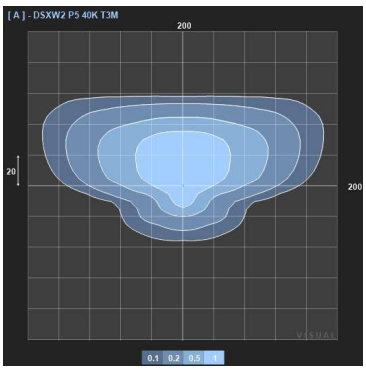

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## Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Wall Size 2 homepage.

Isofootcandle plots for the DSXW2 LED P5 40K. Distances are in units of mounting height (20').




## FEATURES & SPECIFICATIONS

### INTENDED USE
The energy savings, long life and easy-to-install design of the D-Series Wall Size 2 make it the smart choice for building-mounted doorway and pathway illumination for nearly any facility.

### CONSTRUCTION
Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance. The LED driver is mounted to the door to thermally isolate it from the light engines for low operating temperature and long life. IP66 rated light engine.

### FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in textured and non-textured finishes.

### OPTICS
Precision-molded proprietary acrylic lenses provide multiple photometric distributions tailored specifically to building mounted applications. Light engines are available in multiple CCTs and CRIs including Amber for specialized applications.

### ELECTRICAL
Light engine(s) consist of 10 high-efficacy LEDs mounted to a metal-core circuit board to maximize heat dissipation and promote long life (L87/100,000 hrs at 25°C). Class 1 electronic drivers have a power factor >90%, THD <20%, and a minimum 6KV surge rating. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C Low (per ANSI/IEEE C62.41.2).

### INSTALLATION
Included universal mounting bracket attaches securely to any 4" round or square outlet box for quick and easy installation. Luminaire has a slotted gasket wireway and attaches to the mounting bracket via corrosion-resistant screws.

### LISTINGS
CSA certified to U.S. and Canadian standards. Rated for -40°C minimum ambient.

### GOVERNMENT PROCUREMENT
BAA – Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

### WARRANTY
Five-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at www.acuitybrands.com/support/warranty/terms-and-conditions

**Note:** Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.


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| Catalog Number | |
|---|---|
| Notes | |
| Type | |

Contractor Select™

# CNY LED ALO

## Canopy Luminaire Adjustable+Switchable+Photocell +Occupancy Sensor





The Lithonia Lighting CNY LED ALO canopy luminaire is a versatile, energy-efficient solution for surface-mount applications for walkways, overhangs, and parking garages. Adjustable switch panel easily changes lumen output, color temperature, integrated photocell, and integrated motion sensor. The low profile frosted lens creates a visually comfortable illumination and even distribution.

### FEATURES:

- 3 power levels deliver 5,000 - 10,000 lumens.
- Switchable CCT (30K/40K/50K) offers warm, cool, and daylight in a single fixture
- Integrated On/Off photocell
- Integrated occupancy sensor can be turned on, off, or set to 10% dim
- Install by surface mount, junction box, or pendant mount
- IK08 Impact resistant polycarbonate frosted lens
- IP65 rated, die cast aluminum housing

Adjustable Lumen Output ALO

Switchable CCT SWW2

Integrated Photocell

Integrated Motion Sensor

DLC LISTED PREMIUM · 65 IP RATED · LED · SP C US · WET LOCATION™ · 5 YEAR warranty

| Catalog Number | Adjustable Lumen Output ALO | | | Switchable CCT SWW2 | Photocell Operation | Occupancy Sensor | Input Voltage | CRI | Finish |
|---|---|---|---|---|---|---|---|---|---|
| CNY LED ALO SWW2 UVOLT PE PIR DDB M2 | 5,000 Lumens | 7,500 Lumens | 10,000 Lumens | Switchable 3000K, 4000K,5000K | Included Standard, Selectable On/Off | Included Standard, Selectable On/Off/10% Dim | 120-347V | 80CRI | Dark Bronze |
| CNY LED ALO SWW2 UVOLT PE PIR WH M2 | 5,000 Lumens | 7,500 Lumens | 10,000 Lumens | Switchable 3000K, 4000K,5000K | Included Standard, Selectable On/Off | Included Standard, Selectable On/Off/10% Dim | 120-347V | 80CRI | White |

### CNY Stock Options

| Catalog Number | UPC | Ci Code | Number of fixtures per pallet | Tradtional Replacement |
|---|---|---|---|---|
| CNY LED ALO SWW2 UVOLT PE PIR DDB M2 | 00197589495041 | *284HU8 | 180 | Up to 250W HID |
| CNY LED ALO SWW2 UVOLT PE PIR WH M2 | 00197589495126 | *284HUH | 180 | Up to 250W HID |

**Accessories:** *Order as separate catalog number.*

| | |
|---|---|
| CNYBCP DDB | 14 Inch x 14 Inch Beauty Cover Plate |
| CNYEK E7WC M12 | Field installable emergency battery; 7W, UVOLT compatible, Minimum operating temp of 0°C |

### Lumen Output:

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79.

| Lumen Output | Input Wattage | CCT/80CRI | Delivered Lumens | Lumens Per Watt |
|---|---|---|---|---|
| 5,000 | 34 | 3000K | 4709 | 139 |
| | | 4000K | 4794 | 147 |
| | | 5000K | 4777 | 143 |
| 7,500 | 52 | 3000K | 7169 | 133 |
| | | 4000K | 7403 | 144 |
| | | 5000K | 7291 | 137 |
| 10,000 | 75 | 3000K | 9504 | 123 |
| | | 4000K | 9894 | 136 |
| | | 5000K | 9529 | 125 |

## Specifications

### INTENDED USE:

The CNY LED ALO canopy luminaire is ideal for surface mount application such as canopies over building entrances, walkways, loading docks, and covered parking areas. The products traditional style does not detract from current building aesthetics, creating a seamless upgrade. These products are energy-efficient replacements of existing surface mount products; up to 250W metal halide.

CNY LED ALO features adjustable lumen output include low, medium, and high. Switchable CCT includes 3000K (warm), 4000K (neutral), or 5000K (daylight), a selectable integral photocell that automatically turns the fixture on in the evening and off the next morning, and a selectable integral occupancy sensor that can turn on the fixture when motion is detected and be set to maintain 10% illumination or fully off when no motion is detected.

### CONSTRUCTION:

The CNY LED ALO has a cast-aluminum housing with powder coat finish for lasting durability. The IK08 impact rated frosted lens is designed for uniform light distribution while providing visually comfortable illumination. The lens is sealed with a one piece gasket creating an IP65 rated fixture. Rated for temps -40C to 25C.

### ELECTRICAL:

Standard 6kV surge protection tested in accordance to ANSI/IEEE C62.41.2 Category C. CNY LED ALO luminaires use UVOLT (120-347V). Adjustable lumen output is achieved with 0-10V continuous dimming capable drivers, ensuring system power factor>90% and THD <20%. High-efficiency LEDs maintains over 70% of light output at 100,000 hours (L70>100,000 hours).

### INSTALLATION:

The CNY LED ALO canopy luminaire features a quick-mount plate that makes mounting to a recessed junction box or conduit entry point both quick and trouble free. The quick-mount plate can be separated for surface mounting and reattached via a hinge for support while wiring. Four 3/4" NPS conduit entry points are built into the quick-mount plate to allow fast and confident alignment for surface-conduit wiring.

### LISTINGS:

UL Listed to U.S. and Canadian safety standards for wet locations. Tested in accordance with IESNA LM-79 and LM-80 standards.

DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Can be used to comply with California Title 24, Part 6 High Efficacy LED light Source Requirements

### WARRANTY:

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

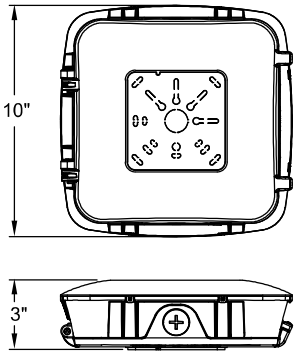
**Note**: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

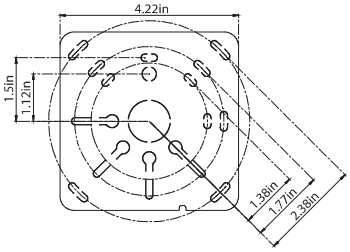
## Dimensions

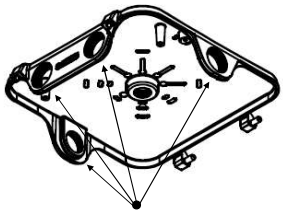
### CNY LED ALO

Width: 10" (25.4cm)
Height 3" (7.62cm)
Depth: 10" (25.4cm)
Weight: 4.8lbs (2.18kg)

All dimensions are inches (centimeters) unless otherwise indicated.



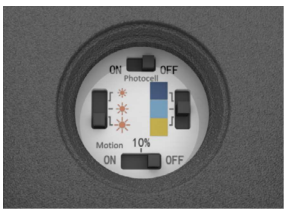



Location of Side Conduit KO Holes

### Occupancy Sensor Settings




**Time to Off with No Occupancy is 10 minutes**




| Factory Settings | |
|---|---|
| Lumen Output | 10,000 |
| CCT | 4000K |
| Photocell | Off |
| Occupancy Sensor | Off |


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# D-Series Size 1
## LED Area Luminaire

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

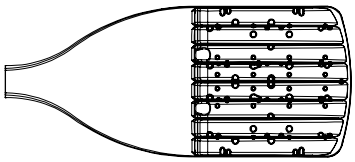
## Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

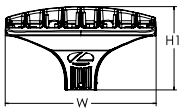
The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

## Specifications

| | |
|---|---|
| **EPA:** | 0.69 ft² (0.06 m²) |
| **Length:** | 32.71" (83.1 cm) |
| **Width:** | 14.26" (36.2 cm) |
| **Height H1:** | 7.88" (20.0 cm) |
| **Height H2:** | 2.73" (6.9 cm) |
| **Weight:** | 34 lbs (15.4 kg) |






Design Select options indicated by this color background.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

## Ordering Information

**EXAMPLE:** DSX1 LED P7 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

**DSX1 LED**

| Series | LEDs (Z5,Z5HS) | Color temperature[2] | Color Rendering Index[2] | Distribution (Z5,Z5HS) | Voltage | Mounting |
|---|---|---|---|---|---|---|
| DSX1 LED | **Forward optics**<br>P1 P6<br>P2 P7<br>Z1,Z2 P3 P8<br>Z4 P4 P9<br>P5<br>**Rotated optics**<br>P10[1] P12[1]<br>P11[1] P13[1] | (this section 70CRI only)<br>30K 3000K<br>40K 4000K<br>50K 5000K<br>27K 2700K<br>30K 3000K<br>35K 3500K<br>40K 4000K<br>50K 5000K | 70CRI<br>70CRI<br>70CRI<br>80CRI<br>80CRI<br>80CRI<br>80CRI<br>80CRI | AFR Automotive front row<br>T1S Type I short<br>T2M Type II medium<br>T3M Type III medium<br>T3LG Type III low glare[3]<br>T4M Type IV medium<br>T4LG Type IV low glare[3]<br>TFTM Forward throw medium Z4<br>T5M Type V medium<br>T5LG Type V low glare<br>T5W Type V wide<br>BLC3 Type III backlight control[3] Z1<br>BLC4 Type IV backlight control[3]<br>LCCO Left corner cutoff[3] Z2<br>RCCO Right corner cutoff[3] | MVOLT (120V-277V)[4]<br>HVOLT (347V-480V)[5,6]<br>XVOLT (277V - 480V)[7,8]<br>120[16,26]<br>208[16,26]<br>240[16,26]<br>277[16,26]<br>347[16,26]<br>480[16,26] | **Shipped included**<br>SPA Square pole mounting (#8 drilling)<br>RPA Round pole mounting (#8 drilling)<br>SPA5 Square pole mounting #5 drilling[9]<br>RPA5 Round pole mounting #5 drilling[9]<br>SPA8N Square narrow pole mounting #8 drilling<br>WBA Wall bracket[10]<br>MA Mast arm adapter (mounts on 2 3/8" OD horizontal tenon) |

### Control options

**Shipped installed**

| | |
|---|---|
| NLTAIR2 PIRHN | nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8–40' mounting height, ambient sensor enabled at 2fc.[11,12,20,21] |
| PIR | High/low, motion/ambient sensor, 8–40' mounting height, ambient sensor enabled at 2fc[13,20,21] |
| PER | NEMA twist-lock receptacle only (controls ordered separate)[14] |
| PER5 | Five-pin receptacle only (controls ordered separate)[14,21] |
| PER7 | Seven-pin receptacle only (controls ordered separate)[14,21] |
| FAO | Field adjustable output[15,21] |
| BL30 | Bi-level switched dimming, 30%[16,21] |
| BL50 | Bi-level switched dimming, 50%[16,21] |
| DMG | 0–10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[17] |
| DS | Dual switching[18,19,21] |

### Other options

**Shipped installed**

| | |
|---|---|
| SPD20KV | 20KV surge protection |
| HS | Houseside shield (black finish standard)[22] Z5HS ONLY |
| L90 | Left rotated optics[1] |
| R90 | Right rotated optics[1] |
| CCE | Coastal Construction[23] |
| HA | 50°C ambient operation[24] |
| BAA | Buy America(n) Act and/or Build America Buy America Qualified |
| SF | Single fuse (120, 277, 347V)[26] |
| DF | Double fuse (208, 240, 480V)[26] |

**Shipped separately**

| | |
|---|---|
| EGSR | External Glare Shield (reversible, field install required, matches housing finish) |
| BSDB | Bird Spikes (field install required) |

### Finish *(required)*

| | |
|---|---|
| DDBXD | Dark Bronze |
| DBLXD | Black |
| DNAXD | Natural Aluminum |
| DWHXD | White |
| DDBTXD | Textured dark bronze |
| DBLBXD | Textured black |
| DNATXD | Textured natural aluminum |
| DWHGXD | Textured white |



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# Ordering Information

## Accessories

*Ordered and shipped separately.*

| | |
|---|---|
| DLL127F 1.5 JU | Photocell - SSL twist-lock (120-277V) [25] |
| DLL347F 1.5 CUL JU | Photocell - SSL twist-lock (347V) [25] |
| DLL480F 1.5 CUL JU | Photocell - SSL twist-lock (480V) [25] |
| DSHORT SBK | Shorting cap [25] |
| DSX1HS P# | House-side shield (enter package number 1-13 in place of #) |
| DSXRPA (FINISH) | Round pole adapter (#8 drilling, specify finish) |
| DSXSPA5 (FINISH) | Square pole adapter #5 drilling (specify finish) |
| DSXRPA5 (FINISH) | Round pole adapter #5 drilling (specify finish) |
| DSX1EGSR (FINISH) | External glare shield (specify finish) |
| DSX1BSDB (FINISH) | Bird spike deterrent bracket (specify finish) |

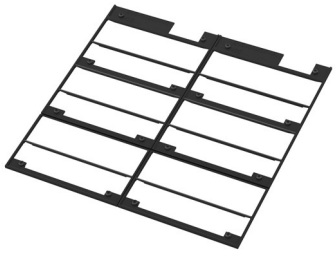
NOTES

1 Rotated optics available with packages P10, P11, P12 and P13. Must be combined with option L90 or R90.
2 30K, 40K, and 50K available in 70CRI and 80CRI. 27K and 35K only available with 80CRI. Contact Technical Support for other possible combinations.
3 T3LG, T4LG, BLC3, BLC4, LCCO, RCCO not available with option HS.
4 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
5 HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
6 HVOLT not available with package P1 and P10 when combined with option NLTAIR2 PIRHN or option PIR.
7 XVOLT operates with any voltage between 277V and 480V (50/60 Hz).
8 XVOLT not available in packages P1 or P10. XVOLT not available with fusing (SF or DF).
9 SPA5 and RPA5 for use with #5 drilling only (Not for use with #8 drilling).
10 WBA cannot be combined with Type 5 distributions plus photocell (PER).
11 NLTAIR2 and PIRHN must be ordered together. For more information on nLight AIR2 visit this link
12 NLTAIR2 PIRHN not available with other controls including PIR, PER, PER5, PER7, FAO, BL30, BL50, DMG and DS. NLTAIR2 PIRHN not available with P1 and P10 using HVOLT. NLTAIR2 PIRHN not available with P1 and P10 using XVOLT.
13 PIR not available with NLTAIR2 PIRHN, PER, PER5, PER7, FAO BL30, BL50, DMG and DS. PIR not available with P1 and P10 using HVOLT. PIR not available with P1 and P10 using XVOLT.
14 PER/PER5/PER7 not available with NLTAIR2 PIRHN, PIR, BL30, BL50, FAO, DMG and DS. Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
15 FAO not available with other dimming control options NLTAIR2 PIRHN, PIR, PER5, PER7, BL30, BL50, DMG and DS.
16 BL30 and BL50 are not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, FAO, DMG and DS. BL30 or BL50 must specify 120 or 277V.
17 DMG not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, BL30, BL50, FAO and DS.
18 DS not available with NLTAIR2 PIRHN, PIR, PER, PER5, PER7, BL30, BL50, FAO and DMG.
19 DS requires (2) separately switched circuits. DS provides 50/50 fixture operation via (2) different sets of leads using (2) drivers. DS only available with packages P8, P9, P10, P11, P12 and P13.
20 Reference Motion Sensor Default Settings table on page 4 to see functionality.
21 Reference Controls Options table on page 4.
22 HS not available with T3LG, T4LG, BLC3, BLC4, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
23 CCE option not available with option BS and EGSR. Contact Technical Support for availability.
24 Option HA not available with performance packages P4, P5, P7, P8, P9 and P13.
25 Requires luminaire to be specified with PER, PER5 or PER7 option. See Controls Table on page 4.
26 Single fuse (SF) requires 120V, 277V, or 347V. Double fuse (DF) requires 208V, 240V or 480V. XVOLT not available with fusing (SF or DF).

# Shield Accessories



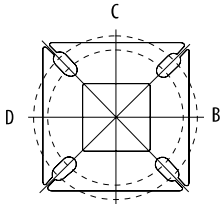
External Glare Shield (EGSR)

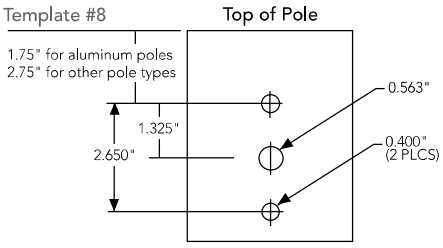


House Side Shield (HS)

# Drilling

### HANDHOLE ORIENTATION




## Tenon Mounting Slipfitter

| Tenon O.D. | Mounting | Single Unit | 2 @ 180 | 2 @ 90 | 3 @ 90 | 3 @120 | 4 @ 90 |
|---|---|---|---|---|---|---|---|
| 2-3/8" | RPA | AS3-5 190 | AS3-5 280 | AS3-5 290 | AS3-5 390 | AS3-5 320 | AS3-5 490 |
| 2-7/8" | RPA | AST25-190 | AST25-280 | AST25-290 | AST25-390 | AST25-320 | AST25-490 |
| 4" | RPA | AST35-190 | AST35-280 | AST35-290 | AST35-390 | AST35-320 | AST35-490 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mounting Option | Drilling Template | Single | 2 @ 180 | 2 @ 90 | 3 @ 90 | 3 @ 120 | 4 @ 90 |
| Head Location | | Side B | Side B & D | Side B & C | Side B, C & D | Round Pole Only | Side A, B, C & D |
| Drill Nomenclature | #8 | DM19AS | DM28AS | DM29AS | DM39AS | DM32AS | DM49AS |
| | | Minimum Acceptable Outside Pole Dimension | | | | | |
| SPA | #8 | 3.5" | 3.5" | 3.5" | 3.5" | | 3.5" |
| RPA | #8 | 3" | 3" | 3" | 3" | 3" | 3" |
| SPA5 | #5 | 3" | 3" | 3" | 3" | | 3" |
| RPA5 | #5 | 3" | 3" | 3" | 3" | 3" | 3" |
| SPA8N | #8 | 3" | 3" | 3" | 3" | | 3" |

## DSX1 Area Luminaire - EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

| Fixture Quantity & Mounting Configuration | Single DM19 | 2 @ 180 DM28 | 2 @ 90 DM29 | 3 @ 90 DM39 | 3 @ 120 DM32 | 4 @ 90 DM49 |
|---|---|---|---|---|---|---|
| Mounting Type | | | | | | |
| DSX1 with SPA | 0.69 | 1.38 | 1.23 | 1.54 | --- | 1.58 |
| DSX1 with SPA5, SPA8N | 0.70 | 1.40 | 1.30 | 1.66 | --- | 1.68 |
| DSX1 with RPA, RPA5 | 0.70 | 1.40 | 1.30 | 1.66 | 1.60 | 1.68 |
| DSX1 with MA | 0.83 | 1.66 | 1.50 | 2.09 | 2.09 | 2.09 |


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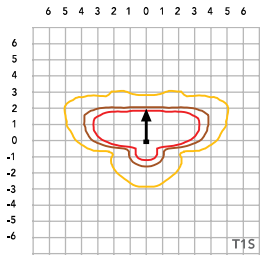
## Photometric Diagrams

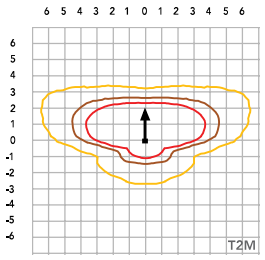
To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's homepage.

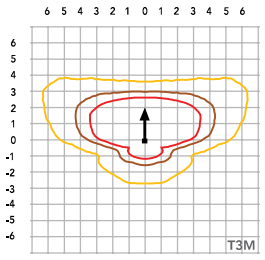
Isofootcandle plots for the DSX1 LED P9 40K 70CRI. Distances are in units of mounting height (25').

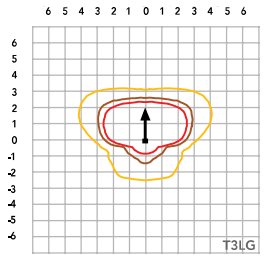
LEGEND

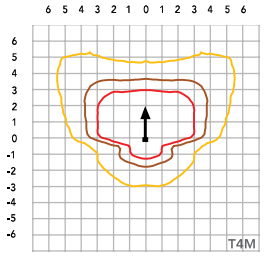
- 0.1 fc
- 0.5 fc
- 1.0 fc

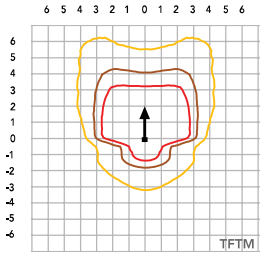


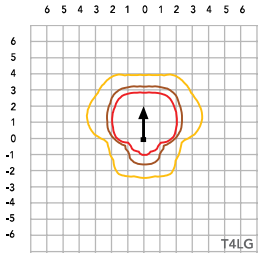



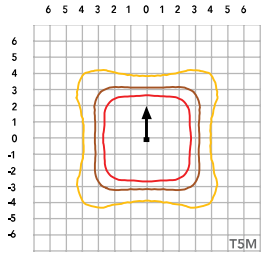



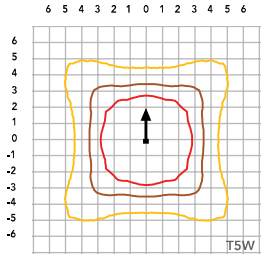



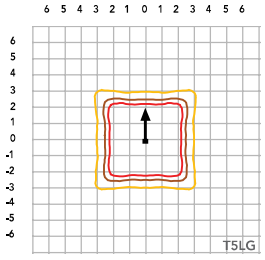



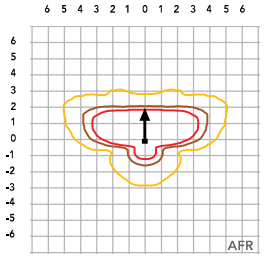



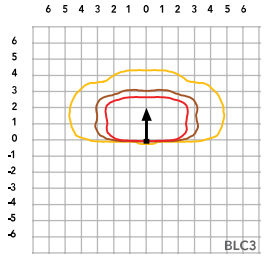



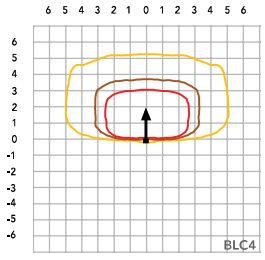



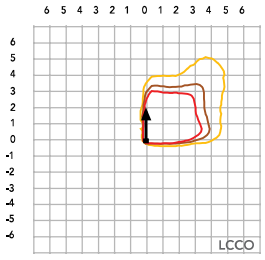



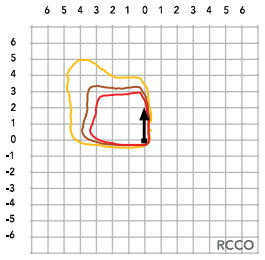






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# Performance Data

## Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

| Ambient | | Lumen Multiplier |
|---|---|---|
| 0°C | 32°F | 1.04 |
| 5°C | 41°F | 1.04 |
| 10°C | 50°F | 1.03 |
| 15°C | 50°F | 1.02 |
| 20°C | 68°F | 1.01 |
| **25°C** | **77°C** | **1.00** |
| 30°C | 86°F | 0.99 |
| 35°C | 95°F | 0.98 |
| 40°C | 104°F | 0.97 |

## Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

| Operating Hours | Lumen Maintenance Factor |
|---|---|
| 0 | 1.00 |
| 25,000 | 0.95 |
| 50,000 | 0.90 |
| 100,000 | 0.81 |

## FAO Dimming Settings

| FAO Position | % Wattage | % Lumen Output |
|---|---|---|
| 8 | 100% | 100% |
| 7 | 93% | 95% |
| 6 | 80% | 85% |
| 5 | 66% | 73% |
| 4 | 54% | 61% |
| 3 | 41% | 49% |
| 2 | 29% | 36% |
| 1 | 15% | 20% |

*Note: Calculated values are based on original performance package data. When calculating new values for given FAO position, use maximum published values by package listed on specification sheet (input watts and lumens by optic type).

## Electrical Load

| | Performance Package | LED Count | Drive Current (mA) | Wattage | Current (A) 120V | 208V | 240V | 277V | 347V | 480V |
|---|---|---|---|---|---|---|---|---|---|---|
| Forward Optics (Non-Rotated) | P1 | 30 | 530 | 51 | 0.42 | 0.24 | 0.21 | 0.18 | 0.15 | 0.11 |
| | P2 | 30 | 700 | 68 | 0.56 | 0.33 | 0.28 | 0.24 | 0.20 | 0.14 |
| | P3 | 30 | 1050 | 104 | 0.85 | 0.49 | 0.43 | 0.37 | 0.29 | 0.21 |
| | P4 | 30 | 1250 | 125 | 1.03 | 0.60 | 0.52 | 0.45 | 0.36 | 0.26 |
| | P5 | 30 | 1400 | 142 | 1.15 | 0.66 | 0.58 | 0.50 | 0.40 | 0.29 |
| | P6 | 40 | 1250 | 167 | 1.38 | 0.79 | 0.69 | 0.60 | 0.48 | 0.34 |
| | P7 | 40 | 1400 | 188 | 1.54 | 0.89 | 0.77 | 0.67 | 0.53 | 0.38 |
| | P8 | 60 | 1100 | 216 | 1.80 | 1.04 | 0.90 | 0.78 | 0.62 | 0.45 |
| | P9 | 60 | 1400 | 279 | 2.31 | 1.33 | 1.15 | 1.00 | 0.80 | 0.58 |
| Rotated Optics (Requires L90 or R90) | P10 | 60 | 530 | 101 | 0.84 | 0.49 | 0.42 | 0.37 | 0.29 | 0.21 |
| | P11 | 60 | 700 | 135 | 1.12 | 0.65 | 0.56 | 0.49 | 0.39 | 0.28 |
| | P12 | 60 | 1050 | 206 | 1.72 | 0.99 | 0.86 | 0.74 | 0.59 | 0.43 |
| | P13 | 60 | 1400 | 279 | 2.30 | 1.33 | 1.15 | 1.00 | 0.79 | 0.57 |

## LED Color Temperature / Color Rendering Multipliers

| | 70 CRI | | 80CRI | | 90CRI | |
|---|---|---|---|---|---|---|
| | Lumen Multiplier | Availability | Lumen Multiplier | Availability | Lumen Multiplier | Availability |
| 5000K | 102% | Standard | 92% | Extended lead-time | 71% | (see note) |
| 4000K | 100% | Standard | 92% | Extended lead-time | 67% | (see note) |
| 3500K | 100% | (see note) | 90% | Extended lead-time | 63% | (see note) |
| 3000K | 96% | Standard | 87% | Extended lead-time | 61% | (see note) |
| 2700K | 94% | (see note) | 85% | Extended lead-time | 57% | (see note) |

Note: Some LED types are available as per special request. Contact Technical Support for more information.

## Motion Sensor Default Settings

| Option | Unoccupied Dimmed Level | High Level (when occupied) | Phototcell Operation | Dwell Time | Ramp-up Time | Dimming Fade Rate |
|---|---|---|---|---|---|---|
| PIR | 30% | 100% | Enabled @ 2FC | 7.5 min | 3 sec | 5 min |
| NLTAIR2 PIRHN | 30% | 100% | Enabled @ 2FC | 7.5 min | 3 sec | 5 min |

## Controls Options

| Nomenclature | Description | Functionality | Primary control device | Notes |
|---|---|---|---|---|
| FAO | Field adjustable output device installed inside the luminaire; wired to the driver dimming leads. | Allows the luminaire to be manually dimmed, effectively trimming the light output. | FAO device | Cannot be used with other controls options that need the 0-10V leads |
| DS (not available on DSX0) | Drivers wired independently for 50/50 luminaire operation | The luminaire is wired to two separate circuits, allowing for 50/50 operation. | Independently wired drivers | Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative. |
| PER5 or PER7 | Twist-lock photocell receptacle | Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals. | Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM. | Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire. Cannot be used with other controls options that need the 0-10V leads. |
| PIR | Motion sensor with integral photocell. Sensor suitable for 8' to 40' mounting height. | Luminaires dim when no occupancy is detected. | Acuity Controls rSBG | Cannot be used with other controls options that need the 0-10V leads. |
| NLTAIR2 PIRHN | nLight AIR enabled luminaire for motion sensing, photocell and wireless communication. | Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Edypse. | nLight Air rSBG | nLight AIR sensors can be programmed and commissioned from the ground using the CIAIRity Pro app. Cannot be used with other controls options that need the 0-10V leads. |
| BL30 or BL50 | Integrated bi-level device that allows a second control circuit to switch all light engines to either 30% or 50% light output | BLC device provides input to 0-10V dimming leads on all drivers providing either 100% or dimmed (30% or 50%) control by a secondary circuit | BLC UVOLT1 | BLC device is powered off the 0-10V dimming leads, thus can be used with any input voltage from 120 to 480V |


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# Performance Data

## Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79.
Contact factory for performance data on any configurations not shown here.

### Forward Optics

| Performance Package | System Watts | LED Count | Drive Current (mA) | Distribution Type | 30K (3000K, 70 CRI) | | | | | 40K (4000K, 70 CRI) | | | | | 50K (5000K, 70 CRI) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lumens | B | U | G | LPW | Lumens | B | U | G | LPW | Lumens | B | U | G | LPW |
| P1 | 51W | 30 | 530 | T1S | 7,776 | 1 | 0 | 2 | 153 | 8,104 | 1 | 0 | 2 | 159 | 8,262 | 1 | 0 | 2 | 162 |
| | | | | T2M | 7,203 | 1 | 0 | 3 | 142 | 7,507 | 2 | 0 | 3 | 147 | 7,653 | 2 | 0 | 3 | 150 |
| | | | | T3M | 7,287 | 1 | 0 | 3 | 143 | 7,594 | 1 | 0 | 3 | 149 | 7,742 | 1 | 0 | 3 | 152 |
| | | | | T3LG | 6,509 | 1 | 0 | 1 | 128 | 6,783 | 1 | 0 | 1 | 133 | 6,916 | 1 | 0 | 1 | 136 |
| | | | | T4M | 7,395 | 1 | 0 | 3 | 145 | 7,707 | 1 | 0 | 3 | 151 | 7,857 | 1 | 0 | 3 | 154 |
| | | | | T4LG | 6,726 | 1 | 0 | 1 | 132 | 7,010 | 1 | 0 | 1 | 138 | 7,146 | 1 | 0 | 1 | 140 |
| | | | | TFTM | 7,446 | 1 | 0 | 3 | 146 | 7,760 | 1 | 0 | 3 | 152 | 7,912 | 1 | 0 | 3 | 155 |
| | | | | T5M | 7,609 | 3 | 0 | 2 | 149 | 7,930 | 3 | 0 | 2 | 156 | 8,084 | 3 | 0 | 2 | 159 |
| | | | | T5W | 7,732 | 3 | 0 | 2 | 152 | 8,058 | 4 | 0 | 2 | 158 | 8,215 | 4 | 0 | 2 | 161 |
| | | | | T5LG | 7,631 | 3 | 0 | 1 | 150 | 7,953 | 3 | 0 | 1 | 156 | 8,108 | 3 | 0 | 1 | 159 |
| | | | | BLC3 | 5,300 | 0 | 0 | 2 | 104 | 5,524 | 0 | 0 | 2 | 109 | 5,631 | 0 | 0 | 2 | 111 |
| | | | | BLC4 | 5,474 | 0 | 0 | 3 | 108 | 5,705 | 0 | 0 | 3 | 112 | 5,816 | 0 | 0 | 3 | 114 |
| | | | | RCCO | 5,348 | 0 | 0 | 2 | 105 | 5,573 | 0 | 0 | 2 | 109 | 5,682 | 0 | 0 | 2 | 112 |
| | | | | LCCO | 5,348 | 0 | 0 | 2 | 105 | 5,573 | 0 | 0 | 2 | 109 | 5,682 | 0 | 0 | 2 | 112 |
| | | | | AFR | 7,776 | 1 | 0 | 2 | 153 | 8,104 | 1 | 0 | 2 | 159 | 8,262 | 1 | 0 | 2 | 162 |
| P2 | 68W | 30 | 700 | T1S | 9,997 | 1 | 0 | 2 | 147 | 10,418 | 1 | 0 | 2 | 154 | 10,621 | 1 | 0 | 2 | 157 |
| | | | | T2M | 9,260 | 2 | 0 | 3 | 137 | 9,651 | 2 | 0 | 3 | 142 | 9,839 | 2 | 0 | 3 | 145 |
| | | | | T3M | 9,368 | 2 | 0 | 3 | 138 | 9,763 | 2 | 0 | 3 | 144 | 9,953 | 2 | 0 | 3 | 147 |
| | | | | T3LG | 8,368 | 1 | 0 | 2 | 123 | 8,721 | 1 | 0 | 2 | 129 | 8,891 | 1 | 0 | 2 | 131 |
| | | | | T4M | 9,507 | 2 | 0 | 3 | 140 | 9,909 | 2 | 0 | 3 | 146 | 10,102 | 2 | 0 | 3 | 149 |
| | | | | T4LG | 8,647 | 1 | 0 | 2 | 128 | 9,012 | 1 | 0 | 2 | 133 | 9,187 | 1 | 0 | 2 | 136 |
| | | | | TFTM | 9,573 | 2 | 0 | 3 | 141 | 9,977 | 2 | 0 | 3 | 147 | 10,172 | 2 | 0 | 3 | 150 |
| | | | | T5M | 9,782 | 4 | 0 | 2 | 144 | 10,195 | 4 | 0 | 2 | 150 | 10,393 | 4 | 0 | 2 | 153 |
| | | | | T5W | 9,940 | 4 | 0 | 2 | 147 | 10,360 | 4 | 0 | 2 | 153 | 10,562 | 4 | 0 | 2 | 156 |
| | | | | T5LG | 9,810 | 3 | 0 | 1 | 145 | 10,224 | 3 | 0 | 1 | 151 | 10,423 | 3 | 0 | 1 | 154 |
| | | | | BLC3 | 6,814 | 0 | 0 | 2 | 101 | 7,101 | 0 | 0 | 2 | 105 | 7,240 | 0 | 0 | 2 | 107 |
| | | | | BLC4 | 7,038 | 0 | 0 | 3 | 104 | 7,334 | 0 | 0 | 3 | 108 | 7,477 | 0 | 0 | 3 | 110 |
| | | | | RCCO | 6,875 | 1 | 0 | 2 | 101 | 7,165 | 1 | 0 | 2 | 106 | 7,305 | 1 | 0 | 2 | 108 |
| | | | | LCCO | 6,875 | 1 | 0 | 2 | 101 | 7,165 | 1 | 0 | 2 | 106 | 7,305 | 1 | 0 | 2 | 108 |
| | | | | AFR | 9,997 | 1 | 0 | 2 | 147 | 10,418 | 1 | 0 | 2 | 154 | 10,621 | 1 | 0 | 2 | 157 |
| P3 | 102W | 30 | 1050 | T1S | 14,093 | 2 | 0 | 2 | 138 | 14,687 | 2 | 0 | 2 | 144 | 14,973 | 2 | 0 | 2 | 147 |
| | | | | T2M | 13,055 | 2 | 0 | 3 | 128 | 13,605 | 2 | 0 | 3 | 133 | 13,871 | 2 | 0 | 3 | 136 |
| | | | | T3M | 13,206 | 2 | 0 | 4 | 129 | 13,763 | 2 | 0 | 4 | 135 | 14,031 | 2 | 0 | 4 | 137 |
| | | | | T3LG | 11,797 | 2 | 0 | 2 | 115 | 12,294 | 2 | 0 | 2 | 120 | 12,534 | 2 | 0 | 2 | 123 |
| | | | | T4M | 13,403 | 2 | 0 | 4 | 131 | 13,968 | 2 | 0 | 4 | 137 | 14,241 | 2 | 0 | 4 | 139 |
| | | | | T4LG | 12,190 | 2 | 0 | 2 | 119 | 12,704 | 2 | 0 | 2 | 124 | 12,952 | 2 | 0 | 2 | 127 |
| | | | | TFTM | 13,496 | 2 | 0 | 4 | 132 | 14,065 | 2 | 0 | 4 | 138 | 14,339 | 2 | 0 | 4 | 140 |
| | | | | T5M | 13,790 | 4 | 0 | 2 | 135 | 14,371 | 4 | 0 | 2 | 141 | 14,652 | 4 | 0 | 2 | 143 |
| | | | | T5W | 14,013 | 4 | 0 | 3 | 137 | 14,605 | 4 | 0 | 3 | 143 | 14,889 | 4 | 0 | 3 | 146 |
| | | | | T5LG | 13,830 | 3 | 0 | 2 | 135 | 14,413 | 3 | 0 | 2 | 141 | 14,694 | 3 | 0 | 2 | 144 |
| | | | | BLC3 | 9,606 | 0 | 0 | 2 | 94 | 10,011 | 0 | 0 | 2 | 98 | 10,206 | 0 | 0 | 2 | 100 |
| | | | | BLC4 | 9,921 | 0 | 0 | 3 | 97 | 10,340 | 0 | 0 | 3 | 101 | 10,541 | 0 | 0 | 3 | 103 |
| | | | | RCCO | 9,692 | 1 | 0 | 2 | 95 | 10,101 | 1 | 0 | 2 | 99 | 10,298 | 1 | 0 | 2 | 101 |
| | | | | LCCO | 9,692 | 1 | 0 | 2 | 95 | 10,101 | 1 | 0 | 2 | 99 | 10,298 | 1 | 0 | 2 | 101 |
| | | | | AFR | 14,093 | 2 | 0 | 2 | 138 | 14,687 | 2 | 0 | 2 | 144 | 14,973 | 2 | 0 | 2 | 147 |


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# Performance Data

## Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79.
Contact factory for performance data on any configurations not shown here.

### Forward Optics

| Performance Package | System Watts | LED Count | Drive Current (mA) | Distribution Type | 30K (3000K, 70 CRI) | | | | | 40K (4000K, 70 CRI) | | | | | 50K (5000K, 70 CRI) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lumens | B | U | G | LPW | Lumens | B | U | G | LPW | Lumens | B | U | G | LPW |
| P4 | 124W | 30 | 1250 | T1S | 16,416 | 2 | 0 | 3 | 132 | 17,109 | 2 | 0 | 3 | 138 | 17,442 | 2 | 0 | 3 | 141 |
| | | | | T2M | 15,207 | 3 | 0 | 4 | 123 | 15,849 | 3 | 0 | 4 | 128 | 16,158 | 3 | 0 | 4 | 130 |
| | | | | T3M | 15,383 | 2 | 0 | 4 | 124 | 16,032 | 2 | 0 | 4 | 129 | 16,345 | 2 | 0 | 4 | 132 |
| | | | | T3LG | 13,742 | 2 | 0 | 2 | 111 | 14,321 | 2 | 0 | 2 | 116 | 14,600 | 2 | 0 | 2 | 118 |
| | | | | T4M | 15,613 | 2 | 0 | 4 | 126 | 16,272 | 2 | 0 | 4 | 131 | 16,589 | 2 | 0 | 4 | 134 |
| | | | | T4LG | 14,200 | 2 | 0 | 2 | 115 | 14,799 | 2 | 0 | 2 | 119 | 15,087 | 2 | 0 | 2 | 122 |
| | | | | TFTM | 15,721 | 2 | 0 | 4 | 127 | 16,384 | 2 | 0 | 4 | 132 | 16,703 | 2 | 0 | 4 | 135 |
| | | | | T5M | 16,063 | 4 | 0 | 2 | 130 | 16,741 | 4 | 0 | 2 | 135 | 17,067 | 4 | 0 | 2 | 138 |
| | | | | T5W | 16,324 | 5 | 0 | 3 | 132 | 17,013 | 5 | 0 | 3 | 137 | 17,344 | 5 | 0 | 3 | 140 |
| | | | | T5LG | 16,110 | 3 | 0 | 2 | 130 | 16,790 | 4 | 0 | 2 | 135 | 17,117 | 4 | 0 | 2 | 138 |
| | | | | BLC3 | 11,190 | 0 | 0 | 3 | 90 | 11,662 | 0 | 0 | 3 | 94 | 11,889 | 0 | 0 | 3 | 96 |
| | | | | BLC4 | 11,557 | 0 | 0 | 3 | 93 | 12,044 | 0 | 0 | 3 | 97 | 12,279 | 0 | 0 | 4 | 99 |
| | | | | RCCO | 11,291 | 1 | 0 | 3 | 91 | 11,767 | 1 | 0 | 3 | 95 | 11,996 | 1 | 0 | 3 | 97 |
| | | | | LCCO | 11,291 | 1 | 0 | 3 | 91 | 11,767 | 1 | 0 | 3 | 95 | 11,996 | 1 | 0 | 3 | 97 |
| | | | | AFR | 16,416 | 2 | 0 | 3 | 132 | 17,109 | 2 | 0 | 3 | 138 | 17,442 | 2 | 0 | 3 | 141 |
| P5 | 138W | 30 | 1400 | T1S | 18,052 | 2 | 0 | 3 | 131 | 18,814 | 2 | 0 | 3 | 136 | 19,180 | 2 | 0 | 3 | 139 |
| | | | | T2M | 16,723 | 3 | 0 | 4 | 121 | 17,428 | 3 | 0 | 4 | 126 | 17,768 | 3 | 0 | 4 | 129 |
| | | | | T3M | 16,917 | 3 | 0 | 4 | 122 | 17,630 | 3 | 0 | 4 | 128 | 17,974 | 3 | 0 | 4 | 130 |
| | | | | T3LG | 15,111 | 2 | 0 | 2 | 109 | 15,749 | 2 | 0 | 2 | 114 | 16,055 | 2 | 0 | 2 | 116 |
| | | | | T4M | 17,169 | 3 | 0 | 5 | 124 | 17,893 | 3 | 0 | 5 | 130 | 18,242 | 3 | 0 | 5 | 132 |
| | | | | T4LG | 15,615 | 2 | 0 | 2 | 113 | 16,274 | 2 | 0 | 2 | 118 | 16,591 | 2 | 0 | 2 | 120 |
| | | | | TFTM | 17,288 | 2 | 0 | 4 | 125 | 18,017 | 2 | 0 | 5 | 130 | 18,368 | 3 | 0 | 5 | 133 |
| | | | | T5M | 17,664 | 5 | 0 | 3 | 128 | 18,410 | 5 | 0 | 3 | 133 | 18,768 | 5 | 0 | 3 | 136 |
| | | | | T5W | 17,951 | 5 | 0 | 3 | 130 | 18,708 | 5 | 0 | 3 | 135 | 19,073 | 5 | 0 | 3 | 138 |
| | | | | T5LG | 17,716 | 4 | 0 | 2 | 128 | 18,463 | 4 | 0 | 2 | 134 | 18,823 | 4 | 0 | 2 | 136 |
| | | | | BLC3 | 12,305 | 0 | 0 | 3 | 89 | 12,824 | 0 | 0 | 3 | 93 | 13,074 | 0 | 0 | 3 | 95 |
| | | | | BLC4 | 12,709 | 0 | 0 | 4 | 92 | 13,245 | 0 | 0 | 4 | 96 | 13,503 | 0 | 0 | 4 | 98 |
| | | | | RCCO | 12,416 | 1 | 0 | 3 | 90 | 12,940 | 1 | 0 | 3 | 94 | 13,192 | 1 | 0 | 3 | 95 |
| | | | | LCCO | 12,416 | 1 | 0 | 3 | 90 | 12,940 | 1 | 0 | 3 | 94 | 13,192 | 1 | 0 | 3 | 95 |
| | | | | AFR | 18,052 | 2 | 0 | 3 | 131 | 18,814 | 2 | 0 | 3 | 136 | 19,180 | 2 | 0 | 3 | 139 |
| P6 | 165W | 40 | 1250 | T1S | 21,031 | 2 | 0 | 3 | 127 | 21,918 | 2 | 0 | 3 | 133 | 22,345 | 2 | 0 | 3 | 135 |
| | | | | T2M | 19,482 | 3 | 0 | 4 | 118 | 20,303 | 3 | 0 | 4 | 123 | 20,699 | 3 | 0 | 4 | 125 |
| | | | | T3M | 19,708 | 3 | 0 | 5 | 119 | 20,539 | 3 | 0 | 5 | 124 | 20,939 | 3 | 0 | 5 | 127 |
| | | | | T3LG | 17,604 | 2 | 0 | 2 | 107 | 18,347 | 2 | 0 | 2 | 111 | 18,704 | 2 | 0 | 2 | 113 |
| | | | | T4M | 20,001 | 3 | 0 | 5 | 121 | 20,845 | 3 | 0 | 5 | 126 | 21,251 | 3 | 0 | 5 | 129 |
| | | | | T4LG | 18,191 | 2 | 0 | 2 | 110 | 18,959 | 2 | 0 | 2 | 115 | 19,328 | 2 | 0 | 2 | 117 |
| | | | | TFTM | 20,140 | 3 | 0 | 5 | 122 | 20,989 | 3 | 0 | 5 | 127 | 21,398 | 3 | 0 | 5 | 129 |
| | | | | T5M | 20,579 | 5 | 0 | 3 | 125 | 21,447 | 5 | 0 | 3 | 130 | 21,865 | 5 | 0 | 3 | 132 |
| | | | | T5W | 20,912 | 5 | 0 | 3 | 127 | 21,795 | 5 | 0 | 3 | 132 | 22,219 | 5 | 0 | 3 | 134 |
| | | | | T5LG | 20,638 | 4 | 0 | 2 | 125 | 21,509 | 4 | 0 | 2 | 130 | 21,928 | 4 | 0 | 2 | 133 |
| | | | | BLC3 | 14,335 | 0 | 0 | 3 | 87 | 14,940 | 0 | 0 | 3 | 90 | 15,231 | 0 | 0 | 3 | 92 |
| | | | | BLC4 | 14,805 | 0 | 0 | 4 | 90 | 15,430 | 0 | 0 | 4 | 93 | 15,731 | 0 | 0 | 4 | 95 |
| | | | | RCCO | 14,464 | 1 | 0 | 3 | 88 | 15,074 | 1 | 0 | 3 | 91 | 15,368 | 1 | 0 | 3 | 93 |
| | | | | LCCO | 14,464 | 1 | 0 | 3 | 88 | 15,074 | 1 | 0 | 3 | 91 | 15,368 | 1 | 0 | 3 | 93 |
| | | | | AFR | 21,031 | 2 | 0 | 3 | 127 | 21,918 | 2 | 0 | 3 | 133 | 22,345 | 2 | 0 | 3 | 135 |


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# Performance Data

## Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79.
Contact factory for performance data on any configurations not shown here.

### Forward Optics

| Performance Package | System Watts | LED Count | Drive Current (mA) | Distribution Type | 30K (3000K, 70 CRI) | | | | | 40K (4000K, 70 CRI) | | | | | 50K (5000K, 70 CRI) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lumens | B | U | G | LPW | Lumens | B | U | G | LPW | Lumens | B | U | G | LPW |
| P7 | 184W | 40 | 1400 | T1S | 22,741 | 2 | 0 | 3 | 123 | 23,700 | 2 | 0 | 3 | 129 | 24,162 | 3 | 0 | 3 | 131 |
| | | | | T2M | 21,066 | 3 | 0 | 4 | 114 | 21,955 | 3 | 0 | 4 | 119 | 22,383 | 3 | 0 | 4 | 121 |
| | | | | T3M | 21,311 | 3 | 0 | 5 | 116 | 22,210 | 3 | 0 | 5 | 120 | 22,642 | 3 | 0 | 5 | 123 |
| | | | | T3LG | 19,036 | 2 | 0 | 2 | 103 | 19,839 | 2 | 0 | 3 | 108 | 20,226 | 2 | 0 | 3 | 110 |
| | | | | T4M | 21,628 | 3 | 0 | 5 | 117 | 22,541 | 3 | 0 | 5 | 122 | 22,980 | 3 | 0 | 5 | 125 |
| | | | | T4LG | 19,671 | 2 | 0 | 2 | 107 | 20,501 | 2 | 0 | 3 | 111 | 20,900 | 2 | 0 | 3 | 113 |
| | | | | TFTM | 21,778 | 3 | 0 | 5 | 118 | 22,697 | 3 | 0 | 5 | 123 | 23,139 | 3 | 0 | 5 | 125 |
| | | | | T5M | 22,252 | 5 | 0 | 3 | 121 | 23,191 | 5 | 0 | 3 | 126 | 23,643 | 5 | 0 | 3 | 128 |
| | | | | T5W | 22,613 | 5 | 0 | 3 | 123 | 23,567 | 5 | 0 | 4 | 128 | 24,027 | 5 | 0 | 4 | 130 |
| | | | | T5LG | 22,317 | 4 | 0 | 2 | 121 | 23,258 | 4 | 0 | 2 | 126 | 23,712 | 4 | 0 | 2 | 129 |
| | | | | BLC3 | 15,501 | 0 | 0 | 3 | 84 | 16,155 | 0 | 0 | 4 | 88 | 16,470 | 0 | 0 | 4 | 89 |
| | | | | BLC4 | 16,010 | 0 | 0 | 4 | 87 | 16,685 | 0 | 0 | 4 | 90 | 17,010 | 0 | 0 | 4 | 92 |
| | | | | RCCO | 15,641 | 1 | 0 | 3 | 85 | 16,301 | 1 | 0 | 3 | 89 | 16,619 | 1 | 0 | 3 | 90 |
| | | | | LCCO | 15,641 | 1 | 0 | 3 | 85 | 16,301 | 1 | 0 | 3 | 89 | 16,619 | 1 | 0 | 3 | 90 |
| | | | | AFR | 22,741 | 2 | 0 | 3 | 123 | 23,700 | 2 | 0 | 3 | 129 | 24,162 | 3 | 0 | 3 | 131 |
| P8 | 216W | 60 | 1100 | T1S | 28,701 | 3 | 0 | 3 | 133 | 29,912 | 3 | 0 | 4 | 139 | 30,495 | 3 | 0 | 4 | 141 |
| | | | | T2M | 26,587 | 3 | 0 | 5 | 123 | 27,709 | 3 | 0 | 5 | 128 | 28,249 | 3 | 0 | 5 | 131 |
| | | | | T3M | 26,895 | 3 | 0 | 5 | 125 | 28,030 | 3 | 0 | 5 | 130 | 28,576 | 3 | 0 | 5 | 132 |
| | | | | T3LG | 24,025 | 3 | 0 | 3 | 111 | 25,038 | 3 | 0 | 3 | 116 | 25,526 | 3 | 0 | 3 | 118 |
| | | | | T4M | 27,296 | 3 | 0 | 5 | 127 | 28,448 | 3 | 0 | 5 | 132 | 29,002 | 3 | 0 | 5 | 134 |
| | | | | T4LG | 24,826 | 3 | 0 | 3 | 115 | 25,873 | 3 | 0 | 3 | 120 | 26,378 | 3 | 0 | 3 | 122 |
| | | | | TFTM | 27,485 | 3 | 0 | 5 | 127 | 28,645 | 3 | 0 | 5 | 133 | 29,203 | 3 | 0 | 5 | 135 |
| | | | | T5M | 28,084 | 5 | 0 | 4 | 130 | 29,269 | 5 | 0 | 4 | 136 | 29,839 | 5 | 0 | 4 | 138 |
| | | | | T5W | 28,539 | 5 | 0 | 4 | 132 | 29,743 | 5 | 0 | 4 | 138 | 30,323 | 5 | 0 | 4 | 141 |
| | | | | T5LG | 28,165 | 4 | 0 | 2 | 131 | 29,354 | 4 | 0 | 2 | 136 | 29,926 | 4 | 0 | 2 | 139 |
| | | | | BLC3 | 19,563 | 0 | 0 | 4 | 91 | 20,388 | 0 | 0 | 4 | 94 | 20,786 | 0 | 0 | 4 | 96 |
| | | | | BLC4 | 20,205 | 0 | 0 | 5 | 94 | 21,057 | 0 | 0 | 5 | 98 | 21,468 | 0 | 0 | 5 | 99 |
| | | | | RCCO | 19,740 | 1 | 0 | 4 | 91 | 20,572 | 1 | 0 | 4 | 95 | 20,973 | 1 | 0 | 4 | 97 |
| | | | | LCCO | 19,740 | 1 | 0 | 4 | 91 | 20,572 | 1 | 0 | 4 | 95 | 20,973 | 1 | 0 | 4 | 97 |
| | | | | AFR | 28,701 | 3 | 0 | 3 | 133 | 29,912 | 3 | 0 | 4 | 139 | 30,495 | 3 | 0 | 4 | 141 |
| P9 | 277W | 60 | 1400 | T1S | 34,819 | 3 | 0 | 4 | 126 | 36,288 | 3 | 0 | 4 | 131 | 36,996 | 3 | 0 | 4 | 134 |
| | | | | T2M | 32,255 | 3 | 0 | 5 | 116 | 33,616 | 3 | 0 | 5 | 121 | 34,271 | 3 | 0 | 5 | 124 |
| | | | | T3M | 32,629 | 3 | 0 | 5 | 118 | 34,006 | 3 | 0 | 5 | 123 | 34,668 | 3 | 0 | 5 | 125 |
| | | | | T3LG | 29,146 | 3 | 0 | 3 | 105 | 30,376 | 3 | 0 | 4 | 110 | 30,968 | 3 | 0 | 4 | 112 |
| | | | | T4M | 33,116 | 3 | 0 | 5 | 120 | 34,513 | 3 | 0 | 5 | 125 | 35,185 | 3 | 0 | 5 | 127 |
| | | | | T4LG | 30,119 | 3 | 0 | 3 | 109 | 31,389 | 3 | 0 | 4 | 113 | 32,001 | 3 | 0 | 4 | 116 |
| | | | | TFTM | 33,345 | 3 | 0 | 5 | 120 | 34,751 | 3 | 0 | 5 | 125 | 35,429 | 3 | 0 | 5 | 128 |
| | | | | T5M | 34,071 | 5 | 0 | 4 | 123 | 35,509 | 5 | 0 | 4 | 128 | 36,201 | 5 | 0 | 4 | 131 |
| | | | | T5W | 34,624 | 5 | 0 | 4 | 125 | 36,084 | 5 | 0 | 4 | 130 | 36,788 | 5 | 0 | 4 | 133 |
| | | | | T5LG | 34,170 | 5 | 0 | 3 | 123 | 35,612 | 5 | 0 | 3 | 129 | 36,306 | 5 | 0 | 3 | 131 |
| | | | | BLC3 | 23,734 | 0 | 0 | 4 | 86 | 24,735 | 0 | 0 | 4 | 89 | 25,217 | 0 | 0 | 4 | 91 |
| | | | | BLC4 | 24,513 | 0 | 0 | 5 | 88 | 25,547 | 0 | 0 | 5 | 92 | 26,045 | 0 | 0 | 5 | 94 |
| | | | | RCCO | 23,948 | 1 | 0 | 4 | 86 | 24,958 | 1 | 0 | 4 | 90 | 25,445 | 1 | 0 | 4 | 92 |
| | | | | LCCO | 23,948 | 1 | 0 | 4 | 86 | 24,958 | 1 | 0 | 4 | 90 | 25,445 | 1 | 0 | 4 | 92 |
| | | | | AFR | 34,819 | 3 | 0 | 4 | 126 | 36,288 | 3 | 0 | 4 | 131 | 36,996 | 3 | 0 | 4 | 134 |


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# Performance Data

## Lumen Output

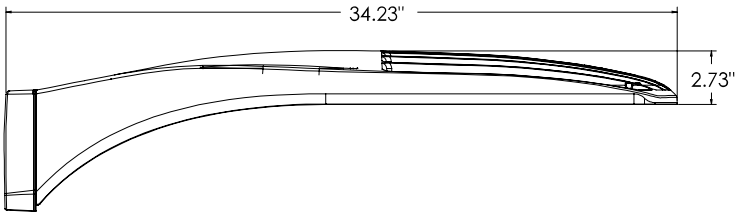
Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of configurations shown within the tolerances described within LM-79. Contact factory for performance data on any configurations not shown here.

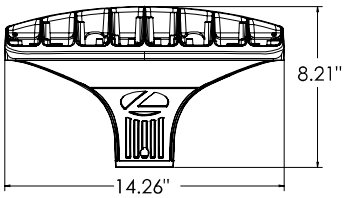
### Rotated Optics

| Performance Package | System Watts | LED Count | Drive Current (mA) | Distribution Type | 30K (3000K, 70 CRI) | | | | | 40K (4000K, 70 CRI) | | | | | 50K (5000K, 70 CRI) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lumens | B | U | G | LPW | Lumens | B | U | G | LPW | Lumens | B | U | G | LPW |
| P10 | 101W | 60 | 530 | T1S | 15,164 | 3 | 0 | 3 | 150 | 15,803 | 3 | 0 | 3 | 156 | 16,112 | 3 | 0 | 3 | 159 |
| | | | | T2M | 14,047 | 4 | 0 | 4 | 139 | 14,640 | 4 | 0 | 4 | 145 | 14,925 | 4 | 0 | 4 | 147 |
| | | | | T3M | 14,208 | 4 | 0 | 4 | 140 | 14,807 | 4 | 0 | 4 | 146 | 15,096 | 4 | 0 | 4 | 149 |
| | | | | T3LG | 12,693 | 3 | 0 | 3 | 125 | 13,229 | 3 | 0 | 3 | 131 | 13,487 | 3 | 0 | 3 | 133 |
| | | | | T4M | 14,420 | 4 | 0 | 4 | 142 | 15,028 | 4 | 0 | 4 | 148 | 15,321 | 4 | 0 | 4 | 151 |
| | | | | T4LG | 13,115 | 3 | 0 | 3 | 129 | 13,668 | 3 | 0 | 3 | 135 | 13,934 | 3 | 0 | 3 | 138 |
| | | | | TFTM | 14,522 | 4 | 0 | 4 | 143 | 15,134 | 4 | 0 | 4 | 149 | 15,429 | 4 | 0 | 4 | 152 |
| | | | | T5M | 14,836 | 4 | 0 | 2 | 146 | 15,462 | 4 | 0 | 2 | 153 | 15,763 | 4 | 0 | 2 | 156 |
| | | | | T5W | 15,076 | 4 | 0 | 3 | 149 | 15,712 | 5 | 0 | 3 | 155 | 16,019 | 5 | 0 | 3 | 158 |
| | | | | T5LG | 14,879 | 3 | 0 | 2 | 147 | 15,507 | 3 | 0 | 2 | 153 | 15,809 | 3 | 0 | 2 | 156 |
| | | | | BLC3 | 10,335 | 3 | 0 | 3 | 102 | 10,771 | 4 | 0 | 4 | 106 | 10,981 | 4 | 0 | 4 | 108 |
| | | | | BLC4 | 10,674 | 4 | 0 | 4 | 105 | 11,124 | 4 | 0 | 4 | 110 | 11,341 | 4 | 0 | 4 | 112 |
| | | | | RCCO | 10,429 | 1 | 0 | 2 | 103 | 10,869 | 1 | 0 | 2 | 107 | 11,080 | 1 | 0 | 2 | 109 |
| | | | | LCCO | 10,429 | 1 | 0 | 2 | 103 | 10,869 | 1 | 0 | 2 | 107 | 11,080 | 1 | 0 | 2 | 109 |
| | | | | AFR | 15,164 | 3 | 0 | 3 | 150 | 15,803 | 3 | 0 | 3 | 156 | 16,112 | 3 | 0 | 3 | 159 |
| P11 | 135W | 60 | 700 | T1S | 19,437 | 4 | 0 | 4 | 144 | 20,257 | 4 | 0 | 4 | 150 | 20,651 | 4 | 0 | 4 | 153 |
| | | | | T2M | 18,005 | 4 | 0 | 4 | 133 | 18,765 | 4 | 0 | 4 | 139 | 19,131 | 4 | 0 | 4 | 142 |
| | | | | T3M | 18,211 | 4 | 0 | 4 | 135 | 18,980 | 4 | 0 | 4 | 141 | 19,350 | 4 | 0 | 4 | 143 |
| | | | | T3LG | 16,270 | 3 | 0 | 3 | 121 | 16,957 | 3 | 0 | 3 | 126 | 17,287 | 4 | 0 | 4 | 128 |
| | | | | T4M | 18,483 | 4 | 0 | 4 | 137 | 19,263 | 5 | 0 | 5 | 143 | 19,638 | 5 | 0 | 5 | 146 |
| | | | | T4LG | 16,810 | 3 | 0 | 3 | 125 | 17,519 | 3 | 0 | 3 | 130 | 17,861 | 3 | 0 | 3 | 132 |
| | | | | TFTM | 18,614 | 4 | 0 | 4 | 138 | 19,399 | 4 | 0 | 4 | 144 | 19,777 | 5 | 0 | 5 | 147 |
| | | | | T5M | 19,017 | 5 | 0 | 3 | 141 | 19,819 | 5 | 0 | 3 | 147 | 20,205 | 5 | 0 | 3 | 150 |
| | | | | T5W | 19,325 | 5 | 0 | 3 | 143 | 20,140 | 5 | 0 | 3 | 149 | 20,533 | 5 | 0 | 3 | 152 |
| | | | | T5LG | 19,072 | 4 | 0 | 2 | 141 | 19,876 | 4 | 0 | 2 | 147 | 20,264 | 4 | 0 | 2 | 150 |
| | | | | BLC3 | 13,247 | 4 | 0 | 4 | 98 | 13,806 | 4 | 0 | 4 | 102 | 14,075 | 4 | 0 | 4 | 104 |
| | | | | BLC4 | 13,682 | 4 | 0 | 4 | 101 | 14,259 | 4 | 0 | 4 | 106 | 14,537 | 4 | 0 | 4 | 108 |
| | | | | RCCO | 13,367 | 1 | 0 | 3 | 99 | 13,931 | 1 | 0 | 3 | 103 | 14,203 | 1 | 0 | 3 | 105 |
| | | | | LCCO | 13,367 | 1 | 0 | 3 | 99 | 13,931 | 1 | 0 | 3 | 103 | 14,203 | 1 | 0 | 3 | 105 |
| | | | | AFR | 19,437 | 4 | 0 | 4 | 144 | 20,257 | 4 | 0 | 4 | 150 | 20,651 | 4 | 0 | 4 | 153 |
| P12 | 206W | 60 | 1050 | T1S | 27,457 | 4 | 0 | 4 | 133 | 28,616 | 4 | 0 | 4 | 139 | 29,174 | 4 | 0 | 4 | 142 |
| | | | | T2M | 25,436 | 5 | 0 | 5 | 124 | 26,509 | 5 | 0 | 5 | 129 | 27,025 | 5 | 0 | 5 | 131 |
| | | | | T3M | 25,727 | 5 | 0 | 5 | 125 | 26,812 | 5 | 0 | 5 | 130 | 27,335 | 5 | 0 | 5 | 133 |
| | | | | T3LG | 22,984 | 4 | 0 | 4 | 112 | 23,954 | 4 | 0 | 4 | 116 | 24,421 | 4 | 0 | 4 | 119 |
| | | | | T4M | 26,110 | 5 | 0 | 5 | 127 | 27,212 | 5 | 0 | 5 | 132 | 27,742 | 5 | 0 | 5 | 135 |
| | | | | T4LG | 23,747 | 4 | 0 | 4 | 115 | 24,749 | 4 | 0 | 4 | 120 | 25,231 | 4 | 0 | 4 | 123 |
| | | | | TFTM | 26,295 | 5 | 0 | 5 | 128 | 27,404 | 5 | 0 | 5 | 133 | 27,938 | 5 | 0 | 5 | 136 |
| | | | | T5M | 26,864 | 5 | 0 | 4 | 130 | 27,997 | 5 | 0 | 4 | 136 | 28,543 | 5 | 0 | 4 | 139 |
| | | | | T5W | 27,299 | 5 | 0 | 4 | 133 | 28,451 | 5 | 0 | 4 | 138 | 29,006 | 5 | 0 | 4 | 141 |
| | | | | T5LG | 26,942 | 4 | 0 | 2 | 131 | 28,078 | 4 | 0 | 2 | 136 | 28,626 | 4 | 0 | 2 | 139 |
| | | | | BLC3 | 18,714 | 4 | 0 | 4 | 91 | 19,504 | 4 | 0 | 4 | 95 | 19,884 | 4 | 0 | 4 | 97 |
| | | | | BLC4 | 19,327 | 5 | 0 | 5 | 94 | 20,143 | 5 | 0 | 5 | 98 | 20,535 | 5 | 0 | 5 | 100 |
| | | | | RCCO | 18,883 | 1 | 0 | 4 | 92 | 19,680 | 1 | 0 | 4 | 96 | 20,064 | 1 | 0 | 4 | 97 |
| | | | | LCCO | 18,883 | 1 | 0 | 4 | 92 | 19,680 | 1 | 0 | 4 | 96 | 20,064 | 1 | 0 | 4 | 97 |
| | | | | AFR | 27,457 | 4 | 0 | 4 | 133 | 28,616 | 4 | 0 | 4 | 139 | 29,174 | 4 | 0 | 4 | 142 |
| P13 | 276W | 60 | 1400 | T1S | 34,436 | 5 | 0 | 5 | 125 | 35,889 | 5 | 0 | 5 | 130 | 36,588 | 5 | 0 | 5 | 133 |
| | | | | T2M | 31,900 | 5 | 0 | 5 | 116 | 33,246 | 5 | 0 | 5 | 121 | 33,894 | 5 | 0 | 5 | 123 |
| | | | | T3M | 32,265 | 5 | 0 | 5 | 117 | 33,626 | 5 | 0 | 5 | 122 | 34,282 | 5 | 0 | 5 | 124 |
| | | | | T3LG | 28,826 | 4 | 0 | 4 | 105 | 30,042 | 4 | 0 | 4 | 109 | 30,628 | 4 | 0 | 4 | 111 |
| | | | | T4M | 32,746 | 5 | 0 | 5 | 119 | 34,128 | 5 | 0 | 5 | 124 | 34,793 | 5 | 0 | 5 | 126 |
| | | | | T4LG | 29,782 | 4 | 0 | 4 | 108 | 31,039 | 4 | 0 | 4 | 113 | 31,644 | 5 | 0 | 4 | 115 |
| | | | | TFTM | 32,978 | 5 | 0 | 5 | 120 | 34,369 | 5 | 0 | 5 | 125 | 35,039 | 5 | 0 | 5 | 127 |
| | | | | T5M | 33,692 | 5 | 0 | 4 | 122 | 35,113 | 5 | 0 | 4 | 127 | 35,797 | 5 | 0 | 4 | 130 |
| | | | | T5W | 34,238 | 5 | 0 | 4 | 124 | 35,682 | 5 | 0 | 4 | 129 | 36,378 | 5 | 0 | 4 | 132 |
| | | | | T5LG | 33,789 | 5 | 0 | 3 | 122 | 35,215 | 5 | 0 | 3 | 128 | 35,901 | 5 | 0 | 3 | 130 |
| | | | | BLC3 | 23,471 | 5 | 0 | 5 | 85 | 24,461 | 5 | 0 | 5 | 89 | 24,937 | 5 | 0 | 5 | 90 |
| | | | | BLC4 | 24,240 | 5 | 0 | 5 | 88 | 25,262 | 5 | 0 | 5 | 92 | 25,755 | 5 | 0 | 5 | 93 |
| | | | | RCCO | 23,683 | 1 | 0 | 4 | 86 | 24,682 | 1 | 0 | 4 | 89 | 25,163 | 1 | 0 | 4 | 91 |
| | | | | LCCO | 23,683 | 1 | 0 | 4 | 86 | 24,682 | 1 | 0 | 4 | 89 | 25,163 | 1 | 0 | 4 | 91 |
| | | | | AFR | 34,436 | 5 | 0 | 5 | 125 | 35,889 | 5 | 0 | 5 | 130 | 36,588 | 5 | 0 | 5 | 133 |

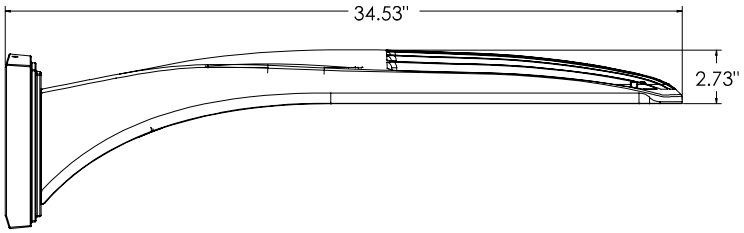

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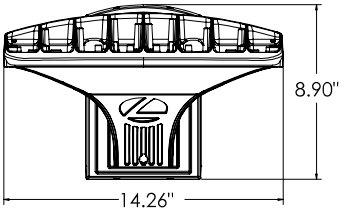
## Dimensions



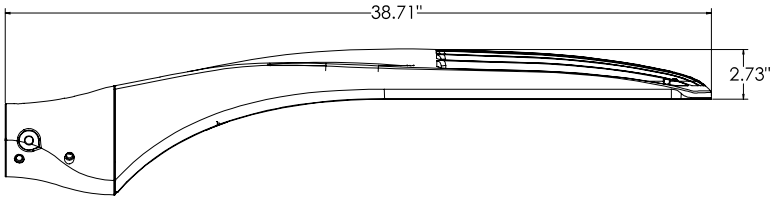



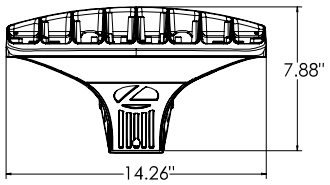

**DSX1 with RPA, RPA5, SPA5, SPA8N mount**
**Weight: 36 lbs**



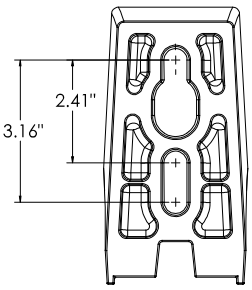

**DSX1 with WBA mount**
**Weight: 38 lbs**



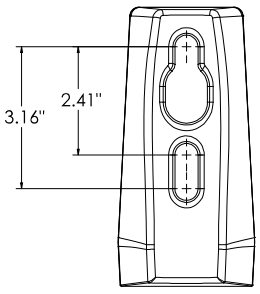




**DSX1 with MA mount**
**Weight: 39 lbs**

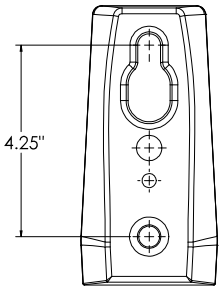
**SPA (STANDARD ARM)**



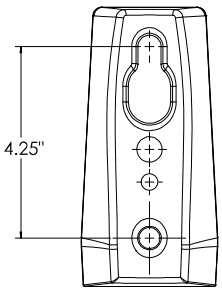

**RPA**



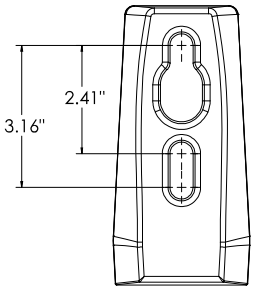

**SPA5**




**RPA5**




**SPA8N**



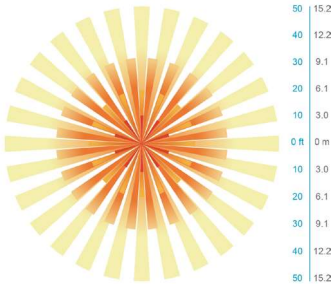


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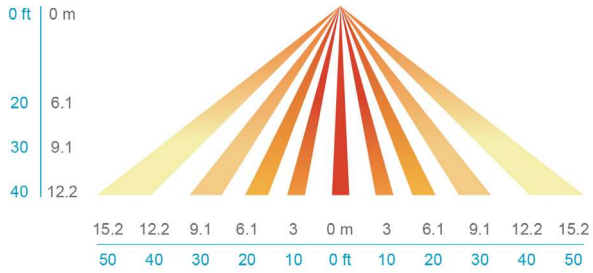
## nLight Control - Sensor Coverage and Settings

nLight Sensor Coverage Pattern
NLTAIR2 PIRHN






Top




Side

## FEATURES & SPECIFICATIONS

### INTENDED USE
The sleek design of the D-Series Size 1 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and streetscapes.

### CONSTRUCTION
Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing driver compartment is completely sealed against moisture and environmental contaminants (IP66). Vibration rated per ANSI C136.31 for 3G for SPA and MA. 1.5G for mountings RPA, RPA5, SPA5 and SPA8N. Low EPA (0.69 $ft^2$) for optimized pole wind loading.

### FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

### Coastal Construction (CCE)
Optional corrosion resistant construction is engineered with added corrosion protection in materials and/or pre-treatment of base material under super durable paint. Provides additional corrosion protection for applications near coastal areas. Finish is salt spray tested to over 5,000 hours per ASTM B117 with scribe rating of 10. Additional lead-times may apply.

### OPTICS
Precision-molded proprietary silicone lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 3000 K, 4000 K and 5000 K (70 CRI) configurations. 80CRI configurations are also available. The D-Series Size 1 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

### ELECTRICAL
Light engine configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L81/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

### STANDARD CONTROLS
The DSX1 LED area luminaire has a number of control options. DSX Size 1, comes standard with 0-10V dimming drivers. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. Integrated motion sensor with on-board photocells feature field-adjustable programing and are suitable for mounting heights up to 40 feet. Control option BL features a bi-level device that allows a second control circuit to switch all light engines to either 30% or 50% light output.

### nLIGHT AIR CONTROLS
The DSX1 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

### INSTALLATION
Integral mounting arm allows for fast mounting using Lithonia standard #8 drilling and accommodates pole drilling's from 2.41 to 3.12" on center. The standard "SPA" option for square poles and the "RPA" option for round poles use the #8 drilling. For #5 pole drillings, use SPA5 or RPA5. Additional mountings are available including a wall bracket (WBA) and mast arm (MA) option that allows luminaire attachment to a 2 3/8" horizontal mast arm.

### LISTINGS
UL listed to meet U.S. and Canadian standards. UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP66 rated. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

### GOVERNMENT PROCUREMENT
BAA – Buy America(n) Act: Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

### WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

**Note:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.


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September 12, 2025

Bennett Hanson
City of Mankato
10 Civic Center Plaza
PO Box 3368
Mankato, MN 56002-3368
bhanson@mankatomn.gov

ISG

## RE: Plan Review Response Letter – Plan Review ZONE-0049-25
## Rolls-Royce Power Systems – 304 Lundin Blvd., Mankato, Minnesota

Bennett,

Thank you for your plan review comments received on September 10, 2025. We have prepared the following information to address your review comments. Please note that for your convenience each review item is restated below along with our corresponding response.

# SITE PLAN & TRAFFIC ADVISORY COMMITTEE REVIEW COMMENTS

A) The applicant shall provide a storm water management plan in accordance with City standards and MS4 permit for the new and fully reconstruct impervious area.

*ISG Response: ISG is coordinating with the Interim City Engineer to address this comment.*

B) The applicant shall provide plans detailing the size, location, status, contents, usage and any associated site improvements for all existing or proposed aboveground tanks on site.

*ISG Response: Please see attached fuel tank exhibit which identifies a new 1,000-gallon diesel / HVO tank., and existing 200-gallon diesel tank to be relocated, and an existing 1,000-lb LP tank to remain.*

C) The applicant shall provide tank detail sheets for all existing or proposed aboveground tanks on site.

*ISG Response: Detail sheets can be provided upon completion of final design.*

D) The applicant shall be aware that dispensing of flammable/combustible liquids stored within exterior above-ground storage tanks is limited to a maximum of three tanks on site.

*ISG Response: Thank you for the information. The design has been modified to now include only a total of three above-ground tanks.*

E) The applicant shall work with the MPCA to obtain any necessary permits or permissions associated with instillation or usage of above-ground tanks on site.

*ISG Response: The MPCA will be consulted, and all required permits will be obtained.*

F) The applicant shall provide proof that they have obtained, or proof that they do not need, an industrial stormwater permit.

*ISG Response: Rolls-Royce currently holds an MPCA Industrial Stormwater Permit (MNR05398F).*

| Permit ID | Facility Name | Effective Date | Termination Date | Permit Type | Status | County | City |
|---|---|---|---|---|---|---|---|
| MNR05398F | Rolls-Royce Solutions America Inc. - Lundin Blvd | 07/02/2021 | | Industrial Stormwater Permit | Active | Blue Earth | Mankato |

G) The applicant should be aware that a separate fire permit is needed for the proposed above-ground tanks.

*ISG Response: Understood. Thank you for the information.*

H) The applicant should be aware that all signage must be reviewed and permitted prior to installation.

*ISG Response: Understood. Thank you for the information.*

I) If traffic associated with the use of the property causes undue traffic concerns on Lundin Blvd., the applicant shall be required to complete a traffic study and make the recommended modifications needed to mitigate these conditions.

*ISG Response: Understood. The owner has been advised.*

J) The applicant should be aware that outdoor storage is limited to operable equipment only. Inoperable or unlicensed equipment will not be permitted. Wrecked, dismantled, partially dismantled, inoperative, or abandoned vehicles or machinery shall be prohibited.

*ISG Response: Understood. The owner has been advised.*

K) The applicant shall provide screening of 90% opacity or greater for the proposed exterior storage in accordance with Mankato City Code.

*ISG Response: Please refer to Civil plans and fencing details.*

L) A snow storage plan shall be submitted and approved. Snow storage shall be in conformance with an approved plan.

*ISG Response: Snow will be removed from site by a snow removal contractor.*

M) On-site lighting shall conform to the lighting standards in the Mankato City Code, including but not limited to full-cut, fully shielded fixtures. Conformance shall include, but not limited to, all signage, building, and parking lot lighting.

*ISG Response: Please refer to the photometrics plans previously submitted.*

N) Landscaping shall be installed in conformance with the Mankato City Code and in accordance with an approved landscaping plan prior to issuance of a certificate of occupancy.

*ISG Response: Please refer to the plans previously submitted.*

O) The applicant shall provide updated plans that reflect modifications from the originally submitted application documents.

*ISG Response: Please see the attached updated materials.*

P) If not already complete, the applicant shall log into the online portal and make the necessary notification fee payments.

*ISG Response: All fees assessed via the portal have been paid. Should any additional fees come due, please advise and payment will be promptly remitted.*

Please contact me at 507.387.6651 or via email at Emily.Nepp@ISGInc.com with any questions or if there is any additional information we can provide in support of this project.

Sincerely,



Emily Nepp
*Development Services Coordinator*
*Emily.Nepp@ISGInc.com*

September 15, 2025

Bennett Hanson
City of Mankato
10 Civic Center Plaza
PO Box 3368
Mankato, MN 56002-3368
bhanson@mankatomn.gov

ISG

## RE: Plan Review Response Letter – Plan Review ZONE-0049-25
## Rolls-Royce Power Systems – 304 Lundin Blvd., Mankato, Minnesota

Bennett,

Thank you for your plan review comments received on September 15, 2025. We have prepared the following information to address your review comments. Please note that for your convenience each review item is restated below along with our corresponding response.

# SITE PLAN & TRAFFIC ADVISORY COMMITTEE REVIEW COMMENTS

1. Can you provide an updated Photometric Plan that Conforms to Mankato City Code? Along the Eastern edge of the site, it appears that the lighting level exceeds the ½ footcandle maximum. The lighting level would need to be reduced.

   *ISG Response: Please see the attached updated plan.*

2. Can you provide detail plans for the aboveground tanks? We need to confirm that the proposed tanks would conform to City code, particularly that they are self-contained & self-diking / properly diked. I would also advise that you review MPCA's requirements so that you don't have to modify the proposed tanks and have them re-reviewed down the line.

   *ISG Response: The tanks will be double-walled, self-contained structures which would not require additional spill containment features to meet MPCA or City of Mankato code requirements. While cut sheets for the proposed tanks are not yet available from the manufacturer, the tanks are specified to meet these requirements. MPCA requirements have been reviewed, and it has also been confirmed that due to the quantity of fuel stored within the onsite tanks, only MPCA tank notifications will be required.*

Please contact me at 507.387.6651 or via email at Emily.Nepp@ISGInc.com with any questions or if there is any additional information we can provide in support of this project.

Sincerely,

Emily Nepp

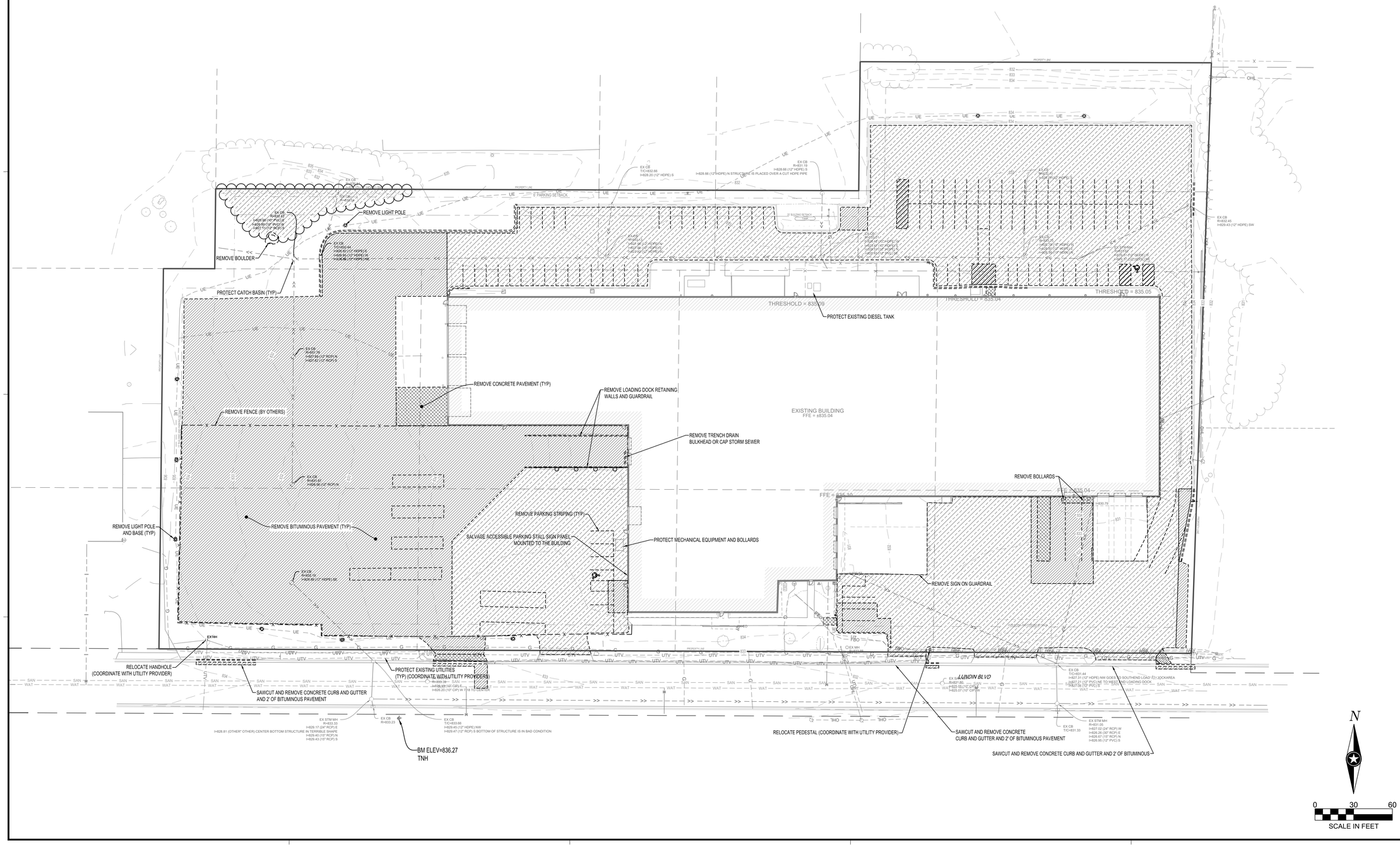
Emily Nepp
*Development Services Coordinator*
*Emily.Nepp@ISGInc.com*

## REMOVAL LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | REMOVE BITUMINOUS PAVEMENT (FULL SECTION) |
| | MILL BITUMINOUS PAVEMENT |
| | REMOVE CONCRETE PAVEMENT |
| | REMOVE LANDSCAPING |
| | CLEAR AND GRUB TREES AND UNDERBRUSH |

CONTRACTOR SHALL VERIFY EXISTING PAVEMENT SECTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

PAVEMENT REMOVALS SHALL INCLUDE FULL DEPTH SAWCUT AND SECTION REMOVAL.




ISG

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

BRYAN M. PETZEL

DATE _____ LIC. NO. 53191

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

BRETT A. HARRIS

DATE _____ LIC. NO. 60537

SHEET NOT VALID UNLESS THIS TEXT IS COLOR.

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PROJECT

**ROLLS ROYCE SOLUTIONS AMERICA, INC**

**LUNDIN LPR**

MANKATO MINNESOTA

REVISION SCHEDULE

| DATE | DESCRIPTION | BY |
|---|---|---|
| | | |

| | |
|---|---|
| PROJECT NO. | 25-32426 |
| FILE NAME | 32426-C2-EXIST |
| DRAWN BY | AAQ |
| DESIGNED BY | AAQ/BMP |
| REVIEWED BY | BMP |
| ORIGINAL ISSUE DATE | --/--/-- |
| CLIENT PROJECT NO. | 1180 |

TITLE

**EXISTING SITE AND REMOVAL PLAN**

SHEET

**C2-10**

**PRELIMINARY NOT FOR CONSTRUCTION**

# Memorandum

304 Lundin Blvd Renovation - Mankato, MN

To: Cory Bienfang, P.E., City of Mankato Interim City Engineer

From: Bryan Petzel, P.E.

Date: September 19, 2025

Subject: 304 Lundin Boulevard Renovation – Stormwater Management

# STORMWATER MANAGEMENT

This stormwater management memo was prepared for the building renovation and site improvements project proposed by Rolls-Royce Solutions America, Inc. at 304 Lundin Boulevard in Mankato, Minnesota.

## Existing Conditions

The existing 7.16-acre site is located within the Planned Industrial zoning district. Existing site features include an approximately 91,300 square foot building, truck docks, and paved exterior storage, circulation, and parking areas. The site currently has approximately 5.95 acres (83.1 %) of impervious coverage.

### Soils

Soil borings were completed on site west of the building by Braun Intertec in July of 2025. In general, bedrock was encountered at depths ranging from two to five feet. Residuum (in-place bedrock weathered into soil), clayey sand fill, topsoil, and pavement sections were found above the bedrock. A copy of the geotechnical evaluation report is enclosed.

### Drainage

Stormwater from the site is conveyed overland or through on-site storm sewer to two separate City storm sewer systems. In general, the northern 70% of the site drains to a storm sewer in the rear of the property that flows west to the 9th Avenue storm sewer system. This system ultimately drains north to a shallow stream near the Mankato power plant that later discharges into the Minnesota River. The remainder of the site drains to the Lundin Boulevard storm sewer system. This system drains east to a stormwater pond system on the east side of 3rd Avenue. The pond system outlets to a ditch system that flows to the same shallow stream that receives the 9th Avenue storm sewer system.

## Proposed Conditions

The proposed site improvements include minimal expansion of the paved exterior storage and parking areas, reconstruction of the exterior storage area pavement, reconstruction of a ramp to an at-grade overhead door, widening of a driveway, and a mill-and-overlay of existing bituminous parking and circulation areas.

The proposed site improvements will result in a total impervious coverage of 6.17 acres (86.2%) for the site. This is a net increase of 0.22 acres and includes 1.80 acres of fully reconstructed impervious areas. Stormwater drainage from the site will remain consistent with existing conditions. No additional storm sewer is proposed.

## Stormwater Treatment Requirements

The City of Mankato's municipal separate storm sewer system (MS4) permit and Grading Manual require post-construction stormwater management to treat the sum of the new and fully reconstructed impervious surfaces on a project when their sum equals one or more acres. The water quality volume to be treated is defined as 1.1 inches times the sum of the new and fully reconstructed impervious surfaces.

## On-Site Stormwater Treatment Considerations

According to the MS4 permit, "Volume reduction practices (e.g. infiltration or other) to retain the water quality volume on-site must be considered first" for stormwater treatment. However, the permit also prohibits infiltration systems from being constructed in areas where the bottom of the system would have less than three (3) feet of separation distance to the top of bedrock. Considering the soil borings performed on site encountered bedrock at depths ranging primarily from two to five feet, it can be reasonably assumed that infiltration would be prohibited anywhere on site.

When infiltration is prohibited, wet sedimentation basins or filtration basins may be considered. However, construction of an on-site basin is impractical for the following reasons:

- The shallow bedrock conditions create significant difficulties for construction.
- The only open space available to construct an above-ground basin is in the northeast corner of the property near the upstream end of the shallow on-site storm sewer system. Even if the bedrock conditions were found to be more favorable in this location, the on-site storm sewer system lacks sufficient depth for it to be rerouted to a basin in this open area and then allow for a gravity flow outlet from the basin back into the system.
- The exterior storage area is proposed to be fully reconstructed with an extra heavy duty concrete pavement. The thickness of this pavement section will place it directly on top of the bedrock. As a result, construction of an underground stormwater management system under the reconstructed storage area would require extensive bedrock excavation. The system would need to be robustly designed to support the loads that required use of an extra heavy duty concrete pavement design. The shallow depth of the on-site storm sewer also presents challenges in the design and construction of an underground stormwater management system.

## Request to Waive Stormwater Treatment Requirements

Construction of an on-site stormwater treatment system creates a unique and particular hardship for this property. Considering this in combination with the minimal amount of new impervious surfaces the project will create and that 30% of the site currently drains to an existing stormwater pond system on the east side of 3rd Avenue, a waiver of the City stormwater treatment requirements is requested for this project.

## Hanson, Bennett

**From:** Mitchell, Brittany
**Sent:** Wednesday, September 24, 2025 8:30 AM
**To:** Hanson, Bennett
**Subject:** FW: Site Plan comments - Action needed - 304 Lundin Blvd.

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

FYI

---

**From:** Bienfang, Cory <cbienfang@mankatomn.gov>
**Sent:** Wednesday, September 24, 2025 8:23 AM
**To:** Bryan Petzel <Bryan.Petzel@ISGInc.com>; Mitchell, Brittany <bmitchell@mankatomn.gov>
**Subject:** RE: Site Plan comments - Action needed - 304 Lundin Blvd.

Good morning, Bryan,

After review of the updated plans and drainage report, I have generated the following comments:

1. Need a SWPPP
2. Volume of runoff and WQV
    a. There will be in increase in the volume of runoff as the impervious surface is increasing. How much will this be and how will if effect the inplace system downstream? This analysis is required for both of the existing systems, the one flowing to the north into the ravine and the one flowing to the south into the stormwater pond east of 3rd Ave.
    b. In compliance with the City MS4, effort needs to be put forth to treat runoff onsite. The available greenspace on the northeast side of the parcel seems like an obvious BMP site and could satisfy the treatment needs associated with the proposed improvements by directed water through curb cuts or storm sewer. While borings were performed on site and bedrock was encountered at depths ranging primarily from two to five feet, boring ST-02 (closest to the NE green area) suggests that bedrock may be deeper than 2-5' as this boring has the deepest depth to refusal at 7.5'.
3. At a minimum if bedrock is an issue, then we need proof that a shallow depth infiltration BMP onsite is not possible which would require additional borings.

In summary I agree that the site creates significant challenges to stormwater treatment, but city standards are being triggered requiring treatment. While BMPs should maximize the amount of runoff captured as good engineering practice, the NPDES stormwater permit does not require a minimum amount of runoff. This means that a design to incorporate a basin onsite that satisfies the City's WQV requirements but does not physically capture the amount of runoff to achieve that. This should be last resort, but it's better than nothing.

Thanks,

**Cory Bienfang, P.E.**
Interim City Engineer

**City of Mankato**
Intergovernmental Center | 10 Civic Center Plaza | Mankato, MN 56001
**Office:** (507) 387-8643

**Meeting Date:** 09/24/2025

**Title**

CY 48-25

**Request of Bolton and Menk, with permission of the property owner, for a final plat review of Victory Ridge Apartments; for a conditional use permit to allow a grouped housing project in the O-R, Office Residential zoning district; and for a conditional use permit for a wetland sequencing and replacement request. The subject property is described as Outlot B, Kearney Addition No. 2, City of Mankato (Blue Earth County PID R010909301015).**

*The anticipated date of City Council action is October 14, 2025.*

**Applicant**

The applicant is Bolton and Menk, with permission of the property owner.

**Request**

The applicant is requesting a wetland replacement plan, a conditional use pemit to allow a multiple apartment buildings on one lot, and a final plat review of Victory Ridge subdivision.

**Location**

The subject property is described as Outlot B, Kearney Addition No. 2, City of Mankato (Blue Earth County PID R010909301015).

**Existing Land Use**

The property is currently vacant with the most recent use being row crop agriculture.

**Zoning**

The property is zoned OR, Office Residential.

**Other Board or Commission**

The Mankato City Council approved the preliminary plat on September 8, 2025, with the following conditions:

1. Payment in lieu of parkland dedication in the amount of $69,734.00 will be required prior to affixing signatures on the final plat.
2. A conditional use permit will be required for the proposed housing development based on the conditional uses defined in the Office Residential district.
3. The applicant shall submit a hydrology report and drainage analysis at the time of submission of the final plat. The applicant shall be aware that no drainage outlet shall be constructed at the top of the bluff.
4. Applicant shall submit a final traffic memo at the time of submission of the conditional use permit.
5. The applicant shall be aware of the wooded areas and any removal of trees shall be evaluated by the Mankato City Code.
6. The applicant shall be aware that a public watercourse exists on the subject property and any development that occurs within 300' will be subject to the City's Shoreland Ordinance.
7. The applicant shall make a payment-in-lieu of parkland dedication in the amount of $69,734.00.This number is based on the assessed unimproved value of the property multiplied by 7 percent per the Mankato City Code requirements.

**Environmentally Sensitive Areas**

The Environmentally Sensitive Areas Map indicated that there are existing bluff zones and woodland areas, and identified a portion of the subject property to be located within the shoreland district. No development is planned in the designated areas.

Further review with the MN DNR determined that no EAW would be required with development of the property.

The applicant has submitted a SWPPP plan according to MPCA standards.

**Public Utilities**

Utility connection points are currently located on the property.

**City Code**

The City Code pertaining to the OR-Office Residential District may be viewed at the link below.
https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=CH10LAUSDE_ARTIIREDI_DIV8OROFSIDI

**Site Plan Review Comments**

The Site Plan Review Committee met on September 9th, 2025, and submitted the following comments:

1. The applicant shall submit an updated drainage study as soon as possible.
2. The applicant shall review and amend the stormwater basin design and overflow to account for concerns of bluff and ravine stability to the satisfaction of the city engineer.
3. The applicant shall review the drainage for the play area and dog park and avoid direct discharge at the top of the bluff.
4. The applicant shall submit a geotechnical evaluation and bluff stability study prior to building permit submittal.
5. The applicant shall be a willing participant in further evaluation of the sign phasing at the intersection of N. Victory Dr. and Adams St. and agree to cost participation of warranted left turn land movement improvements.
6. The applicant should be aware that building 1 will have an address of 160 Dublin Rd., building 2 will be 190 Dublin Rd., building 3 will be 170 Dublin Rd. and building 4 will be 180 Dublin Rd.
7. The applicant shall be aware of the 50% open space requirement within the shoreland area.
8. The applicant shall be aware of the 25% impervious surface maximum within the shoreland area.
9. The applicant shall be aware that a SWPPP will be required through the MPCA. The applicant should also be aware that an NPDES and an EAW may also be required through the EPA.

**Review**

The applicant is currently requesting a review for a wetland replacement plan, a conditional use permit to allow for the construction of multiple apartment buildings on one lot, and a final plat review of the Victory Ridge subdivision. The subject property is legally described as Outlot B, Kearney Addition No. 2.

The final plat proposes the creation of a one-lot, one-block subdivision encompassing approximately 14.83 acres. The property has been evaluated for woodlands, shoreland, and wetlands. The applicant has shifted the development to minimize impacts to the wooded areas and the shoreland areas. The wetlands will be reviewed in conjunction with the final plat.

Outlot A, Elwin No. 3 and No. 2 will remain under their current ownership. The developer does not plan to purchase them for further development.

Wetlands and Hydrology:

The applicant has requested wetland flexibility and submitted for review, a wetland sequencing and replacement plan to allow for impacts to the wetland located on the upper areas of the site. Two sites were determined during the wetland analysis. Wetland 1 is isolated and will be permitted through the Wetland Conservation Act. Mitigation for this wetland is planned at a 2:1 ratio for a total of 0.16 credits. Tributary 2 is a stormwater erosional feature, not a jurisdictional tributary. Because of this, no impacts are affiliated with the placement of materials for the new stormwater structures.

A hydrology study was conducted and determined proposed improvements, including dedicated drainage areas, storm sewer routing, and two filtration basins. The first basin will be located on the eastern side of the property and will provide the majority of the water quality and impervious drainage for the development. The basin is designed to outfall near the bottom of Thomas Ravine bluff. The second basin will be located on the western side of the property.

Conditional Use Permit:

Site plans for the Victory Ridge Subdivision illustrate a grouped housing development consisting of four apartment buildings with a total of 180 residential units. Supporting site improvements include four garages, on-site parking, and associated residential amenities. The property is currently zoned O-R, Office Residential, where grouped housing projects are classified as conditional uses.

The applicant proposes to construct two 38-unit buildings and two 52-unit buildings, arranged in a rectangle around a central open space. Building designs are proposed to mostly replicate those previously approved and constructed for the Augusta Estates Park apartment project. The 52-unit buildings will have 23 tuck-under garages and include two studio units, 22 one-bedroom units and 28 two-bedroom units. Each 52-unit building will have a dedicated lobby, mail center, fitness center, and community room. The 38-unit buildings will not have tuck-under garages and include three studio units, 12 one-bedroom units, and 23 two-bedroom units. Each 38-unit building will have a dedicated lobby, office, community room, and fitness center. Both building types include a variety of unit layouts for each bedroom classification.

Several outdoor amenities are proposed, including a playground, a fenced dog park, outdoor athletic courts, and ample green space.

In order to reduce the development envelope of the project area, the applicant has modified their parking layout to adjust for the recent amendment to the parking requirements for Multiple Family developments, reducing the requirement from 2 stalls to 1.5 stalls per unit. As a multiple-family housing development, the project must provide a minimum of 1.5 parking stalls per unit. With a total of 180 residential units, 270 off-street parking stalls must be provided on site. The applicant has proposed to provide 365 parking stalls on site, at a rate of over 2 stalls per unit. The applicant intends to utilize a variety of parking types, including tandem parking, underground, garage, and surface lot parking. 227 parking stalls will be provided in surface lots, this includes 48 tandem stalls. Nine accessible parking stalls will also be provided within the surface lot. 40 garage stalls will be provided and 48 underground parking stalls. If tandem parking stalls are not included in the total parking calculation, 317 off-street parking stalls would still be provided on site, this conforms to Mankato City Code.

Public utilities are available within the Dublin Road corridor to serve the proposed development.

Site access is proposed from Dublin Road and will be required to conform to the City's engineering and access management standards. The applicant has submitted a traffic study. It was determined that a dedicated left turn signal at the intersection of Adams St. and Victory Dr. could be beneficial during peak hours. If improvements are warranted to the Adams Street and Victory Drive intersection, the City will enter

into agreements with previous developments to participate in the costs associated with modifications to the system.

**Findings**

Staff submits the following findings of fact:

1. The use, a grouped housing project, is considered a conditional use in the O-R, Office Residential district.
2. The request is in keeping with the comprehensive planning policies of the City, as the underlying land use plan identifies this parcel as "Office Residential."
3. The proposal does not interfere with or diminish the use of property in the immediate vicinity.
4. The proposal will be served with public utilities and services.
5. There are no known historical or architectural resources on the site.
6. There are known environmental conditions on the site. The applicant has worked through the conditions with the appropriate state and city departments.
7. The grouped housing development will not cause a negative effect on the city as a whole as the proposed development conforms to the standards in the Code.
8. To the extent known, the proposal conforms with all other applicable regulations of the district, and other applicable ordinances.
9. The proposal will not jeopardize the public's health, safety, or general welfare.
10. The proposal will not cause undue traffic congestion, as the traffic impact analysis demonstrates that the level of service proposed for the amount of traffic generated within the development will remain at acceptable levels. A traffic study determined that a dedicated left turn signal may be beneficial at the intersection of Adams St. and Victory Dr. to continue to assist with traffic conditions. Staff will continue to work with all parties to determine an appropriate solution.

**Recommendation**

Staff recommends approval of the final plat and conditional use permit for the Victory Ridge Development with the following conditions:

1. The applicant shall submit a geotechnical evaluation and bluff stability study for review and approval prior to building permit submittal.
2. The applicant shall be a willing participant in further evaluation of the signal phasing and upgrades at the intersection of N. Victory Dr. and Adams St. and agree to cost participation of warranted left turn land movement improvements.
3. If the grouped housing project on the subject parcel is constructed in phases, a phasing plan shall be submitted for review and approval, which demonstrates conformance to all standards for each phase of the development.
4. The applicant shall install bicycle parking which conforms to the Mankato City Code.
5. The applicant shall provide a photometric plan that demonstrates conforming lighting levels at the property line. This shall be provided with the building permit submission for the structures.
6. The applicant shall provide exterior light fixture cut sheets. All exterior light fixtures shall conform to Mankato City Code.
7. The applicant shall obtain a sign permit for any desired site signage prior to fabrication and installation.
8. The required landscaping shall be installed prior to, or in conjunction with, occupancy of the premise.
9. Prior to occupancy of any units, a rental license issued by the City of Mankato shall be in place.
10. The applicant shall submit a snow removal and storage plan for the proposed grouped housing project.

---

**Attachments**

General Location Map

Aerial Plan

Preliminary Plat

Final Plat

Overall Project Map

Drainage Report

Traffic Study

Wetland Replacement Plan

Renderings

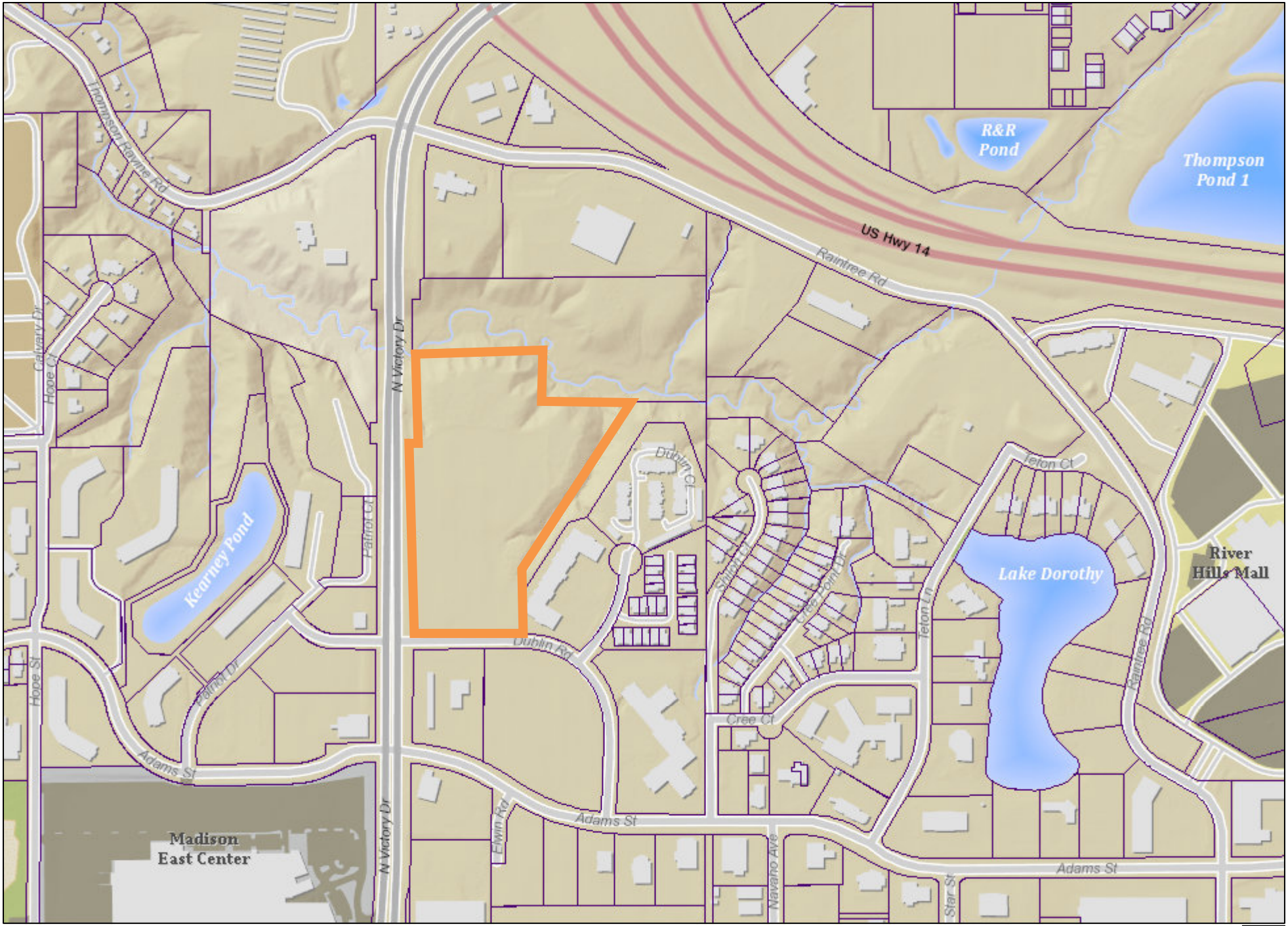
Site Plan

52 Unit Building Plans

38 Unit Building Plans

---

# General Location Map




**Date: July 2025**

**Author:**

This information is to be used for reference purposes only. The City of Mankato does not guarantee accuracy of the material contained herein and is not responsible for misuse or misinterpretation.

N

# Aerial Map

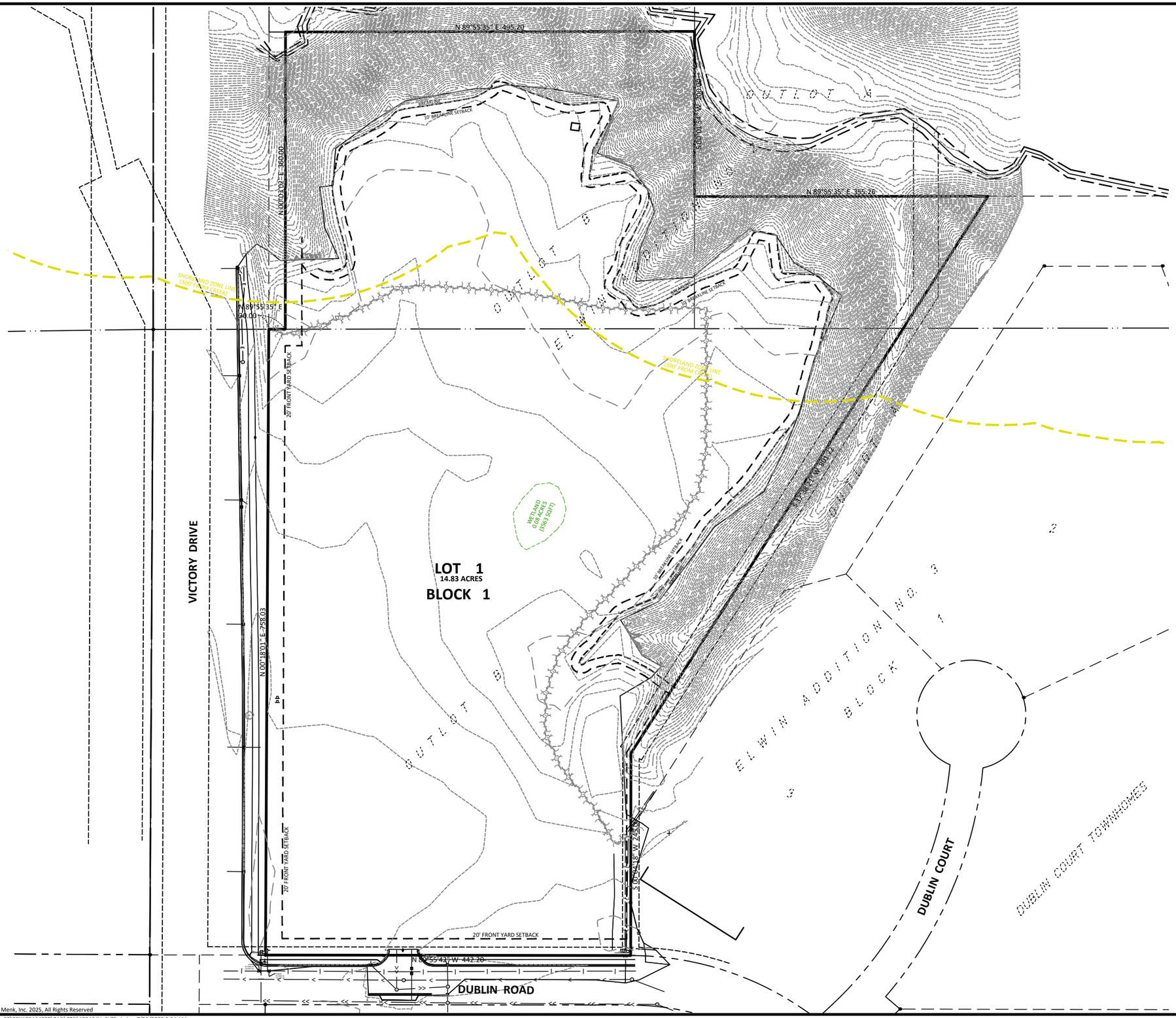


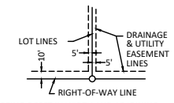

**Date: July 2025**

**Author:**

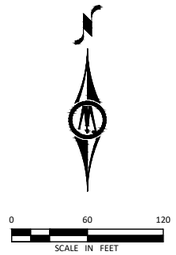
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N




BEING 5 FEET IN WIDTH AND ADJOINING LOT LINES AND BEING 10 FEET IN WIDTH AND ADJOINING RIGHT-OF-WAY LINES, UNLESS OTHERWISE INDICATED ON THE PLAT.
(SHOWN AS PER THE PLAT OF CIRCLE SEVEN SUBDIVISION.)




BASIS OF BEARINGS
(MINNESOTA COUNTY COORDINATE SYSTEM - BLUE EARTH COUNTY ZONE - HARN NAD83 - 2011)

## UTILITY & SITE DATA

All Zoning, Setback, and Flood Zone information was obtained from the City of Mankato Code. For detailed zoning information and specific interpretation of code requirements, contact the City of Mankato.

ZONING:
Subject property - OR, Office-Residential District

SETBACKS:

| | |
|---|---|
| Front | |
| Main and Accessory Building | 20 feet |
| Parking Areas | 20 feet |
| Side | |
| Main and Accessory Buildings | 5 feet |
| Parking Areas | 3 feet |
| Rear | |
| Main and Accessory Building | 10 feet |
| Parking Areas | 3 feet |

Lot Area (minimum) = 10,000 sq.ft. plus 600 sq.ft. for each unit over 6 units.
Lot Width (minimum) = 80 feet
Ground Coverage by all structures (maximum) = 60%
Building Height (maximum) = 45 feet (main) & 20 feet (accessory)

## SURVEYOR'S CERTIFICATION

I hereby certify that this survey, plan, or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Michael M. Eichers
License Number 46564

07/22/2025
Date

# VICTORY RIDGE APARTMENTS

PRELIMINARY PLAT
MANKATO, MINNESOTA

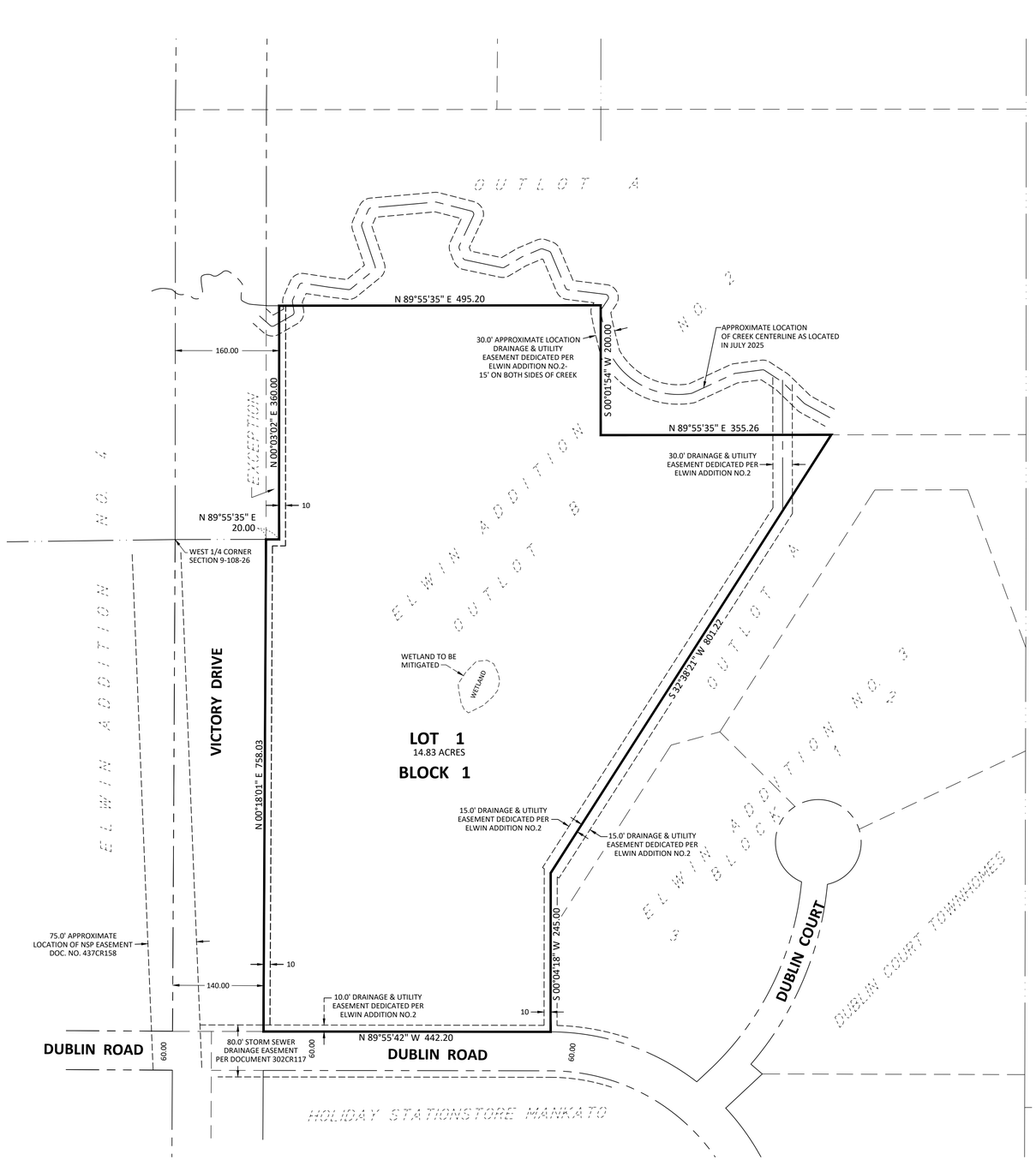
OUTLOT B, KEARNEY ADDITION NO. 2

BOLTON & MENK
1960 PREMIER DRIVE
MANKATO, MN 56001
(507) 625-4171

FOR: KUEPERS, INC.

©Bolton & Menk, Inc. 2025, All Rights Reserved

# VICTORY RIDGE APARTMENTS




0 100 200
SCALE IN FEET

BASIS OF BEARINGS
(MINNESOTA COUNTY COORDINATE SYSTEM - BLUE EARTH COUNTY ZONE - HARN NAD83 - 2011)




BEING 5 FEET IN WIDTH AND ADJOINING LOT LINES AND BEING 10 FEET IN WIDTH AND ADJOINING RIGHT-OF-WAY LINES, UNLESS OTHERWISE INDICATED ON THE PLAT.

## LEGEND

- ○ 3/4" IRON PIPE MONUMENT SET MARKED BY LIC. NO. 46564
- ● MONUMENT FOUND

INSTRUMENT OF DEDICATION

Know all men by these presents that we, Victory Ridge Apartments, LLC, a Minnesota limited liability company, fee owner of the following described property to wit:

Outlot B, ELWIN ADDITION NO. 2, according to the plat thereof on file and of record with the Blue Earth County Recorder, except the West 20 feet of the North 360 feet thereof, Blue Earth County, Minnesota.

Containing XX acres.

do hereby declare that we have caused the above described property to be surveyed and platted and monuments to be set, that we have named said platted area VICTORY RIDGE APARTMENTS, and that we dedicate to the public use the easements as shown hereon.

Dated this _____ day of _____ , 2025 by Steven D. Kuepers, chief manager of Victory Ridge Apartments, LLC a Minnesota limited liability company.

_____
By: Steven D. Kuepers, chief manager

NOTARY CERTIFICATES

State of Minnesota
County of _____

On this the _____ day of _____ , 2025, before me a Notary Public within and for said County, personally appeared Steven D. Kuepers, who being duly sworn did say that he is the chief manager of Victory Ridge Apartments, LLC, a Minnesota limited liability company, the company named in the foregoing instrument, and that said instrument was signed in behalf of said company by authority of its Board of Govenors, and said Steven D. Kuepers acknowledged said instrument to be the free act and deed of said company.

_____
_____ , Notary Public
Notary Public-Minnesota,
My Commission Expires _____

SURVEYOR'S CERTIFICATE

I, Michael M. Eichers, do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this _____ day of _____ , 2025.

_____
Michael M. Eichers, Licensed Land Surveyor
Minnesota License No. 46564

State of Minnesota
County of Blue Earth

The foregoing Surveyor's Certificate was acknowledged before me this ____ day of _____ , 2025, by Michael M. Eichers, a Licensed Land Surveyor.

_____
Nathan P Myhra, Notary Public
Notary Public-Minnesota
My Commission Expires Jan. 31, 2028

APPROVALS

Be it known that on this the ____ day of _____ , 202__ , the Planning Commission of the City of Mankato did duly review this plat of VICTORY RIDGE APARTMENTS.

_____ _____
Chair person: Secretary:

Be it known that on this the ____ day of _____ , 202__ , the City Council of the City of Mankato did duly approve this plat of VICTORY RIDGE APARTMENTS.

_____ _____
Mayor: Clerk:

TITLE OPINION

I, Scott Hamak, Licensed Attorney, State of Minnesota, do hereby certify that the owner as indicated hereon represents all ownership interest in the land encompassed by this plat.

_____
Scott Hamak, Licensed Attorney

BLUE EARTH COUNTY PROPERTY AND ENVIRONMENTAL RESOURCES

I hereby certify that there are no delinquent taxes and/or delinquent special assessments, that the current taxes have been paid and that the transfer has been entered on the land described herein on the _____ day of _____ , 2025.

_____
Blue Earth County Property and
Environmental Resources Director

COUNTY RECORDER

I hereby certify that this instrument was filed in my office for record on this, the ____ day of _____ , 2025, at ___o'clock, _.m., and that it was duly recorded on _____ Plats, Number _____.

_____
County Recorder

FINAL PLAT
PENDING FINAL REVIEW
(08-26-2025)

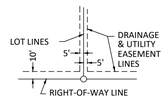
THIS PLAT PREPARED BY BOLTON & MENK, INC.

# VICTORY RIDGE APARTMENTS

0 100 200

SCALE IN FEET

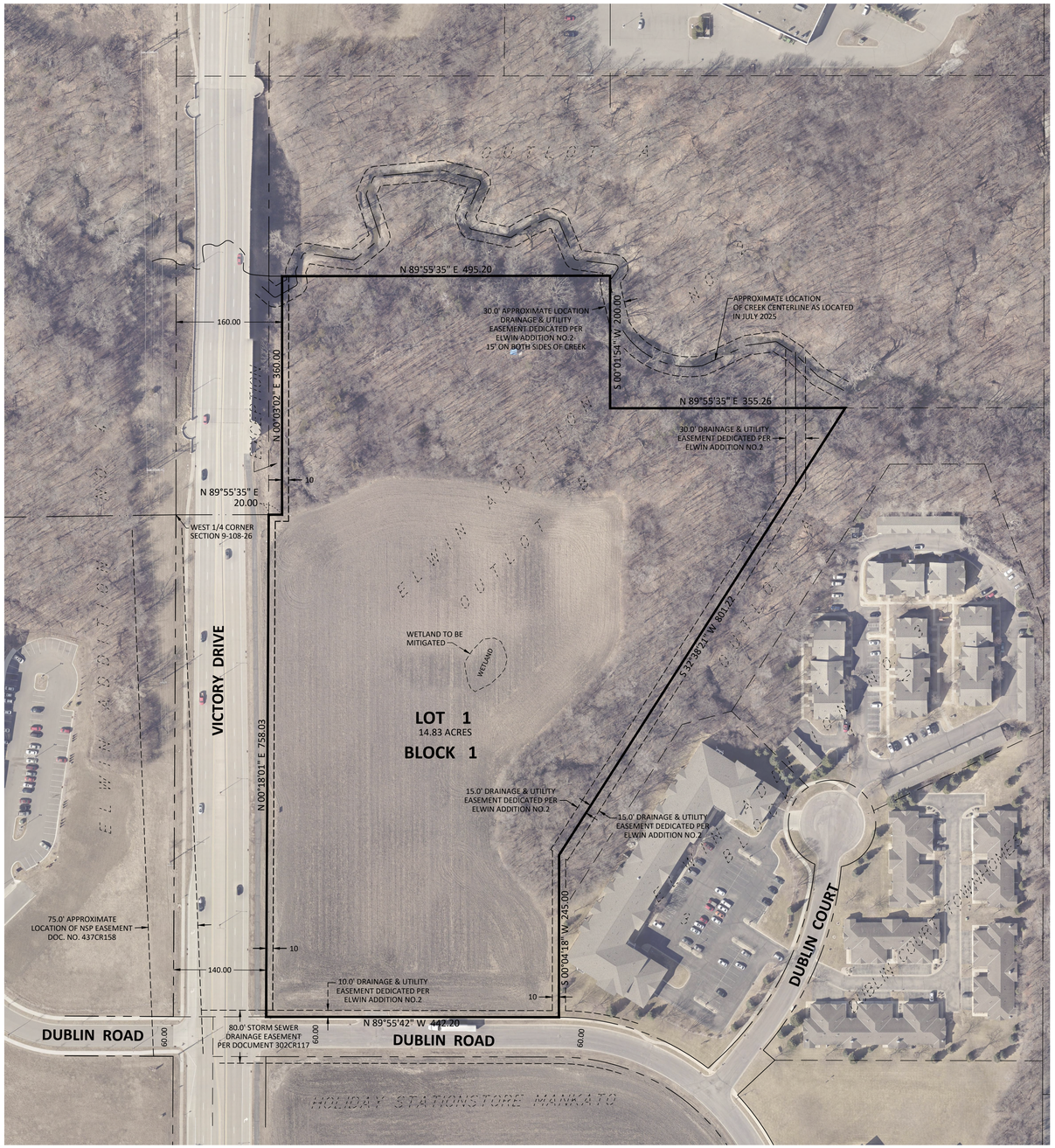
BASIS OF BEARINGS
(MINNESOTA COUNTY COORDINATE SYSTEM - BLUE EARTH COUNTY ZONE - HARN NAD83 - 2011)




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Containing XX acres.

do hereby declare that we have caused the above described property to be surveyed and platted and monuments to be set, that we have named said platted area VICTORY RIDGE APARTMENTS, and that we dedicate to the public use the easements as shown hereon.

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By: Steven D. Kuepers, chief manager

NOTARY CERTIFICATES

State of Minnesota
County of _____

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_____ , Notary Public
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My Commission Expires _____

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Dated this _____ day of _____ , 2025.

_____
Michael M. Eichers, Licensed Land Surveyor
Minnesota License No. 46564

State of Minnesota
County of Blue Earth

The foregoing Surveyor's Certificate was acknowledged before me this ____ day of _____ , 2025, by Michael M. Eichers, a Licensed Land Surveyor.

_____
Nathan P Myhra, Notary Public
Notary Public-Minnesota
My Commission Expires Jan. 31, 2028

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_____ _____
Chair person: Secretary:

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_____ _____
Mayor: Clerk:

TITLE OPINION

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_____
Scott Hamak, Licensed Attorney

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_____
Blue Earth County Property and
Environmental Resources Director

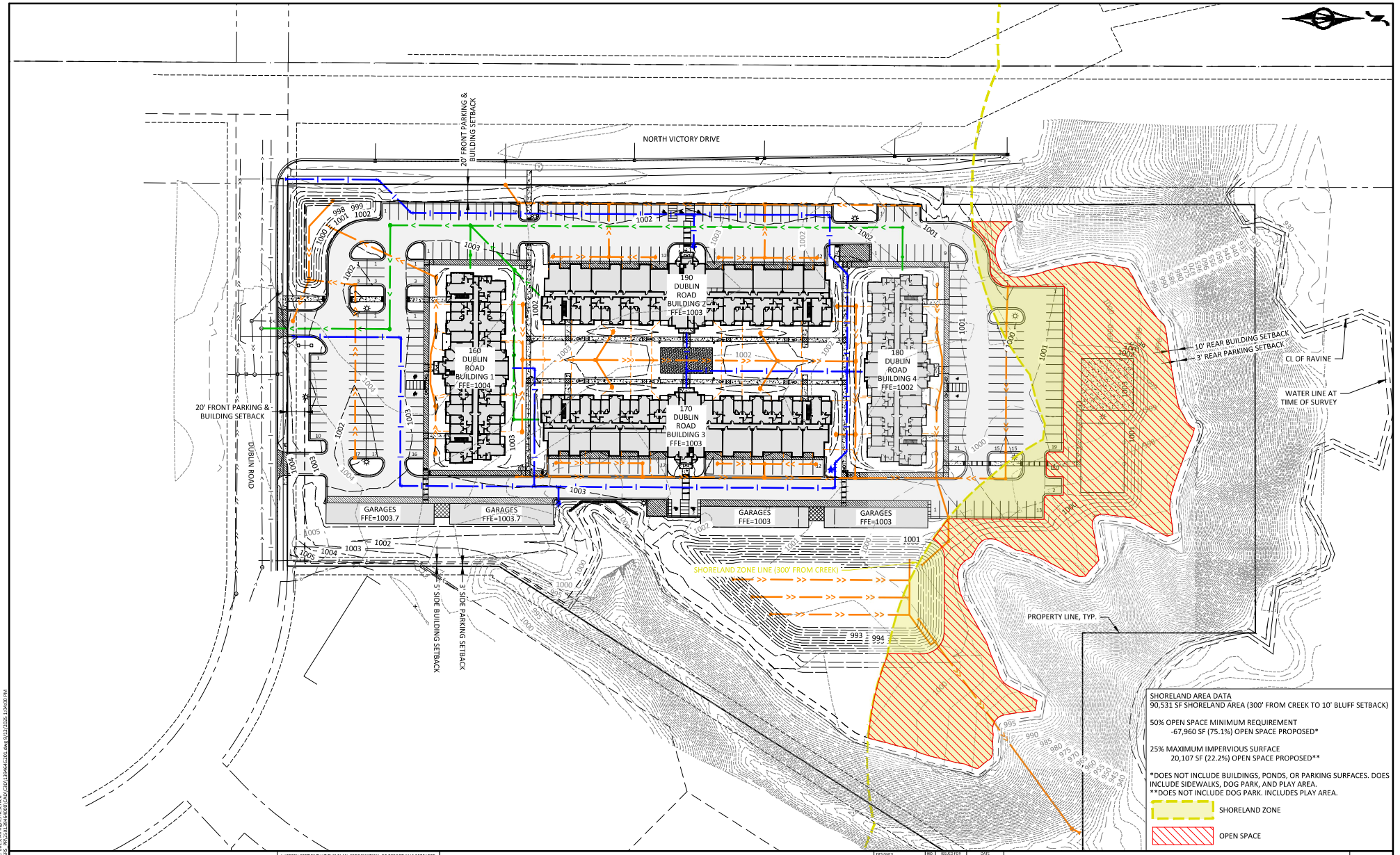
COUNTY RECORDER

I hereby certify that this instrument was filed in my office for record on this, the ____ day of _____ , 2025, at ___o'clock, _.m., and that it was duly recorded on _____ Plats, Number _____.

_____
County Recorder

FINAL PLAT
PENDING FINAL REVIEW
(08-26-2025)

THIS PLAT PREPARED BY BOLTON & MENK, INC.




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Unauthorized Use Is Prohibited

HORZ. SCALE 0 50 100 FEET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

NOT FOR CONSTRUCTION

WESLEY MORDES, P.E.
LIC. NO. 64053 DATE MM/DD/YYYY

BOLTON & MENK

1960 PREMIER DRIVE
MANKATO, MN 56001
Phone: (507) 625-4171
Email: Mankato@bolton-menk.com
www.bolton-menk.com

| | |
|---|---|
| DESIGNED | WSC |
| DRAWN | WSC |
| CHECKED | CJL |
| CLIENT PROJ. NO. | 25X.139464 |

| NO. | REVISION | DATE |
|---|---|---|

KUEPERS, INC.
VICTORY RIDGE APARTMENTS
PROJECT OVERVIEW

SHEET G2.01

BOLTON & MENK
Real People. Real Solutions.

1960 Premier Drive
Mankato, MN 56001-5900

Ph: (507) 625-4171
Fax: (507) 625-4177
Bolton-Menk.com

# Stormwater Management Memorandum

**Date**: September 15, 2025

**To**: United States Army Corps of Engineers and Minnesota Department of Natural Resources

City of Mankato Public Works

**From**: Alec Pietz, P.E. – Project Manager

**Subject**: Kuepers, Inc. – Victory Ridge Apartments
BMI Project No.: 25X.139464

## I. Project Introduction

The following report provides a summary and analysis of the existing and proposed hydrology for Parcel I.D. R010909301015 in Mankato, Minnesota. The proposed project consists of four apartment buildings with a total of 180 units; necessary infrastructure, surface improvements, and stormwater management are also provided with this project. The SCS TR-20 hydrology method was utilized in Autodesk Storm and Sanitary Analysis (SSA) for the project. NOAA Atlas 14 rainfalls for Blue Earth County, Minnesota and MSE 3 distribution curves were used to develop rainfall events. Although additional storm events were used in the stormwater modeling, the 2-yr (2.87”), 10-yr (4.29”), and 100-yr (7.20”) events are reported for relevant data in this report. Additionally, a back-to-back, 48-hr, 100-yr (14.40”) event and an arbitrary 20-inch, 24-hr event were modeled to provide corresponding high water levels of the eastern filtration basin.

## II. Existing Site Hydrology

The site currently consists of farmland and forested ravine mix that ultimately drains to the Thompson Ravine in primarily D soils. Several subbasins were identified within the property with three ultimate discharge points selected. An *Existing Hydrology* figure is provided with this memorandum as a graphical representation of existing drainage. Noted on the figure are the areas, curve numbers, time of concentrations, drainage directions, and other noted items. Modeling results for the design storms yield the following peak flows:

| Existing Condition Peak Flow Rates (cfs) | | | |
|---|---|---|---|
| **Location** | **2-yr** | **10-yr** | **100-yr** |
| Bottom of Tributary Ravine | 13.17 | 24.75 | 49.79 |
| Thompson Ravine (Center) | 11.93 | 23.91 | 50.13 |
| Thompson Ravine (West) | 4.10 | 7.88 | 16.05 |
| **Total** | **29.20** | **56.54** | **115.97** |

Proposed peak flows to these areas must not exceed the existing peak flows. Two connections to City of Mankato storm sewer are also available at Victory Drive and Dublin Road, where 10-year event peak flows must not exceed the design flow of the pipes. Those constraints are:

- Victory Drive – 27-inch at 0.3% = 16.96 cfs

- Dublin Road – 18-inch at 0.35% = 6.21 cfs

## III. Proposed Site Hydrology

The *Proposed Hydrology* figure illustrates the proposed improvements, drainage areas, storm sewer routing, two filtration basins (one near Dublin Road and one on the eastern edge of the site). The eastern filtration basin provides the required water quality volume for the entire project with the bulk of impervious area routed to it. A design summary sheet is provided showing the design information for the filtration basin. A total of 5.90 acres of impervious area is proposed with this project requiring 0.54 ac-ft of water quality volume to meet the City of Mankato's requirement of 1.1-inches over the impervious area.

All modeled events were contained by the eastern filtration basin without overtopping to the ravine/bluff. The high-water levels for each event are noted on the basin design summary sheet. The basin also draws down within 48-hours of all events ending, meeting permitting criteria.

The filtration basin is proposed to outfall near the bottom of the noted tributary ravine. The installation of the pipe is proposed to be done via trenchless/fusible methods with some below ground and some at grade, which is a common practice throughout the City of Mankato in ravine discharge situations. An energy dissipation structure is proposed near the outfall and armoring will be provided to reduce erosion potential. A plan and profile sheet is provided with this memorandum to illustrate more clearly.

While the City of Mankato required water quality volume for all new proposed impervious areas regardless of routing, treatment was not required prior to connection to City storm sewer if the peak flow constraint was met. The Dublin Road connection does have a filtration basin upstream which provides some treatment and mitigates peak flow. The Victory Drive connection is a much larger pipe that did not require peak flow mitigation.

Proposed peak flow rates for the design storms were determined in SSA to be:

| Proposed Condition Peak Flow Rates (cfs) | | | |
|---|---|---|---|
| **Location** | **2-yr** | **10-yr** | **100-yr** |
| Bottom of Tributary Ravine | 4.66 | 9.26 | 27.52 |
| Thompson Ravine (Center) | 6.34 | 13.37 | 29.18 |
| Thompson Ravine (West) | 1.51 | 3.16 | 6.87 |
| Victory Drive Connection | 5.52 | 8.81 | 15.39 |
| Dublin Road Connection | 4.33 | 5.32 | 6.73 |
| **Total** | **22.36** | **39.92** | **85.69** |
| Overall Existing Peak Rate | 29.20 | 56.54 | 115.97 |

In review of the existing and proposed peak flow rates, the following is observed:

- Bottom of Tributary Ravine – the peak flow for all design events is reduced due to less drainage area being routed and the peak flow mitigation provided by the basin.
- Thompson Ravine (Center) and (West) – like the Tributary Ravine, peak flow for all design events is reduced due to less drainage area and peak flow mitigation with the basin.
- Victory Drive Connection – the 10-year peak flow of 8.81 cfs is less than the maximum allowed of 16.96 cfs.
- Dublin Road Connection – the 10-year peak flow of 5.32 cfs is less than the maximum allowed of 6.21 cfs.

All peak flow constraints are met.

Please review the provided supplemental information and feel free to contact Alec Pietz, P.E. at Alec.Pietz@bolton-menk.com or 507-766-3283.

# NPDES/SDS CONSTRUCTION STORMWATER PERMIT
# FILTRATION BASIN CALCULATIONS
## KUEPERS, INC. - VICTORY RIDGE APARTMENTS
## BMI Project No. 25X.139464

**Input Data**

| | | |
|---|---|---|
| Drainage Area: | 5.47 | Acres |
| New Impervious Area to Basin: | 3.48 | Acres |
| Total Site Impervious: | 5.90 | Acres |

**Water Quality Volume Required**

(1.1 inches of runoff from new impervious surfaces) (Total Site Impervious)

Volume : 23,559 cubic feet = 0.54 acre-feet

**Pond Information**

| Elev | Area (Square Feet) | Area (Acres) | Volume (Cu. Feet) | Volume (Acre-Feet) | |
|---|---|---|---|---|---|
| 990 | 12390 | 0.28 | 0 | 0.00 | |
| 991 | 13980 | 0.32 | 13190 | 0.30 | |
| **992 (WQV)** | **15625** | **0.36** | **27995** | **0.64** | **Meets Req'm** |
| 993 | 17380 | 0.40 | 44496 | 1.02 | |
| 994 | 19195 | 0.44 | 62785 | 1.44 | |
| 995 | 21110 | 0.48 | 82935 | 1.90 | |
| 996 | 23125 | 0.53 | 105055 | 2.41 | |
| 997 | 25175 | 0.58 | 129200 | 2.97 | |
| 998 | 27430 | 0.63 | 155505 | 3.57 | |
| 999 | 29650 | 0.68 | 184045 | 4.23 | |
| 1000 | 31920 | 0.73 | 214830 | 4.93 | |

| Basin High Water Levels | | |
|---|---|---|
| 2-year | 991.7 | |
| 10-year | 992.4 | |
| 100-year | 993.6 | |
| B2B 100-year | 994.1 | |
| 20" in 24-hours | 997.5 | Arbitrary Event on MSE 3 Curve for Reference |

GARAGES FFE=1003

GARAGES FFE=1003

EAST BASIN
BOTTOM = 990.0
WQ EL. = 992.0
EOF = 999.5
2-YR HWL = 991.7
10-YR HWL = 992.4
100-YR HWL = 993.6
B2B 100-YR HWL = 994.1
20" - 24-HR HWL = 997.5

500+00

BP: 500+00.00

APRON 3

N-2

501+00

EOF DISCHARGE POINT

502+00

24" STM

503+00

2-FT DEPTH CLASS III RANDOM RIPRAP ON GEOTEXTILE FABRIC (2,000 SF AREA = 148 CY)

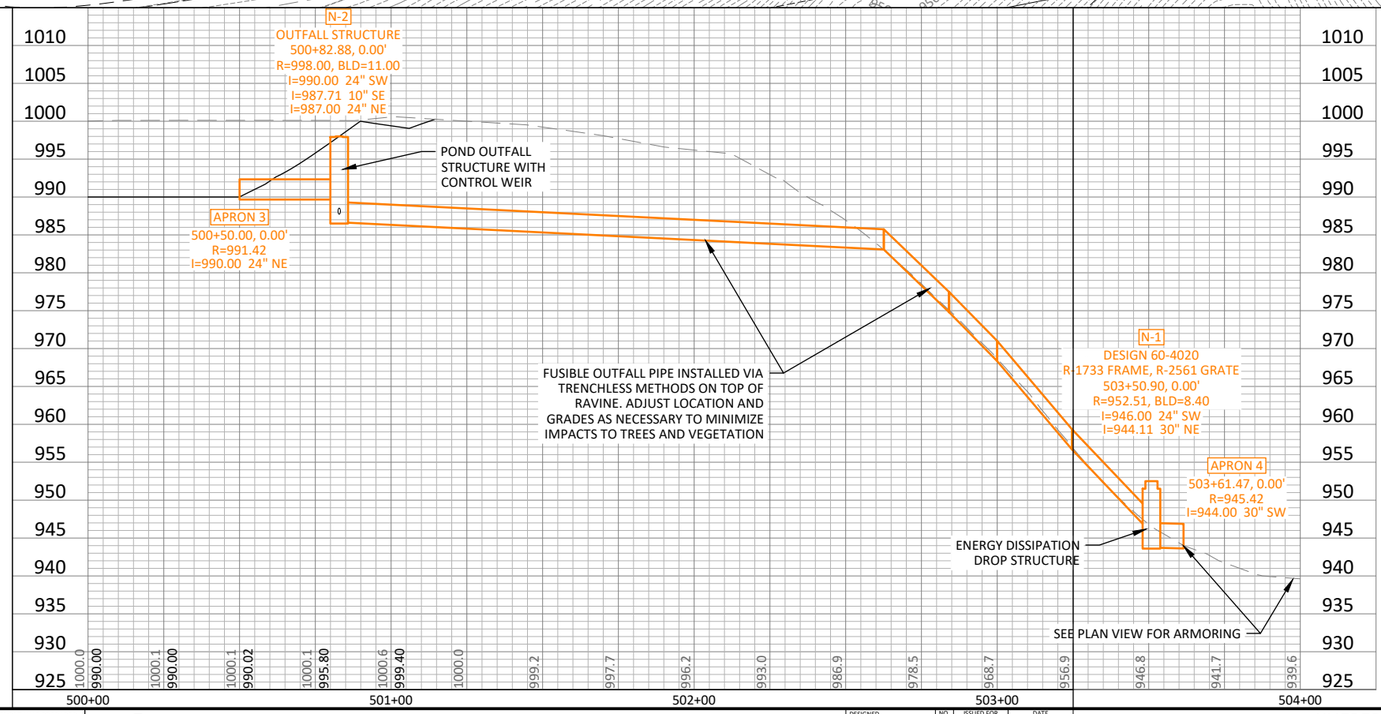
EP: 504+00.00

APRON 4

N-1

PP: 503+50.90

CUT DOWN TO 999.5 FOR EOF AND LINE OVERFLOW CHANNEL WITH 2-FT OF RIPRAP 10-FT WIDE




©Bolton & Menk, Inc. 2025. All Rights Reserved
H:\KUEPERS_PRJ\25X139464000\CAD\C3D\139464C503.dwg 9/12/2025 11:22:08 AM

HORZ. SCALE 0 25 50 FEET

VERT. SCALE 0 5 10 FEET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

NOT FOR CONSTRUCTION

WESLEY S. MORDES, P.E.
LIC. NO. 64053 DATE MM/DD/YYYY

BOLTON & MENK
1960 PREMIER DRIVE
MANKATO, MN 56001
Phone: (507) 625-4171
Email: Mankato@bolton-menk.com
www.bolton-menk.com

| DESIGNED | WSC |
|---|---|
| DRAWN | WSC |
| CHECKED | CJL |
| CLIENT PROJ. NO. | 25X.139464 |

| NO. | ISSUED FOR | DATE |
|---|---|---|
| | | |

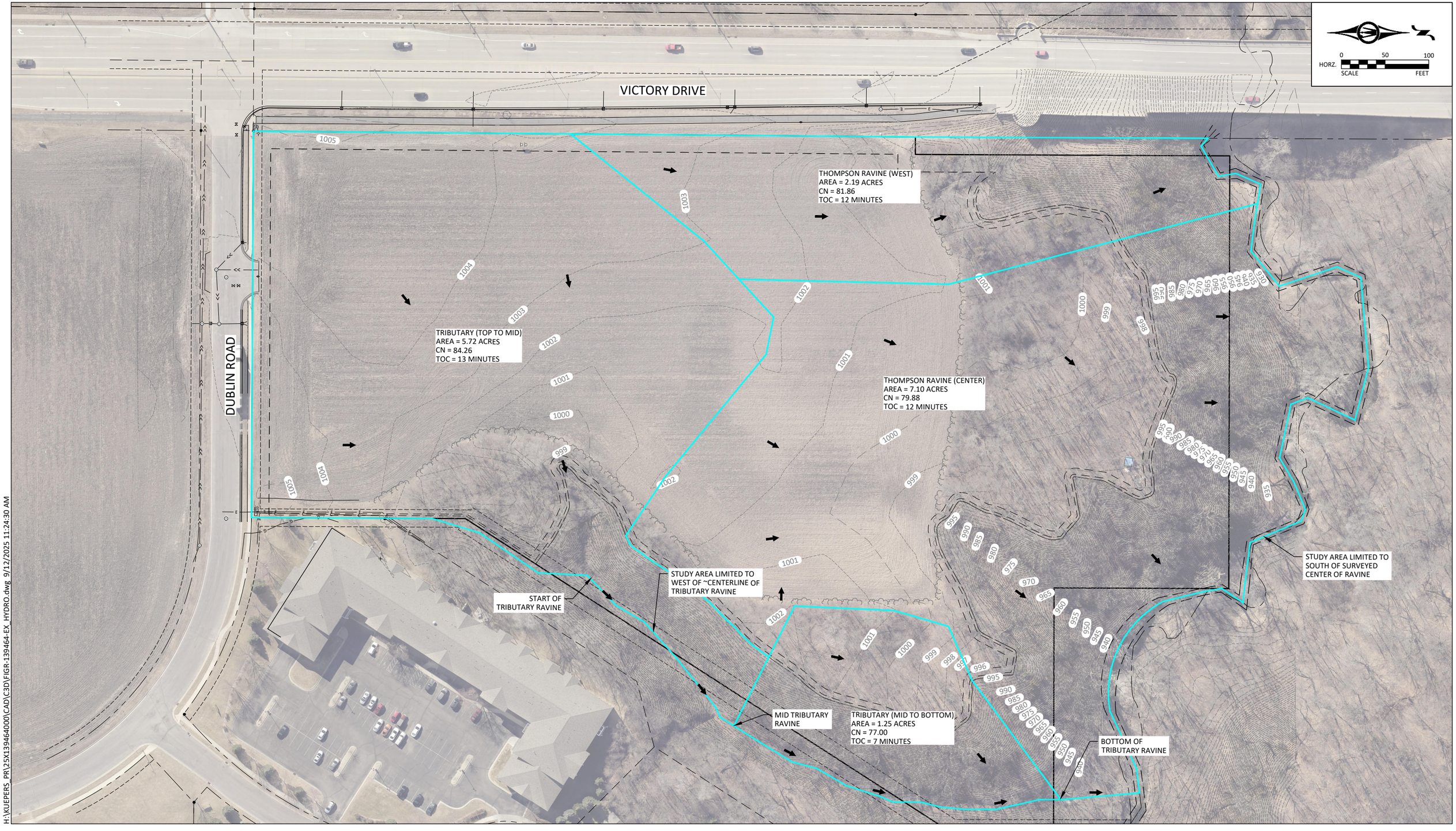
KUEPERS, INC.
VICTORY RIDGE APARTMENTS
STORM SEWER PLAN & PROFILE
OUTFALL

SHEET C5.03

**Victory Ridge Apartments**
Mankato, Minnesota

**Existing Hydrology**
September 2025

BOLTON & MENK

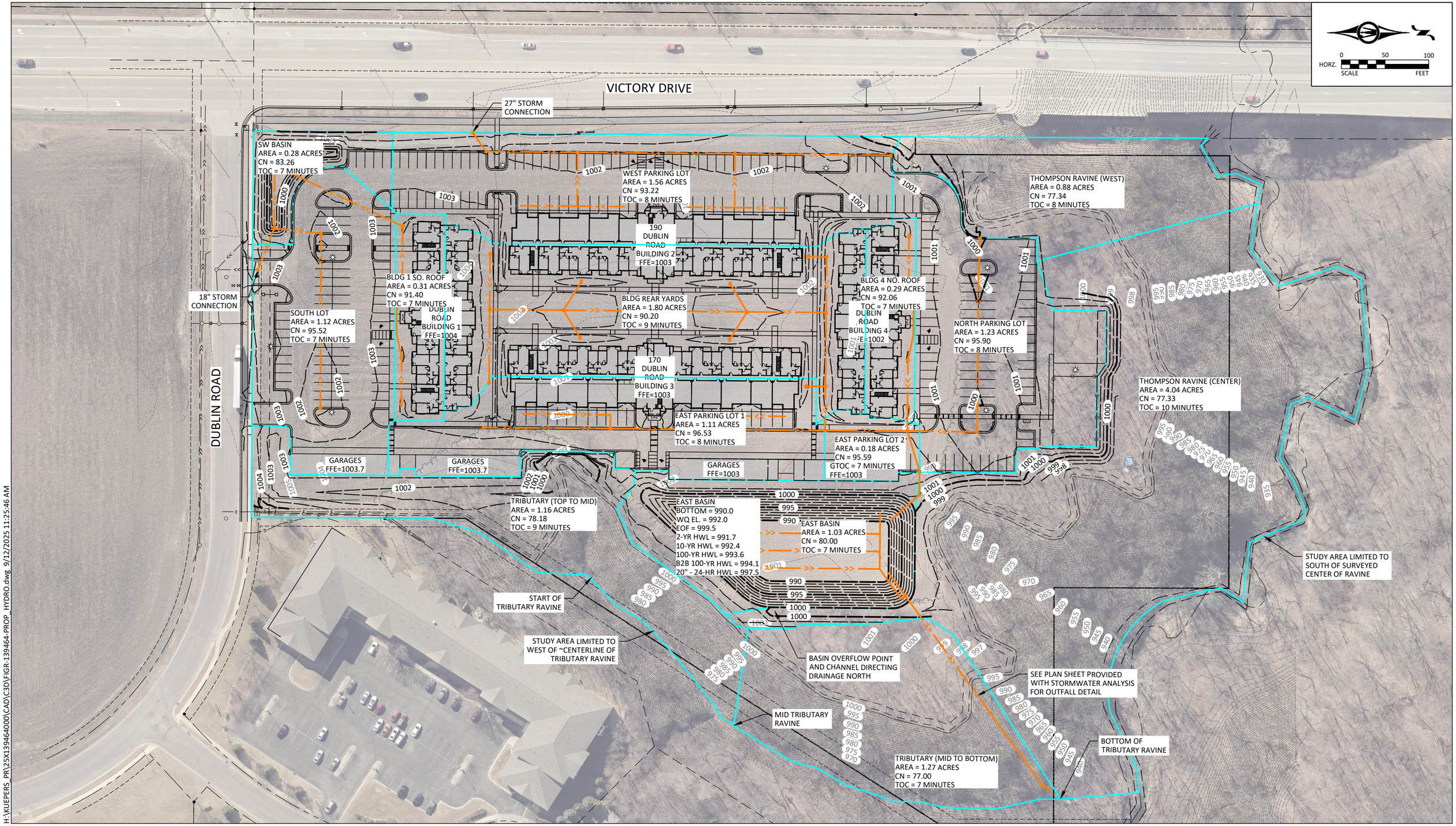



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**Victory Ridge Apartments**
Mankato, Minnesota

**Proposed Hydrology**
September 2025

BOLTON & MENK




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BOLTON & MENK
Real People. Real Solutions.

1960 Premier Drive
Mankato, MN 56001-5900

Ph: (507) 625-4171
Fax: (507) 625-4177
Bolton-Menk.com

September 9, 2025

Molly Westman
City of Mankato
10 Civic Center Plaza
Mankato, MN 56001
(507) 720-2559
mwestman@mankatomn.gov

Reference: Victory Ridge Apartments
Mankato, Minnesota

Subject: Signal Phasing Analysis

Dear Ms. Westman:

The following is a letter summarizing the signal phasing analysis performed at the intersection of N Victory Drive (CSAH 82) and Adams Street in conjunction with the proposed Victory Ridge Apartments development to be located along Dublin Road, east of N Victory Drive (CSAH 82) in Mankato, Minnesota. This letter has been prepared to assess the need for a change in phasing for the westbound left-turn movement (Adams Street) that currently operates with permissive only phasing. Analysis was performed to determine if protected-permissive phasing with a flashing yellow arrow (FYA) is warranted for the minor-street.

MnDOT's "Flashing Yellow Operations Worksheet Tool" was utilized to determine if there is a sight distance issue at the intersection and at what times of day the relative risk for a left-turn crashes are the highest. Based on this tool, the peak hour turning movement counts, and the intersection geometry, it was determined there is no sight distance issue at the intersection. Additionally, out of the hours analyzed, none had a relative risk higher than 1.00 for left-turn crashes. Typically, a relative risk higher than 1.00 causes consideration for phasing changes. It should be noted though that the PM peak hour did have the highest risk at 0.92/1.00. The FYA could be considered during the PM peak hour due to these higher percentages. Refer to the attachments for the tool's outputs.

Crash history from the past 5-year period (2021-2024) was also reviewed to determine if the number of left-turn type crashes occurring at the intersection meets the MnDOT guidance for implementing a FYA which is typically 1 left-turn crash per year for five years. Looking at the crash history, seven (7) left-turn crashes did occur between 2021-2024 with three (3) occurring on Adams Street and four (4) occurring along N Victory Drive. Also, based on CMF Clearinghouse, there are multiple crash modification factors (CMF) for the installation of a flashing yellow arrow as shown below supporting that the implementation of FYA does reduce left-turn crashes. Refer to the attachments for crash summaries and a CMF comparison.

- CMF 4147 = 0.753
- CMF 4175 = 0.635
- CMF 7728 = 1.047
- CMF 7730 = 0.857

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The intersection of N Victory Drive (CSAH 82) and Adams Street was reviewed in conjunction with the proposed Victory Ridge development to determine the need for a change in signal phasing for the westbound left-turn movement from permissive only to protected-permissive with FYA. Based on MnDOT's "Flashing Yellow Operations Worksheet Tool" and recent crash history, it was determined that protected-permissive with FYA could be beneficial in reducing left-turn type crashes at the intersection, specifically during the PM peak hour and should be considered.

If you have any questions or concerns, please do not hesitate to contact me. I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Sincerely,
***Bolton & Menk, Inc.***



Danielle Troutman, PE
Transportation Project Engineer
License No. 63168

Attachments: MnDOT Flashing Yellow Operations Worksheet Tool Outputs
Crash Short Summaries
CMF Comparison

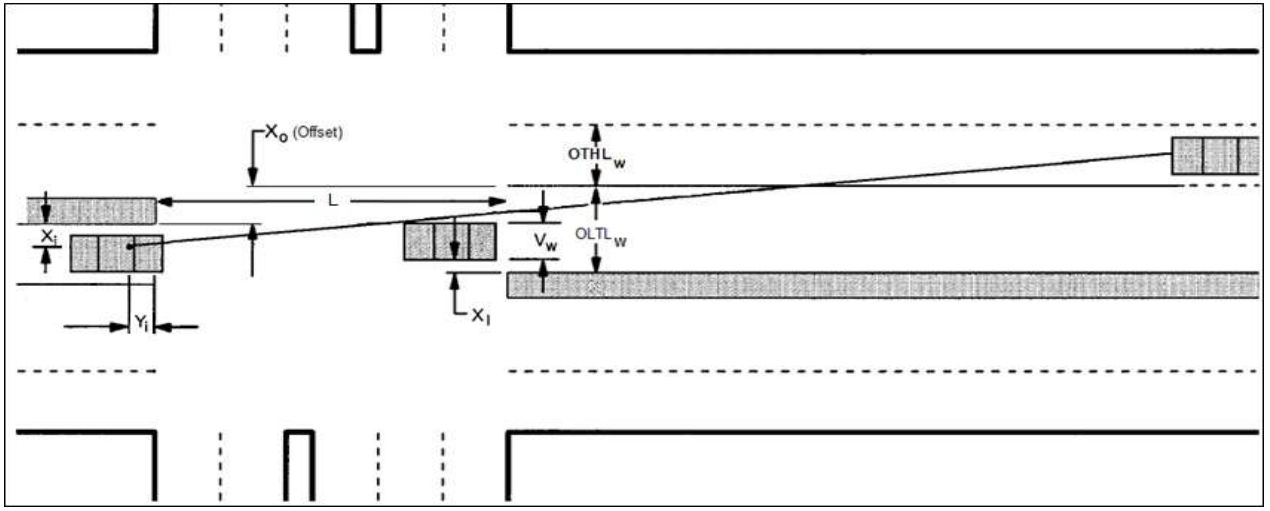


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# MnDOT FYA Operations Tool Output

Is there any opposing LT movement? (Y/N): Y  If the answer is no, there is no SD problem

| Input | |
|---|---|
| # opposing lanes [1] | 2 |
| Opposing speed limit (mph) | 30 |
| LT offset $X_0$ (ft) | 0 |
| Intersection Length, L (ft) | 125 |
| $OTHL_W$ (ft) | 12 |
| $OLTL_W$ (ft) | 12 |
| Yi (ft) [2] | 0 |
| Vw (ft) | 7 |
| lateral position of OLT vehicle $x_l$ (ft) [3] | 1.5 |
| $x_i$ (ft) [4] | 3.5 |




| | |
|---|---|
| Required SD (ft): | 264 |
| Available SD (ft): | 1500 |

* $Y_i$ is negative in this figure because the driver's eye is behinde the end of the median at the time of making decision.

* If the opposing approach has a significant horizontal/vertical curve ending at intersection, this worksheet cannot be used to calculate the available SD. The required SD can still be calculated by this worksheet; but for the available SD you should use the real sight plan. Google map would be an easy way to approximate the available SD.

1) the number of lanes that a left-turning vehicle has to cross to complete a left-turn maneuver, including the right-turn lane unless the right turn lane is channelized as a free right turn.

2) Yi is positive if the driver's eye is beyond the tip of median (or stop bar) at the decision time. It is negative if the driver is behind the tip of median/stop bar.

3) This parameter can be between .5 to 2.5 feet depending on the OLTLw and opposing median condition. Keep it at 1.5 ft unless you have a good reason.

4) This parameter can be between 2.5 to 4.5 feet depending on the LTLw and median condition. Keep it at 3.5 ft unless you have a good reason.

**No SD Problem**

## Protected/Permited left turn phasing, Speed limit <45 mph, No Sight Distance Problem

| Model Parameters | |
|---|---|
| beta 1: | 0.38 |
| beta 2: | 0.37 |

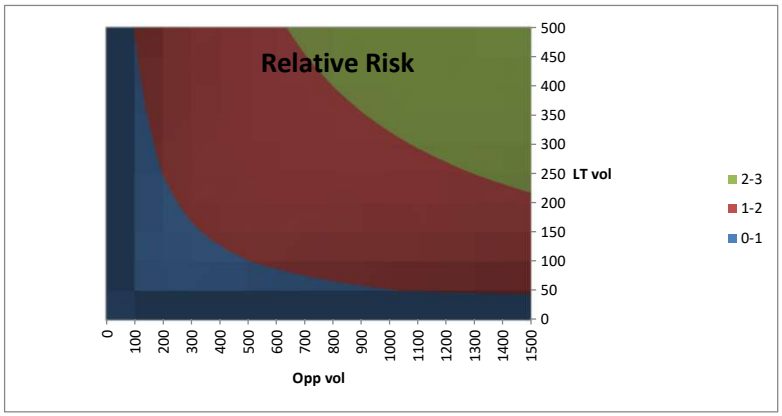
| Base Condition | |
|---|---|
| LT vol | 200 |
| Opp vol | 250 |

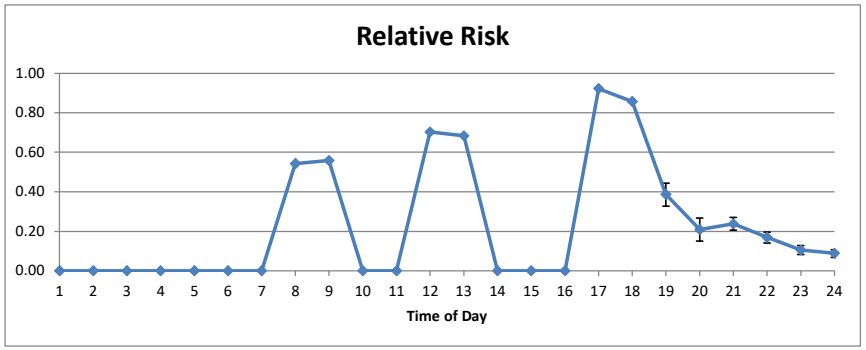
Run

| Sampled hours | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LT vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 91 | 93 | 0 | 0 | 120 | 117 | 0 | 0 | 0 | 182 | 166 | | | | | | |
| Opp vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 114 | 0 | 0 | 163 | 156 | 0 | 0 | 0 | 222 | 200 | | | | | | |

| Estimated 24-hour turning movement volumes | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LT vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 91 | 93 | 0 | 0 | 120 | 117 | 0 | 0 | 0 | 182 | 166 | 56 | 23 | 36 | 15 | 10 | 8 |
| LT st. deviation | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 17.3 | 15.5 | 8.2 | 4.8 | 4.6 | 3.5 |
| Opp vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 114 | 0 | 0 | 163 | 156 | 0 | 0 | 0 | 222 | 200 | 71 | 34 | 30 | 29 | 12 | 9 |
| Opp st. deviation | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 18.1 | 9.6 | 8.6 | 8.4 | 4.4 | 3.7 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Relative Risk | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.54 | 0.56 | 0.00 | 0.00 | 0.70 | 0.68 | 0.00 | 0.00 | 0.00 | 0.92 | 0.86 | 0.39 | 0.21 | 0.24 | 0.17 | 0.10 | 0.09 |
| RR sd | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 0.00 | 0.00 | #DIV/0! | #DIV/0! | 0.00 | 0.00 | #DIV/0! | #DIV/0! | #DIV/0! | 0.00 | 0.00 | 0.06 | 0.06 | 0.03 | 0.03 | 0.02 | 0.02 |



# Turning Movement Count Calculations

Existing 2021

| Sampled hr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LT vol | | | | | | | | 27 | 35 | | | 75 | 70 | | | | 123 | 104 |
| Opp vol | | | | | | | | 94 | 100 | | | 148 | 141 | | | | 202 | 181 |

Projected 2025

| Sampled hr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LT vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 36 | 0 | 0 | 78 | 72 | 0 | 0 | 0 | 128 | 108 |
| Opp vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 98 | 104 | 0 | 0 | 154 | 146 | 0 | 0 | 0 | 210 | 188 |

Gas Station Trips

| Sampled hr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LT vol | | | | | | | | 41 | 40 | | | 35 | 38 | | | | 47 | 46 |
| Opp vol | | | | | | | | 10 | 10 | | | 9 | 10 | | | | 12 | 12 |

Residential Trips

| Sampled hr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LT vol | | | | | | | | 23 | 18 | | | 10 | 9 | | | | 12 | 16 |
| Opp vol | | | | | | | | 0 | 0 | | | 0 | 0 | | | | 0 | 0 |

Future

| Sampled hr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LT vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 91 | 93 | 0 | 0 | 120 | 117 | 0 | 0 | 0 | 182 | 166 |
| Opp vol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 114 | 0 | 0 | 163 | 156 | 0 | 0 | 0 | 222 | 200 |

2021
2025
1

| | | | Enter | Exit |
|---|---|---|---|---|
| Gas Station Daily Trips | = | 3341 | 1671 | 1671 |
| Residential Daily Trips | = | 1229 | 615 | 615 |

| | Land Use #1 | | Land Use #2 | |
|---|---|---|---|---|
| | LUC 945 | | LUC 220 | |
| | Enter | Exit | Enter | Exit |
| SBR | | | | |
| SBT | | | | |
| SBL | 40% | | 45% | |
| SBU | | | | |
| WBR | | | | |
| WBT | | 10% | | |
| WBL | | 40% | | 35% |
| WBU | | | | |
| NBR | 40% | | | |
| NBT | | | 35% | |
| NBL | | | | |
| NBU | | | | |
| EBR | | | | |
| EBT | 10% | | | |
| EBL | | | | |
| EBU | | | | |
| TOTAL TRIPS | 1671 | 1671 | 615 | 615 |

| | enter | exit | enter | exit |
|---|---|---|---|---|
| | LUC 220 | | LUC 945 | |
| 6-7 AM | 1.4% | 6.9% | 4.7% | 4.5% |
| 7-8 AM | 2.0% | 10.8% | 6.2% | 6.1% |
| 8-9 AM | 3.1% | 8.5% | 5.8% | 5.9% |
| 9-10 AM | 2.9% | 4.9% | 5.0% | 5.1% |
| 10-11 AM | 2.4% | 4.8% | 5.2% | 5.2% |
| 11-12 PM | 3.8% | 4.7% | 5.3% | 5.2% |
| 12-1 PM | 4.5% | 4.1% | 5.8% | 5.8% |
| 1-2 PM | 4.0% | 4.4% | 5.4% | 5.3% |
| 2-3 PM | 5.6% | 4.9% | 6.1% | 5.8% |
| 3-4 PM | 6.9% | 5.3% | 6.5% | 6.4% |
| 4-5 PM | 10.1% | 5.6% | 7.2% | 7.1% |
| 5-6 PM | 11.4% | 7.6% | 7.0% | 6.9% |
| 6-7 PM | 9.7% | 6.7% | 6.5% | 6.6% |
| | 68.0% | 79.2% | 76.6% | 76.0% |

LUC 945

| | Southbound | | | Westbound | | | Northbound | | | Eastbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Right | Thru | Left | Right | Thru | Left | Right | Thru | Left | Right | Thru | Left |
| 6-7 AM | 0 | 0 | 31 | 0 | 8 | 30 | 31 | 0 | 0 | 0 | 8 | 0 |
| 7-8 AM | 0 | 0 | 41 | 0 | 10 | 41 | 41 | 0 | 0 | 0 | 10 | 0 |
| 8-9 AM | 0 | 0 | 39 | 0 | 10 | 40 | 39 | 0 | 0 | 0 | 10 | 0 |
| 9-10 AM | 0 | 0 | 34 | 0 | 8 | 34 | 34 | 0 | 0 | 0 | 8 | 0 |
| 10-11 AM | 0 | 0 | 34 | 0 | 9 | 34 | 34 | 0 | 0 | 0 | 9 | 0 |
| 11-12 PM | 0 | 0 | 36 | 0 | 9 | 35 | 36 | 0 | 0 | 0 | 9 | 0 |
| 12-1 PM | 0 | 0 | 38 | 0 | 10 | 38 | 38 | 0 | 0 | 0 | 10 | 0 |
| 1-2 PM | 0 | 0 | 36 | 0 | 9 | 36 | 36 | 0 | 0 | 0 | 9 | 0 |
| 2-3 PM | 0 | 0 | 40 | 0 | 10 | 39 | 40 | 0 | 0 | 0 | 10 | 0 |
| 3-4 PM | 0 | 0 | 43 | 0 | 11 | 43 | 43 | 0 | 0 | 0 | 11 | 0 |
| 4-5 PM | 0 | 0 | 48 | 0 | 12 | 47 | 48 | 0 | 0 | 0 | 12 | 0 |
| 5-6 PM | 0 | 0 | 46 | 0 | 12 | 46 | 46 | 0 | 0 | 0 | 12 | 0 |
| 6-7 PM | 0 | 0 | 43 | 0 | 11 | 44 | 43 | 0 | 0 | 0 | 11 | 0 |
| | 0 | 0 | 509 | 0 | 129 | 507 | 509 | 0 | 0 | 0 | 129 | 0 |

Land Use #2

| | Southbound | | | Westbound | | | Northbound | | | Eastbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Right | Thru | Left | Right | Thru | Left | Right | Thru | Left | Right | Thru | Left |
| 6-7 AM | 0 | 0 | 4 | 0 | 0 | 15 | 0 | 3 | 0 | 0 | 0 | 0 |
| 7-8 AM | 0 | 0 | 6 | 0 | 0 | 23 | 0 | 4 | 0 | 0 | 0 | 0 |
| 8-9 AM | 0 | 0 | 9 | 0 | 0 | 18 | 0 | 7 | 0 | 0 | 0 | 0 |
| 9-10 AM | 0 | 0 | 8 | 0 | 0 | 10 | 0 | 6 | 0 | 0 | 0 | 0 |
| 10-11 AM | 0 | 0 | 7 | 0 | 0 | 10 | 0 | 5 | 0 | 0 | 0 | 0 |
| 11-12 PM | 0 | 0 | 11 | 0 | 0 | 10 | 0 | 8 | 0 | 0 | 0 | 0 |
| 12-1 PM | 0 | 0 | 12 | 0 | 0 | 9 | 0 | 10 | 0 | 0 | 0 | 0 |
| 1-2 PM | 0 | 0 | 11 | 0 | 0 | 10 | 0 | 9 | 0 | 0 | 0 | 0 |
| 2-3 PM | 0 | 0 | 16 | 0 | 0 | 10 | 0 | 12 | 0 | 0 | 0 | 0 |
| 3-4 PM | 0 | 0 | 19 | 0 | 0 | 11 | 0 | 15 | 0 | 0 | 0 | 0 |
| 4-5 PM | 0 | 0 | 28 | 0 | 0 | 12 | 0 | 22 | 0 | 0 | 0 | 0 |
| 5-6 PM | 0 | 0 | 32 | 0 | 0 | 16 | 0 | 25 | 0 | 0 | 0 | 0 |
| 6-7 PM | 0 | 0 | 27 | 0 | 0 | 14 | 0 | 21 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 190 | 0 | 0 | 168 | 0 | 147 | 0 | 0 | 0 | 0 |

# Crash Detail Report - Short Form

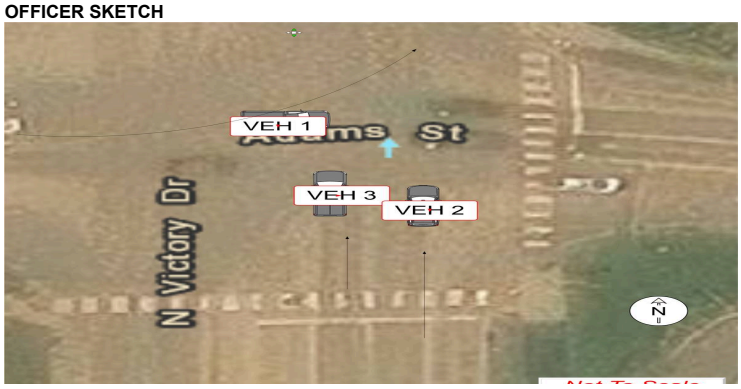
| INCIDENT ID | ROUTE SYS | ROUTE NUM | MEASURE | ROUTE NAME | ROUTE ID | COUNTY | CITY |
|---|---|---|---|---|---|---|---|
| 01219656 | 04-CSAH | 0082 | 1.792 | VICTORY DR | 0400006594520082-I | 7-Blue Earth | Mankato |

| INTERSECT WITH | # VEH | # KILL | DATE | TIME | DAY | LAT | LONG | UTM X | UTM Y | WORK ZONE TYPE |
|---|---|---|---|---|---|---|---|---|---|---|
| ADAMS STREET | 3 | 0 | 12/02/24 | 15:57 | Mon | 44.170601 | -93.968804 | 422550.5 | 4891276.8 | NOT APPLICABLE |

| BASIC TYPE | CRASH SEVERITY | FIRST HARMFUL | LIGHT CONDITION | WEATHER PRIMARY |
|---|---|---|---|---|
| Angle | N - Prop Damage Only | Motor Vehicle In Transport | Daylight | Clear |

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 |
|---|---|---|---|---|
| **Unit Type** | Motor Vehicle in Transport | Motor Vehicle in Transport | Motor Vehicle in Transport | |
| **Vehicle Type** | Pickup | Sport Utility Vehicle | Pickup | |
| **Direction of Travel** | Northbound | Northbound | Northbound | |
| **Maneuver** | Turning Left | Moving Forward | Moving Forward | |
| **Age/Sex** | 56 M | 25 M | 65 F | |
| **Physical Cond** | Apparently Normal | Apparently Normal | Apparently Normal | |
| **Contributing Factor 1** | Failure to Yield Right-of-Way | Unknown | No Clear Contributing Action | |

**OFFICER SKETCH**




**NARRATIVE**

ON 12/02/2024 AT 1558 HOURS, A MOTOR VEHICLE CRASH WAS REPORTED AT THE INTERSECTION OF N VICTORY DRIVE AND ADAMS STREET IN THE CITY OF MANKATO. VEHICLE #1 WAS A BLUE IN COLOR CHEVY SILVERADO MAKING A LEFT TURN OFF OF ADAMS ONTO N VICTOR AND THE DRIVER FAILED TO YIELD RIGHT OF WAY TO NORTHBOUND TRAFFIC ON NORTH VICTORY CAUSING A COLLISION WITH VEHICLE #2 WHICH WAS A BLACK IN COLOR FORD ESCAPE NORTHBOUND IN THE RIGHT LANE. VEHICLE #3 WAS A SILVER IN COLOR DODGE DAKOTA PICKUP NORTHBOUND ON N VICTORY IN THE LEFT LANE. NO INJURIES WERE REPORTED. PHOTOS WERE TAKEN AT THE SCENE. VEHICLES WERE TOWED FROM THE SCENE DUE TO DISABLING DAMAGE. ALL DRIVERS WERE CITED FOR VARIOUS VIOLATIONS. - END.

| INCIDENT ID | ROUTE SYS | ROUTE NUM | MEASURE | ROUTE NAME | ROUTE ID | COUNTY | CITY |
|---|---|---|---|---|---|---|---|
| 01083104 | 04-CSAH | 0082 | 1.798 | VICTORY DR | 0400006594520082-I | 7-Blue Earth | Mankato |

| INTERSECT WITH | # VEH | # KILL | DATE | TIME | DAY | LAT | LONG | UTM X | UTM Y | WORK ZONE TYPE |
|---|---|---|---|---|---|---|---|---|---|---|
| ADAMS ST | 3 | 0 | 02/21/23 | 14:50 | Tue | 44.170677 | -93.968803 | 422550.6 | 4891285.2 | NOT APPLICABLE |

| BASIC TYPE | CRASH SEVERITY | FIRST HARMFUL | LIGHT CONDITION | WEATHER PRIMARY |
|---|---|---|---|---|
| Left Turn | C - Possible Injury | Motor Vehicle In Transport | Daylight | Snow |

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 |
|---|---|---|---|---|
| **Unit Type** | Motor Vehicle in Transport | Motor Vehicle in Transport | Motor Vehicle in Transport | |
| **Vehicle Type** | Sport Utility Vehicle | Passenger Car | Pickup | |
| **Direction of Travel** | Southbound | Northbound | Westbound | |
| **Maneuver** | Turning Left | Moving Forward | Vehicle Stopped or Stalled in | |
| **Age/Sex** | 26 M | 25 M | 34 F | |
| **Physical Cond** | Apparently Normal | Apparently Normal | Apparently Normal | |
| **Contributing Factor 1** | Failure to Yield Right-of-Way | No Clear Contributing Action | No Clear Contributing Action | |

**OFFICER SKETCH**




**NARRATIVE**

ON FEBRUARY 21, 2023 AT 1449HRS, OFFICERS WERE DISPATCHED TO A MOTOR VEHICLE CRASH AT THE INTERSECTION OF ADAMS STREET/VICTORY DRIVE. V1 WAS TRAVELING SOUTHBOUND ON VICTORY DRIVE. THE SEMAPHORE AT THE INTERSECTION OF ADAMS STREET/VICTORY DRIVE WAS DISPLAYED GREEN FOR NORTH/SOUTH TRAFFIC. V2 WAS TRAVELING NORTHBOUND ON VICTORY DRIVE. V2 CONTINUED THROUGH THE INTERSECTION AS THE SEMAPHORE WAS DISPLAYED GREEN. V1 FAILED TO YIELD THE RIGHT OF WAY AND TURNED EASTBOUND ONTO ADAMS STREET; SUBSEQUENTLY CRASHING INTO V2. V2 SPUN OUT OF CONTROL AND CRASHED INTO V3. V3 WAS STOPPED FACING WESTBOUND AT THE DISPLAYED RED SEMAPHORE. THE DRIVER OF V1 STATED HE WAS UNABLE TO STOP DUE TO SLIPPERY ROAD CONDITIONS. IT SHOULD BE NOTED, V1 HAD A FRONT PASSENGER THAT LEFT THE SCENE PRIOR TO OFFICERS ARRIVAL.

# Crash Detail Report - Short Form

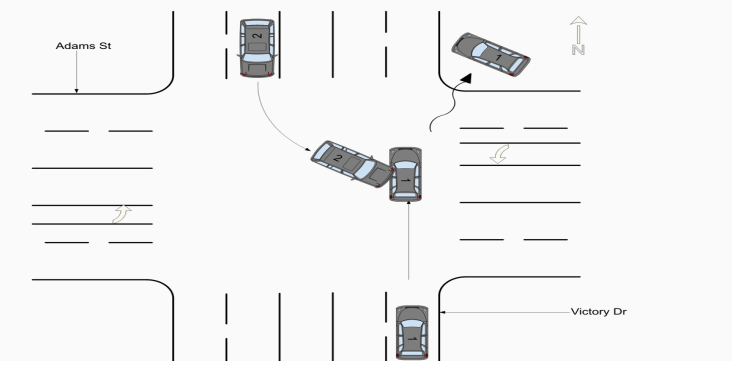
| INCIDENT ID | ROUTE SYS | ROUTE NUM | MEASURE | ROUTE NAME | ROUTE ID | COUNTY | CITY |
|---|---|---|---|---|---|---|---|
| 01002554 | 04-CSAH | 0082 | 1.802 | N VICTORY DR | 0400006594520082-I | 7-Blue Earth | Mankato |

| INTERSECT WITH | # VEH | # KILL | DATE | TIME | DAY | LAT | LONG | UTM X | UTM Y | WORK ZONE TYPE |
|---|---|---|---|---|---|---|---|---|---|---|
| ADAMS ST | 2 | 0 | 01/27/22 | 15:30 | Thu | 44.170745 | -93.968803 | 422550.7 | 4891292.8 | NOT APPLICABLE |

| BASIC TYPE | CRASH SEVERITY | FIRST HARMFUL | LIGHT CONDITION | WEATHER PRIMARY |
|---|---|---|---|---|
| Left Turn | C - Possible Injury | Motor Vehicle In Transport | Daylight | Cloudy |

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 |
|---|---|---|---|---|
| **Unit Type** | Motor Vehicle in Transport | Motor Vehicle in Transport | | |
| **Vehicle Type** | Passenger Car | Sport Utility Vehicle | | |
| **Direction of Travel** | Northbound | Southbound | | |
| **Maneuver** | Moving Forward | Turning Left | | |
| **Age/Sex** | 23 F | 82 M | | |
| **Physical Cond** | Apparently Normal | Apparently Normal | | |
| **Contributing Factor 1** | No Clear Contributing Action | Failure to Yield Right-of-Way | | |

**OFFICER SKETCH**




**NARRATIVE**

UNIT 1 WAS TRAVELING NORTH BOUND ON VICTORY DR AND IT WAS APPROACHING THE INTERESCTION OF ADAMS ST. UNIT 2 WAS TRAVELING SOUTH BOUND ON VICTORY APPRAOCHING THE SAME INTERSECTION. UNIT 2 PROCEEDED TO MAKE A LEFT TURN ON TO ADAMS. UNIT 1 CONTINUED STRAIGHT. UNIT 2 IMPACTED THE LEFT SIDE OF UNIT 1 WITH ITS FRON BUMPER. UNIT 1 STATED SHE HAD A GREEN LIGHT. AN IDENTIFIED WITNESS FOLLOWING UNIT 1 CONFIRMED THAT THEY HAD A GREEN LIGHT TO PROCEED NORTH BOUND ON VICOTRY.

| INCIDENT ID | ROUTE SYS | ROUTE NUM | MEASURE | ROUTE NAME | ROUTE ID | COUNTY | CITY |
|---|---|---|---|---|---|---|---|
| 01012960 | 05-MSAS | 0122 | 1.203 | ADAMS ST | 0500023958310122-I | 7-Blue Earth | NOT IN A CITY |

| INTERSECT WITH | # VEH | # KILL | DATE | TIME | DAY | LAT | LONG | UTM X | UTM Y | WORK ZONE TYPE |
|---|---|---|---|---|---|---|---|---|---|---|
| VICTORY DR | 1 | 0 | 03/17/22 | 05:40 | Thu | 44.170731 | -93.969225 | 422517.0 | 4891291.7 | NOT APPLICABLE |

| BASIC TYPE | CRASH SEVERITY | FIRST HARMFUL | LIGHT CONDITION | WEATHER PRIMARY |
|---|---|---|---|---|
| Single Vehicle Run Off Road | N - Prop Damage Only | Other Post, Pole or Support | Dark (Unknown Light) | Clear |

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 |
|---|---|---|---|---|
| **Unit Type** | Motor Vehicle in Transport | | | |
| **Vehicle Type** | Sport Utility Vehicle | | | |
| **Direction of Travel** | Not on Roadway | | | |
| **Maneuver** | Turning Left | | | |
| **Age/Sex** | 89 M | | | |
| **Physical Cond** | Apparently Normal | | | |
| **Contributing Factor 1** | No Clear Contributing Action | | | |

**OFFICER SKETCH**




**NARRATIVE**

ON 3/17/22 AT APPROXIMATELY 0540 HOURS, VEHICLE 1 WAS IN THE LEFT TURN LANE, FACING WESTBOUND, ON ADAMS STREET. VEHICLE 1 ATTEMPTED TO NEGOTIATE A LEFT TURN ONTO N VICTORY DR. FROM ADAMS STREET. VEHICLE 1 STRUCK THE TRAFFIC PUSH-BUTTON CROSSWALK POLE/POST LOCATED AT THE SOUTHWEST CORNER OF ADAMS ST/N VICTORY DR. NO INJURIES WERE REPORTED AND NO TOW WAS REQUESTED. VEHICLE 1 SUSTAINED MINOR DAMAGE TO THE FRONT-END BUMPER.

# Crash Detail Report - Short Form

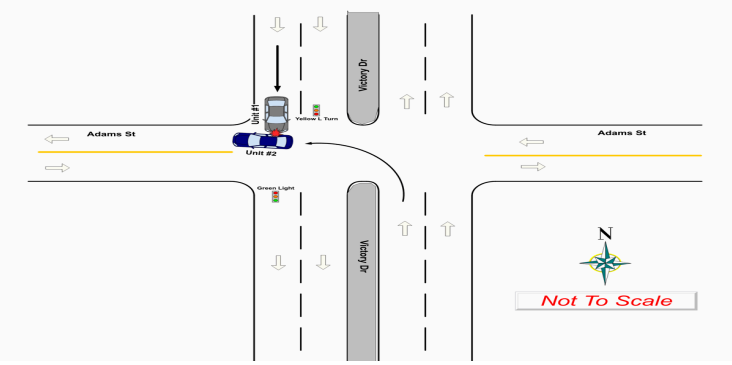
| INCIDENT ID | ROUTE SYS | ROUTE NUM | MEASURE | ROUTE NAME | ROUTE ID | COUNTY | CITY |
|---|---|---|---|---|---|---|---|
| 01139174 | 05-MSAS | 0122 | 1.206 | ADAMS ST | 0500023958310122-I | 7-Blue Earth | Mankato |

| INTERSECT WITH | # VEH | # KILL | DATE | TIME | DAY | LAT | LONG | UTM X | UTM Y | WORK ZONE TYPE |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 0 | 10/23/23 | 19:01 | Mon | 44.170729 | -93.969168 | 422521.5 | 4891291.4 | NOT APPLICABLE |

| BASIC TYPE | CRASH SEVERITY | FIRST HARMFUL | LIGHT CONDITION | WEATHER PRIMARY |
|---|---|---|---|---|
| Angle | C - Possible Injury | Motor Vehicle In Transport | Dark (Str Lights On) | Clear |

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 |
|---|---|---|---|---|
| **Unit Type** | Motor Vehicle in Transport | Motor Vehicle in Transport | | |
| **Vehicle Type** | Passenger Car | Passenger Car | | |
| **Direction of Travel** | Southbound | Westbound | | |
| **Maneuver** | Moving Forward | Turning Left | | |
| **Age/Sex** | 23 F | 17 M | | |
| **Physical Cond** | Apparently Normal | Apparently Normal | | |
| **Contributing Factor 1** | No Clear Contributing Action | Failure to Yield Right-of-Way | | |

**OFFICER SKETCH**




**NARRATIVE**

ON 10/23/2023 AT 1901 HOURS, I RESPONDED TO ADAMS ST/ VICTORY DR FOR A REPORT OF A MOTOR VEHICLE CRASH INVOLVING INJURIES. THE INITIAL 911 CALLS INDICATED THAT THIS CRASH INVOLVED A CAR VS PEDESTRIAN, HOWEVER IT WAS LATER CLARIFIED THAT THE CRASH INVOLVED TWO VEHICLES. UPON MY ARRIVAL, I OBSERVED UNIT #1 WAS IN THE BLOCKING TRAFFIC ON VICTORY DRIVE. UNIT #2 WAS OBSERVED BLOCKING TRAFFIC ON ADAMS STREET. ALL OCCUPANTS WERE OUT OF THE VEHICLES AND STANDING STREET SIDE. UNIT #1 HAD SUSTAINED HEAVY FRONT END DAMAGE. UNIT #1 WAS NOT DRIVABLE AND WAS ULTIMATELY TOWED FROM THE SCENE BY AFFORDABLE TOWING. UNIT #2 HAD SUSTAINED HEAVY SIDE DAMAGE TO THE RIGHT/PASSENGER SIDE. UNIT #2 HAD A MAJORITY OF THE AIRBAGS DEPLOYED. UNIT #2 WAS NOT DRIVABLE AND WAS ULTIMATELY TOWED FROM THE SCENE BY AFFORDABLE TOWING. I APPROACHED DRIVER #1 OF UNIT #1. DRIVER #1

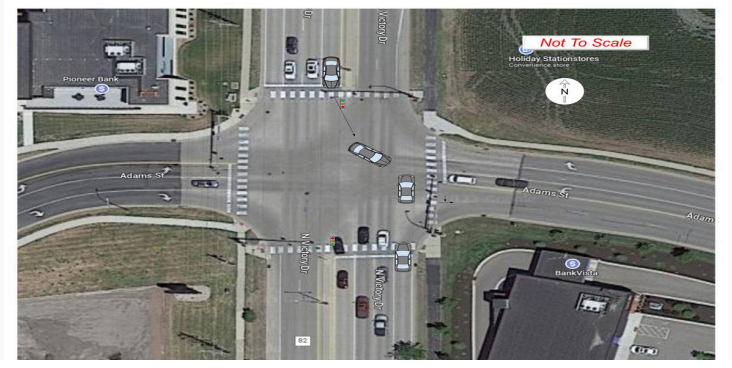
| INCIDENT ID | ROUTE SYS | ROUTE NUM | MEASURE | ROUTE NAME | ROUTE ID | COUNTY | CITY |
|---|---|---|---|---|---|---|---|
| 01118566 | 05-MSAS | 0122 | 1.223 | ADAMS ST | 0500023958310122-I | 7-Blue Earth | Mankato |

| INTERSECT WITH | # VEH | # KILL | DATE | TIME | DAY | LAT | LONG | UTM X | UTM Y | WORK ZONE TYPE |
|---|---|---|---|---|---|---|---|---|---|---|
| VICTORY DR | 2 | 0 | 07/05/23 | 13:10 | Wed | 44.170729 | -93.968803 | 422550.7 | 4891291.1 | NOT APPLICABLE |

| BASIC TYPE | CRASH SEVERITY | FIRST HARMFUL | LIGHT CONDITION | WEATHER PRIMARY |
|---|---|---|---|---|
| Left Turn | B - Minor Injury | Motor Vehicle In Transport | Daylight | Clear |

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 |
|---|---|---|---|---|
| **Unit Type** | Motor Vehicle in Transport | Motor Vehicle in Transport | | |
| **Vehicle Type** | Passenger Car | Passenger Car | | |
| **Direction of Travel** | Southbound | Northbound | | |
| **Maneuver** | Turning Left | Moving Forward | | |
| **Age/Sex** | 16 M | 37 M | | |
| **Physical Cond** | Apparently Normal | Apparently Normal | | |
| **Contributing Factor 1** | Failure to Yield Right-of-Way | No Clear Contributing Action | | |

**OFFICER SKETCH**




**NARRATIVE**

VEHICLE 1 WAS TRAVELING SOUTHBOUND ON VICTORY DRIVE AND IN THE TURN LANE TO GO EAST ON ADAMS ST. VEHICLE 2 WAS GOING NORTHBOUND ON VICTORY DRIVE IN THE OUTSIDE LANE. VEHICLE 1 TURNED IN FRONT OF VEHICLE 2 ON A FLASHING ORANGE TURN SIGNAL. DRIVER 1 STATED HE DID NOT SEE THE OTHER VEHICLE DUE TO OTHER VEHICLES ALSO GOING NORTHBOUND AND THAT HE THOUGHT IT WAS CLEAR. VEHICLES 1 AND 2 ATTEMPTED TO AVOID THE COLLISION BUT STRUCK EACH OTHER CAUSING EXTENSIVE DAMAGE. WITNESS 1 STATED VEHICLE 1 WAS TWO CARS AHEAD OF HER IN THE TURN LANE ON VICTORY DRIVE. SHE SAID SHE COULD SEE VEHICLE 2 COMING BUT DUE TO TRAFFIC AND VEHICLE 1 BEING CLOSER SHE DID NOT BELIEVE HE COULD HAVE SEEN VEHICLE 2.

# Crash Detail Report - Short Form

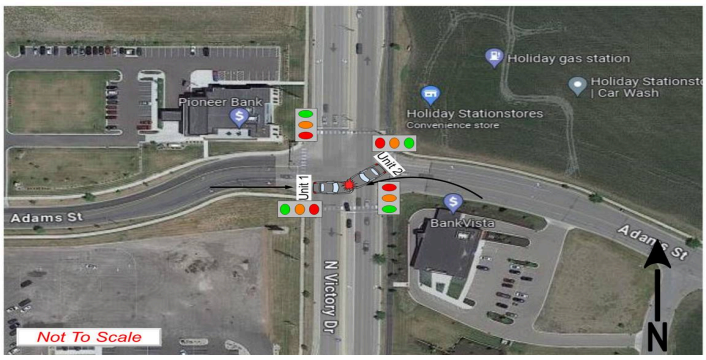
| INCIDENT ID | ROUTE SYS | ROUTE NUM | MEASURE | ROUTE NAME | ROUTE ID | COUNTY | CITY |
|---|---|---|---|---|---|---|---|
| 01155294 | 05-MSAS | 0122 | 1.223 | ADAMS ST | 0500023958310122-I | 7-Blue Earth | Mankato |

| INTERSECT WITH | # VEH | # KILL | DATE | TIME | DAY | LAT | LONG | UTM X | UTM Y | WORK ZONE TYPE |
|---|---|---|---|---|---|---|---|---|---|---|
| N VICTORY DR | 2 | 0 | 01/11/24 | 16:25 | Thu | 44.170729 | -93.968803 | 422550.7 | 4891291.1 | NOT APPLICABLE |

| BASIC TYPE | CRASH SEVERITY | FIRST HARMFUL | LIGHT CONDITION | WEATHER PRIMARY |
|---|---|---|---|---|
| Left Turn | N - Prop Damage Only | Motor Vehicle In Transport | Daylight | Clear |

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 |
|---|---|---|---|---|
| **Unit Type** | Motor Vehicle in Transport | Motor Vehicle in Transport | | |
| **Vehicle Type** | Sport Utility Vehicle | Passenger Car | | |
| **Direction of Travel** | Eastbound | Westbound | | |
| **Maneuver** | Moving Forward | Turning Left | | |
| **Age/Sex** | 15 F | 32 F | | |
| **Physical Cond** | Apparently Normal | Apparently Normal | | |
| **Contributing Factor 1** | No Clear Contributing Action | No Clear Contributing Action | | |

**OFFICER SKETCH**




**NARRATIVE**

UNIT 1 WAS DRIVING ON ADAMS ST., GOING EAST, TOWARDS THE INTERSECTION OF ADAMS ST. AND N. VICTORY DR. UNIT 1 WAS GOING TO CONTINUE EAST ON ADAMS ST., TO CROSS N. VICTORY DR. UNIT 2 WAS DRIVING ON ADAMS ST., GOING WEST, TOWARDS THE INTERSECTION OF ADAMS ST. AND N. VICTORY DR. UNIT 2 WAS GOING TO TURN LEFT AT THE INTERSECTION OF ADAMS ST. AND N. VICTORY DR., TO GO SOUTH ON N. VICTORY DR. THE DRIVER OF UNIT 1 STATED THEY HAD A GREEN LIGHT TO PROCEED THROUGH THE INTERSECTION. THE DRIVER OF UNIT 2 STATED THEY HAD A GREEN LIGHT TO PROCEED THROUGH THE INTERSECTION AND TURN LEFT, HOWEVER THEY DID NOT HAVE A GREEN ARROW, AND HAD TO YIELD TO ONCOMING TRAFFIC. UNIT 1 PROCEEDED THROUGH THE INTERSECTION. UNIT 2 PROCEEDED THROUGH THE INTERSECTION AND CRASHED INTO UNIT 1. THE FRONT END OF UNIT 2 CRASHED INTO THE SIDE OF UNIT 1, BY THE FRONT DRIVER'S SIDE DOOR. UNIT

Selection Filter:

WORK AREA: County('7') - FILTER: Year('2021','2022','2023','2024'), Vehicle Maneuver('24','5') - SPATIAL FILTER APPLIED - ROUTE FILTER APPLIED

Analyst: Ross Tillman

Notes:

# CMF COMPARISON

Below you will find comparisons for the CMFs you chose.
Please note that the rows ***highlighted and bold/italic*** contain the differences in the selected CMFs.

| Countermeasure Name | Changing left turn phasing from at least one permissive approach to flashing yellow arrow (FYA) | Changing left turn phasing from at least one permissive approach to flashing yellow arrow (FYA) | Install flashing yellow arrow | Install left turn f yellow arrow sig supplemental tra |
|---|---|---|---|---|
| CMF ID | 4174 | 4175 | 7728 | 7730 |
| CMF | 0.753 | 0.635 | 1.047 | 0.857 |
| Study Reference | SRINIVASAN, ET AL., 2011 | SRINIVASAN, ET AL., 2011 | SCHATTLER ET AL., 2015 | SCHATTLER ET A |
| ***Unadjusted Standard Error AMF*** | ***0.094*** | ***0.126*** | | |
| **CMFunction** | | | | |
| **Star Rating** | ★★★★☆ | ★★★★☆ | ★★★★☆ | ★★★★☆ |
| ***Rating Score Total*** | ***125*** | ***120*** | ***120*** | ***120*** |
| ***Crash Type*** | ***All*** | ***Left turn*** | ***Left turn*** | ***Left turn*** |
| **Crash Severity** | All | All | All | All |
| ***Crash Time of Day*** | ***Not specified*** | ***Not specified*** | ***All*** | ***All*** |
| **Area Type** | Urban | Urban | Urban | Urban |
| ***Road Division Type*** | | | ***All*** | ***All*** |
| ***Road Type*** | ***Not Specified*** | ***Not Specified*** | ***All*** | ***All*** |
| ***Min Number of Lanes*** | | | ***2*** | ***2*** |
| ***Max Number of Lanes*** | | | ***7*** | ***7*** |
| **Number of Lanes Direction** | | | | |
| **Number of Lanes Comment** | | | | |
| ***Intersection Type*** | ***Roadway/roadway (not interchange related)*** | ***Roadway/roadway (not interchange related)*** | | |
| ***Intersection Geometry*** | ***4-leg*** | ***4-leg*** | ***3-leg,4-leg*** | ***3-leg,4-leg*** |
| **Traffic Control** | Signalized | Signalized | Signalized | Signalized |
| **Minimum Speed Limit** | | | | |
| **Maximum Speed Limit** | | | | |
| **Speed Unit** | | | | |
| **Speed Limit Comment** | | | | |
| **Study Type** | 2 | 2 | 2 | 2 |
| ***Years From*** | | | ***2007*** | ***2007*** |
| ***Years To*** | | | ***2013*** | ***2013*** |
| ***Traffic Volume Unit*** | ***Annual Average Daily Traffic (AADT)*** | ***Annual Average Daily Traffic (AADT)*** | ***Average Daily Traffic (ADT)*** | ***Average Daily Tra*** |
| **Min Traffic Volume** | | | | |
| **Max Traffic Volume** | | | | |
| ***Min Major Rd Volume*** | ***8260*** | ***8260*** | ***3250*** | ***3250*** |
| ***Max Major Rd Volume*** | ***43000*** | ***43000*** | ***37500*** | ***37500*** |

| | | | | |
|---|---|---|---|---|
| *Min Minor Rd Volume* | *600* | *600* | *63* | *63* |
| *Max Minor Rd Volume* | *13745* | *13745* | *14700* | *14700* |
| **Avg Traffic Volume** | | | | |
| *Avg Major Rd Volume* | *22575* | *22575* | *17215* | *17215* |
| *Avg Minor Rd Volume* | *4285* | *4285* | *4576* | *4576* |
| *State of Origin* | *NC,OR,WA* | *NC,OR,WA* | *IL* | *IL* |
| *Municipality* | | | *Peoria* | *Peoria* |
| **Country** | USA | USA | USA | USA |
| *Comments* | | | *CMFs of left-turn related crashes on signalized intersections, including roadway with roadway and interchange related intersections. Applies to approaches with dedicated left turn lanes and PPLT phasing before and after. Nearby intersections had supplemental sign "Left Turn Yield on Flashing Yellow Arrow" mounted on mast arm.* | *CMFs of left-turn crashed on signal intersections, inc interchange relat interchange relat intersections. Ap approaches with left turn lanes an phasing before ar* |

This site is funded by the **U.S. Department of Transportation Federal Highv**
and maintained by the **University of North Carolina Highway Safet**

For more information, contact Sarah Weissman Pascual at **sara**

The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no lial
the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.

# Victory Ridge Apartments

## BMI Project No. 25X.139464.000

## Replacement Plan

Mankato, Blue Earth County, Minnesota

Steve Kuepers

July 30, 2025



**Prepared by:**
Bolton & Menk, Inc.
1960 Premier Dr
Mankato, MN 56001
P: (507) 625-4171

BOLTON & MENK
Real People. Real Solutions.

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# Appendix

EXHIBIT A – LOCATION MAP
EXHIBIT B – APPROVED WETLAND DELINEATION MAP
FIGURE C – PROPOSED PROJECT LAYOUT
FIGURE D - PROPOSED WETLAND IMPACTS

ATTACHMENT A - STORMWATER MANAGEMENT MEMORANDUM
ATTACHMENT B - STATE NHIS REPORT
ATTACHMENT C - FEDERAL IPAC AND USFWS CORRESPONDENCE
ATTACHMENT D - PLAN SET

# PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

**Applicant/Landowner Name:** Steve Kuepers, Owner, Kuepers Inc.
**Mailing Address:** 17018 Commercial Park Road, Brainerd, MN 65401
**Phone:** (218) 829-0707
**E-mail Address:** invoices@kuepers.com

**Authorized Contact (do not complete if same as above):**
**Mailing Address:**
**Phone:**
**E-mail Address:**

**Agent Name:** Chad Ponce, Natural Resources Specialist, Bolton & Menk
**Mailing Address:** 1960 Premier Dr., Mankato, MN 56001
**Phone:** (507) 625-4171
**E-mail Address:** chad.ponce@bolton-menk.com

# PART TWO: Site Location Information

**County:** Blue Earth **City/Township:** City of Mankato
**Parcel ID and/or Address:** R010909301015
**Legal Description (Section, Township, Range):** Section 9, Township 108N, Range 26W
**Lat/Long (decimal degrees):**
**Attach a map showing the location of the site in relation to local streets, roads, highways.**
**Approximate size of site (acres) or if a linear project, length (feet):** 14.6

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

# PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted ***prior to*** this application then describe that here and provide the Corps of Engineers project number.

*A Type & Boundary application documenting boundaries of aquatic resources at the site was submitted in November 2024. A WCA Notice of Decision approving the boundaries was received on December 17, 2024.*

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

***Project Summary***

*Kuepers, Inc. plans to develop a portion of an approximately 14.6-acre property located at the northeast corner of Victory Drive and Dublin Road in Mankato, MN. The property will be improved with a multi-family development including 180 units, parking lot, parking garage, and amenities. Access to the site will be constructed on the north side of Dublin Road. The location of the Proposed Project is depicted on Exhibit 1, "Project Location Map."*

*The existing property is primarily of agricultural use. An unnamed Public Water Inventory tributary (Tributary 1) is located primarily off-site to the north (DNR Hydro ID 125281). One isolated wetland (Wetland 1) is located within the agricultural field and an stormwater erosional feature (Tributary 2) is located on the east side of the site. The aquatic features are shown on Exhibit B, "Approved Wetland Delineation Map." The development plans for the Proposed Project are depicted on Figure 3, "Proposed Layout Map."*

*The construction of the development would utilize traditional construction methods such as earth-moving equipment. Utilities within the Study Area would be installed as per the City of Mankato guidelines. Construction is anticipated to commence in 2025.*

***Project Purpose and Need***

*The purpose of the Proposed Project is to provide additional housing in the City of Mankato. The proposed mixed-use development follows the City of Mankato's Land Use Plan for the development of multiple-family residential. According to the Mankato Area Housing Study Update, dated August 2022, the City of Mankato will have an estimated growth of 335 to 350 households per year. Vacancy rates for multiple-family units within the City of Mankato are currently low, necessitating the construction of additional multiple-family units.*

*In November 2022, the Mankato City Council adopted Ordinance No. O-2022-1114-16, creating Mankato City Code Chapter 10, Section 10.65, "Shoreland Overlay District." Effective as of January 1, 2023, the purpose of this Ordinance is to guide the subdivision, use, and development of shorelands of public waters in Minnesota. A portion of the Study Area is located within a Shoreland Overlay District, as defined in Minnesota Rules, Parts 6120.2500 – 6120.3900, as land located within 1,000 feet from the ordinary high water level (OHWL) of a lake, pond, or flowage.*

*All local and State regulations—including a 150-foot setback from the OHWL of public waters, depicted on Figure 3, "Site Layout Map"—related to Shoreland Overlay Districts would be followed throughout the implementation of the Proposed Project.*

*Approximately 1.35 acres of trees will be cleared for this project. Clearing will be completed in the inactive season for the northern long eared bat.*

***Hydrology Study***

*A hydrology study was completed in July 2025 (Attachment A). The model of peak flow conditions indicates proposed conditions result in reduced peak flows in both Tributary 2 (Stormwater Erosional Feature) and the Unnamed PWI aka Thompson Ravine. The reduced peak flows are due to the peak flow mitigation being mitigated by the proposed stormwater basin. Models also showed that downstream culverts have lower 10-year peak flows than the maximum allowable.*

***8420.0515 Special Considerations:***

*Subpart 1. Scope.*

*Subp. 2. Endangered and Threatened Species*

*The United States Fish and Wildlife Service's (USFWS) online Information for Planning and Consultation (IPaC) tool identified one Federally-listed endangered species (Northern Long-Eared Bat), one proposed threatened (Monarch Butterfly), and one proposed endangered (Salamander Mussel) as potentially occurring in the vicinity of the project. Technical Assistance Letters were generated for the species resulted in a "No effect" determination for monarch butterfly. "May affect" determinations were determined for the salamander mussel and northern long-eared bat.*

*Correspondences with Nick Utrup of UWFWS indicate a concurrence with a revised determination of "May Affect, Not Likely to Adversely Affect" for the northern long eared bat and a "No Effect" determination for the salamander mussel (Attachment B).*

*A review of state-listed species and natural communities was reviewed using the Minnesota's Department of Natural Resources Minnesota Conservation Explorer. Based on the Natural Heritage Review, no State-listed threatened species, endangered species, species of special concern were identified within the Study Area. Since northern long-eared bats occur throughout the state of Minnesota, the NHIS report recommends avoiding tree removals from June 1 through August 15.*

*Subp. 3. Rare natural communities*

*A Minnesota Biological Survey (MBS) area of local conservation value was identified as forested areas on the north and east sides of the site. A calcareous fen was also identified as occurring in the vicinity of the project. Upon review of DNR's calcareous fen data, the nearest occurrence of a calcareous fen is located approximately 3.3 miles to the northwest.*

*Subp. 4. Special fish and wildlife resources*

*No other impacts to fish or wildlife are proposed.*

*Subp. 5. Archaeological, historic, or cultural resources sites*

*A review of the Office of the State Archaeologist (OSA) Online Portal identified site 21BE0261 located within the proposed project area. This site is currently unevaluated for the National Register of Historic Places. A review of the Minnesota Statewide Historic Inventory Portal (MnSHIP) from the State Historic Preservation Office (SHPO) identified no eligible or listed historic properties.*

*Subp. 6. Groundwater sensitivity*

*Activities at the site will not have an adverse effect on groundwater quality.*

*Subp. 7. Sensitive surface waters*

*No waters on the 303d list are located within a mile of the subject site.*

*Subp. 8. Education or research use*

*Not applicable.*

*Subp. 9. Waste disposal sites.*

*No waste disposal sites are located within ¼-mile of the subject site.*

*Subp. 10. Consistency with other plans*

*The contents of this replacement plan are consistent with the City of Mankato's Land Use Plan.*

***Mitigation***

*Tributary 2 is a stormwater erosional feature, not a jurisdictional tributary. For this reason, no impacts are associated with placement of fill for the stormwater outfall structure including riprap placement. All fill will be installed above the top of bank and ordinary high water level of the unnamed PWI tributary aka Thompson Ravine. No impacts to features under the jurisdiction of the Corps or MNDNR are planned for this project.*

*Wetland 1 is isolated and not federally jurisdictional. Wetland impacts will be permitted through Wetland Conservation Act of Minnesota (WCA). Historically, this wetland has been in crop rotation and has been heavily degraded by the removal of wetland hydrology and hydrophytic plant communities. Due to the degradation that has occurred, this wetland is eligible for sequencing flexibility. MN Rule 8420.0520, Subpart 7a.A.1, allows for flexibility in sequencing if the wetlands to be impacted have been degraded to the point where replacement of it would result in a certain gain in functional and public value. The chosen mitigation bank is within the same BSA and Major Watershed. Impacts to Wetland 1 as a result of this project will result in a functional lift to the watershed.*

*Permanent wetland impacts planned for this project total 0.08 acres of Type 1 – Seasonally Flooded Basin (Wetland 1, Exhibit D). These impacts will be mitigated at a 2:1 ratio for a total of 0.16 credits. Wetland impacts will be mitigated through a state-approved wetland bank with approved credits available. The following citing was used to determine the bank:*

- *On-site mitigation was not a viable option due to spatial constraints and the low viability of success for a small project specific mitigation effort.*
- *Bank # 1651 is in the same major watershed (No. 28) and Bank Service Area (BSA 9) as the wetland impacts. All needed wetland credits will be drawn from this bank at the required 2:1 ratio.*

# PART FOUR: Aquatic Resource Impact[1] Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

| **Aquatic Resource ID** (as noted on overhead view) | **Aquatic Resource Type** (wetland, lake, tributary etc.) | **Type of Impact** (fill, excavate, drain, or remove vegetation) | **Duration of Impact** Permanent (P) or Temporary (T)[1] | **Size of Impact**[2] | **Overall Size of Aquatic Resource** [3] | **Existing Plant Community Type(s)** in Impact Area[4] | **County, Major Watershed #, and Bank Service Area #** of Impact Area[5] |
|---|---|---|---|---|---|---|---|
| Wetland 1 | Wetland | Fill | P | 0.08 | NA | Type 1 Seasonally Flooded Basin | Blue earth, 28, 9 |

[1]If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".
[2]Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).
[3]This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".
[4]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[5]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

N/A

# PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: _____ Date: 7/29/25

I hereby authorize Bolton & Menk to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

**[1] The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.**

# Attachment A

# Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☐ **Wetland Type Confirmation**

☐ **Delineation Concurrence**. Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☐ **Preliminary Jurisdictional Determination**. A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☒ **Approved Jurisdictional Determination**. An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).
http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx

Wetland 1 is an isolated, non-jurisdictional, wetland located within an agricultural field. It is seasonally flooded or saturated but does not have a surface connection to other aquatic features. Tributary 2 is a non-jurisdictional ephemeral stormwater feature. It lacks an ordinary high water mark and bed and bank (See photographs below). We are requesting an approved jurisdictional determination to confirm that impacts to the wetland and ephemeral stormwater feature do not require a permit with the Army Corps of Engineers.



*Photo 3: View of Tributary 2, viewing north.*



*Photo 4: View of Tributary 2, viewing northeast.*

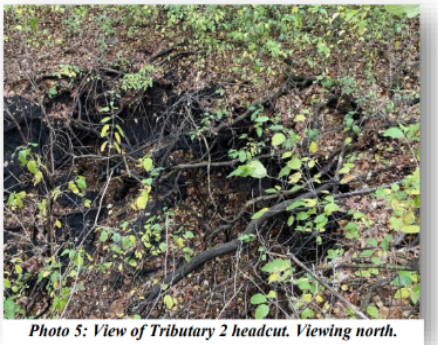


*Photo 5: View of Tributary 2 headcut. Viewing north.*

# Attachment C

# Avoidance and Minimization

**Project Purpose, Need, and Requirements**. Clearly state the purpose of your project and need for your project. Also include a description of any specific requirements of the project as they relate to project location, project footprint, water management, and any other applicable requirements. Attach an overhead plan sheet showing all relevant features of the project (buildings, roads, etc.), aquatic resource features (impact areas noted) and construction details (grading plans, storm water management plans, etc.), referencing these as necessary:

*Sequencing flexibility is applicable to Wetland 1 per MN Rule 8420.0520, Subpart 7a.A.1*

**Avoidance**. Both the CWA and the WCA require that impacts to aquatic resources be avoided if practicable alternatives exist. Clearly describe all on-site measures considered to avoid impacts to aquatic resources and discuss at least two project alternatives that avoid all impacts to aquatic resources on the site. These alternatives may include alternative site plans, alternate sites, and/or not doing the project. Alternatives should be feasible and prudent (see MN Rules 8420.0520 Subp. 2 C). Applicants are encouraged to attach drawings and plans to support their analysis:

*1. No Build: The no build alternative was considered for this project to avoid impacts to wetlands. The no build alternative would avoid impacts to wetlands. This project is in accordance with the City of Mankato's Land Use Plan and is designed to meet the continued growth of the City. Additional multiple-family units are needed to meet the growing population in this area. If this project is not completed, the City will not receive the benefit of the expanded residential capacity that this project would provide. The no build alternative is not considered feasible for these reasons.*

*2. Alternative Site Layout –Wetland Avoidance: It was considered to avoid impacts to Wetland 1 by designing the development around the small wetland. The alternative site layout would result in at least a 25% reduction in total units. Additional multiple-family units are needed to meet the growing population in this area. With the reduced housing in the alternative site plan, the City would not meet the demands of the projected growth of 335 to 350 households per year. Reducing units would render this development infeasible.*

*Wetland 1 is an isolated and degraded seasonally flooded basin. These basins receive hydrology primarily from spring rains and snow melt. Development on the property (increased impervious surface) in the vicinity of the wetlands and diversion of stormwater would result in losing the hydrology necessary to maintain the wetland hydrology (water table within 12-inches of the surface for 14 consecutive days during the growing season).*

*For all of the above reasons, the alternative site plan is not considered a feasible alternative.*

**Minimization**. Both the CWA and the WCA require that all unavoidable impacts to aquatic resources be minimized to the greatest extent practicable. Discuss all features of the proposed project that have been modified to minimize the impacts to water resources (see MN Rules 8420.0520 Subp. 4):

*Minimization efforts were included through the design process, including the following:*

- *Sediment and erosion control procedures will followed as shown in the attached plan set*
- *Stormwater ponds were designed to MPCA standards*
- *Buffers will be maintained from the Shoreland Protection Zone of the PWI tributary to the north*
- *Disturbed areas will be revegetated as soon as possible*

**Off-Site Alternatives**. An off-site alternatives analysis is not required for all permit applications. If you know that your proposal will require an individual permit (standard permit or letter of permission) from the U.S. Army Corps of Engineers, you may be required to provide an off-site alternatives analysis. The alternatives analysis is not required for a complete application but must be provided during the review process in order for the Corps to complete the evaluation of your application and reach a final decision. Applicants with questions about when an off-site alternatives analysis is required should contact their Corps Project Manager.

*This site was chosen for development because of its proximity to area schools, parks, other residential neighborhoods, and commercial facilities. This is one of the few remaining parcels available for development in the area. The proposed parcel is the only available option for development with easy access to US Highway 14 and TH 22, the main arteries in the eastern portion of the City of Mankato.*

# Attachment D

# Replacement/Compensatory Mitigation

Complete this part ***if*** your application involves wetland replacement/compensatory mitigation not associated with the local road wetland replacement program. Applicants should consult Corps mitigation guidelines and WCA rules for requirements.

**Replacement/Compensatory Mitigation via Wetland Banking**. Complete this section if you are proposing to use credits from an existing wetland bank (with an account number in the State wetland banking system) for all or part of your replacement/compensatory mitigation requirements.

| Wetland Bank Account # | County | Major Watershed # | Bank Service Area # | Credit Type (if applicable) | Number of Credits |
|---|---|---|---|---|---|
| 1651 | Nicollet | 28 | 9 | 2 – Fresh (wet) Meadow | 0.16 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Applicants should attach documentation indicating that they have contacted the wetland bank account owner and reached at least a tentative agreement to utilize the identified credits for the project. This documentation could be a signed purchase agreement, signed application for withdrawal of credits or some other correspondence indicating an agreement between the applicant and the bank owner. *However, applicants are advised not to enter into a binding agreement to purchase credits until the mitigation plan is approved by the Corps and LGU.*

**Project-Specific Replacement/Permittee Responsible Mitigation**. Complete this section if you are proposing to pursue actions (restoration, creation, preservation, etc.) to generate wetland replacement/compensatory mitigation credits for this proposed project.

| WCA Action Eligible for Credit[1] | Corps Mitigation Compensation Technique[2] | Acres | Credit % Requested | Credits Anticipated[3] | County | Major Watershed # | Bank Service Area # |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

[1]Refer to the name and subpart number in MN Rule 8420.0526.
[2]Refer to the technique listed in *St. Paul District Policy for Wetland Compensatory Mitigation in Minnesota*.
[3]If WCA and Corps crediting differs, then enter both numbers and distinguish which is Corps and which is WCA.

Explain how each proposed action or technique will be completed (e.g. wetland hydrology will be restored by breaking the tile……) and how the proposal meets the crediting criteria associated with it. Applicants should refer to the Corps mitigation policy language, WCA rule language, and all associated Corps and WCA guidance related to the action or technique:

NA

Attach a site location map, soils map, recent aerial photograph, and any other maps to show the location and other relevant features of each wetland replacement/mitigation site. Discuss in detail existing vegetation, existing landscape features, land use (on and surrounding the site), existing soils, drainage systems (if present), and water sources and movement. Include a topographic map showing key features related to hydrology and water flow (inlets, outlets, ditches, pumps, etc.):

NA

Attach a map of the existing aquatic resources, associated delineation report, and any documentation of regulatory review or approval. Discuss as necessary:

NA

For actions involving construction activities, attach construction plans and specifications with all relevant details. Discuss and provide documentation of a hydrologic and hydraulic analysis of the site to define existing conditions, predict project outcomes, identify specific project performance standards and avoid adverse offsite impacts. Plans and specifications should be prepared by a licensed engineer following standard engineering practices. Discuss anticipated construction sequence and timing:

NA

For projects involving vegetation restoration, provide a vegetation establishment plan that includes information on site preparation, seed mixes and plant materials, seeding/planting plan (attach seeding/planting zone map), planting/seeding methods, vegetation maintenance, and an anticipated schedule of activities:

NA

For projects involving construction or vegetation restoration, identify and discuss goals and specific outcomes that can be determined for credit allocation. Provide a proposed credit allocation table tied to outcomes:

NA

Provide a five-year monitoring plan to address project outcomes and credit allocation:

NA

Discuss and provide evidence of ownership or rights to conduct wetland replacement/mitigation on each site:

NA

Quantify all proposed wetland credits and compare to wetland impacts to identify a proposed wetland replacement ratio. Discuss how this replacement ratio is consistent with Corps and WCA requirements:

NA

By signature below, the applicant attests to the following (only required if application involves project-specific/permittee responsible replacement):

- All proposed replacement wetlands were not:
  - Previously restored or created under a prior approved replacement plan or permit
  - Drained or filled under an exemption during the previous 10 years
  - Restored with financial assistance from public conservation programs
  - Restored using private funds, other than landowner funds, unless the funds are paid back with interest to the individual or organization that funded the restoration and the individual or organization notifies the local government unit in writing that the restored wetland may be considered for replacement.
- The wetland will be replaced before or concurrent with the actual draining or filling of a wetland.
- An irrevocable bank letter of credit, performance bond, or other acceptable security will be provided to guarantee successful completion of the wetland replacement.
- Within 30 days of either receiving approval of this application or beginning work on the project, I will record the Declaration of Restrictions and Covenants on the deed for the property on which the replacement wetland(s) will be located and submit proof of such recording to the LGU and the Corps.

Applicant or Representative: NA Title:

Signature: _____ Date:

# Standard Credit Withdrawal Form

## Minnesota Wetland Bank Program

(Incomplete forms may be returned unprocessed)

| 1. Credit User | | *This space for BWSR use only.* |
|---|---|---|
| **Name:** Steve Kuepers | **Organization/Company (if any):** Kuepers, Inc. | |
| **Address:** 17018 Commercial Park Road Brainerd, MN 65401 | **Phone:** (218)829-0707 | |
| | **E-mail:** invoices@kuepers.com | |
| **If others should receive withdrawal verification email, please include their email below *(e.g., Consultants, partners, etc.)*:** | | |

| 2. Wetland Impact Information | | | |
|---|---|---|---|
| **Project Name:** Victory Court Development | | **Project Type:** Commercial | **ACRES of Impact:** 0.08 |
| **City (if applicable):** Mankato | **County:** Blue Earth | **Sec/Twp/Range:** *(Project Center)* Sec. 9 T. 108 R. 26 | **Major Watershed No./Bank Service Area (BSA):** 28 / 9 |
| **WCA LGU Name:** City of Mankato | | **Majority Impact Wetland Type:** 1 - Seasonally Flooded Basin | **Majority HGM Class:** Depression |
| **Corps of Engineers Letter/Email Received?** ☐ Yes ☒ No | | **If Yes, Corps File No.:** ***(e.g. 2021-00101-ABC)*** MVP- | **If Yes, is Corps Replacement Required?** ☐ Yes ☒ No ☐ Unknown |
| **Comments:** | | | |

## 3. Credits to be Withdrawn

| **Bank Account No./Name:** | **Bank County:** | **Bank BSA:** |
|---|---|---|
| 1651 | Nicollet | 9 |

| Credit Subgroup | Wetland Type/Plant Community Type | Federally Approved? | Cost per Credit | Credit Amounts |
|---|---|---|---|---|
| A | 2 - Wet Meadow | Yes | $70,000 | 0.16 |
| ---Select--- | ---Select--- | ---Select--- | $ | |
| ---Select--- | ---Select--- | ---Select--- | $ | |
| ---Select--- | ---Select--- | ---Select--- | $ | |
| ---Select--- | ---Select--- | ---Select--- | $ | |

**Per Credit Withdrawal Fee by BSA**

| | | | |
|---|---|---|---|
| BSA 1 | $520 | BSA 6 | $1,083 |
| BSA 2 | $371 | BSA 7 | $1,992 |
| BSA 3 | $725 | BSA 8 | $2,577 |
| BSA 4 | $1,412 | BSA 9 | $2,628 |
| BSA 5 | $685 | BSA 10 | $3,099 |

**Enter Bank Account's BSA Withdrawal Fee and hit Tab key:** 2628

**Easement Stewardship Fee:** **$302**

| | |
|---|---|
| **Total Credits:** | 0.1600 |
| *(Withdrawal Fee X total credits)* | |
| **Withdrawal Fee:** | $420.48 |
| *(Easement Stewardship fee x total credits)* | |
| **Stewardship Fee:** | $48.32 |
| **Total Fees:** | $468.80 |

***Please make checks payable to the Minnesota Board of Water and Soil Resources.*** *BWSR does not accept cash.*

**Project Name:** Victory Court Development

After completing all necessary fields, select "Request Signatures" option in the Home tab of your toolbar to convert your agreement to a PDF version and add your digital signature. See these instructions if you do not know how to create a digital signature.

## 4. WCA Authorization *(Must include representative's name and email address)*

By signing below, the identified Wetland Conservation Act Local Government Unit (LGU) representative attests that the LGU has approved the use of the credits in Box 3 for wetland replacement/mitigation.

| **WCA LGU:** | **Representative's Name:** | **Email Address:** |
|---|---|---|
| City of Mankato | | |
| Signature: | | Date: |

## 5. Other Agency/Program Authorization *(Must include representative's name and email address)*

By signing below, the identified agency representative attests that the agency has approved the use of the credits in Box 3 for wetland replacement/mitigation.

| **Agency:** | **Representative's Name:** | **Email Address:** |
|---|---|---|
| | | |
| Signature: | | Date: |

## 6. Credit User Signature

By signing below the credit user attests that they have secured use of the credits in Box 3 from the account holder for wetland replacement/mitigation.

Signature: Date:

## 7. Account Holder Signature *(Must include seller/manager name and email address)*

By signing below the account holder authorizes BWSR to withdraw the credits identified in Box 3 from their account to satisfy wetland replacement/mitigation requirements for the credit user indicated in Box 1. The account holder attests that the identified credits have not been sold or used by a different credit user.

| **Seller/Manager:** | **Email Address:** |
|---|---|
| | |
| Signature: | Date: |

**SEND COMPLETED FORM AND FEE PAYMENT TO:**

Wetland Bank Administration
Minnesota Board of Water and Soil Resources
520 Lafayette Road North
Saint Paul, MN 55155

Bank #1651

# PURCHASE AGREEMENT
# FOR
# WETLAND BANKING CREDITS

THIS AGREEMENT is made this **22nd** of July between

**Barbara and Alan Stevensen** (Seller) and **Steve Kuepers** (Buyer).

1. Seller agrees to sell to Buyer, and Buyer agrees to buy from Seller, the wetland banking credits (Credits) listed below:

**Credits to be Sold**

| Credit Subgroup | Wetland Type/Plant Community Type | Cost per Credit | Credit Amounts | Purchase Amount |
|---|---|---|---|---|
| A | Type 2 – Fresh Wet Meadow | $70,000 | 0.16 | $11,200 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | **TOTAL:** | | 0.16 | $11,200 |

**Per Credit Withdrawal Fee by BSA**

| | | | |
|---|---|---|---|
| BSA 1 | $520 | BSA 6 | $1,083 |
| BSA 2 | $371 | BSA 7 | $1,992 |
| BSA 3 | $725 | BSA 8 | $2,577 |
| BSA 4 | $1,412 | BSA 9 | $2,628 |
| BSA 5 | $685 | BSA 10 | $3,099 |

**Enter the Withdrawal Fee for the BSA of the account:**

**$2,628**

**Easement Stewardship Fee:**

**$302 per credit**

*(Withdrawal Fee x total credits)*

**Withdrawal Fee:** $420.48

*(Easement Stewardship fee x total credits)*

**Stewardship Fee:** $48.32

**Total Fees:** $468.80

BWSR fee policy: http://www.bwsr.state.mn.us/wetlands/wetlandbanking/fee_and_sales_data/Wetland_Banking_Fee_Policy_Effective_June1_2017.pdf

2. Seller represents and warrants as follows:

   a) The Credits are deposited in an account in the Minnesota Wetland Bank administered by the Minnesota Board of Water and Soil Resources (BWSR) pursuant to Minn. Rules Chapter 8420.0700-.0755.

   b) Seller owns the Credits and has the right to sell the Credits to Buyer.

3. Buyer will purchase from the Seller a total of **0.16** wetland credits at a rate of **$70,000 per credit**. The Buyer will pay the Seller a total of $**11,200** for the Credits. The Buyer will execute a check made out for this amount, payable to **Alan Stevensen**, at the time that the permit application is approved by the LGU.

4. Buyer agrees to pay a withdrawal fee of **$420.48** and Easement Stewardship Fee of **$48.32** to the State of Minnesota based on methods described in Box 3 of the Transaction Form to Withdrawal Credits. The Buyer will execute a check made out for **$468.80**, payable to the **Board of Water and Soil Resources,** at the time that the permit application is approved by the LGU.

5. Upon payment of the balance of the purchase price, Seller will sign a fully executed Application for Withdrawal of the Credits in the form specified by BWSR, provide a copy of the Application for Withdrawal to the Buyer and forward the same to the BWSR along with the check for the Withdrawal Fee.

6. Buyer will apply to the **City of Mankato** (LGU) for approval of a replacement plan utilizing the Credits as the means of replacing impacted wetlands. If the LGU does not approve the Buyer's application for a replacement plan utilizing the Credits, then either Barb Stevenson or Seller may cancel this Agreement by giving written notice to the other. In this case neither Buyer nor Seller shall have any further obligations under this Agreement.

Barb Stevenson Barb Stevenson
(Signature of Seller)

7-25-2025
(Date)

(Signature of Buyer)

7/29/25
(Date)

# Landowner Statement and Contractor Responsibility
## For Work in Wetlands or Public Waters

MN Statutes Sections 103G.2212 and 103G.241 stipulate that an agent or employee of another may not:

1) drain, excavate, or fill a wetland, wholly or partially; or
2) construct, reconstruct, remove, or make any change in any reservoir, dam, or the course, current, or cross-section of any public water;

unless the agent or employee has obtained a signed statement from the property owner stating that any permit or wetland replacement plan required for the work has been obtained, or that a permit or replacement plan is not required; **AND** this statement is mailed to the appropriate office with jurisdiction over the wetland or public water prior to initiating the work (see next page for information on where to send this notification).

**This form is a notification only and is not an application or authorization for any activities described in it.**

### 1. PROJECT INFORMATION

Project will affect (check all that apply):

☐ Lake, Watercourse, or Public Waters Wetland ☒ Non-Public Waters Wetland ☐ Wetland of Unknown Jurisdiction

Address or description of project location (attach map if necessary):

| Legal address<br>**See Location Map** | | | | | | |
|---|---|---|---|---|---|---|
| County<br>**Blue Earth** | Gov't Lot(s) | Quarter Section(s) | Section(s)<br>**9** | Township(s)<br>**108N** | Range(s)<br>**26W** | Lot, Block, Subd. |

Description of proposed work (include sketch and/or attach additional pages if needed):

*Kuepers, Inc. plans to develop a portion of an approximately 14.6 acre property located at the northeast corner of Victory Drive and Dublin Road in Mankato, MN. The property will be improved with a multi-family development including 180 units, parking lot, parking garage, and amenities. Access to the site will be constructed on the north side of Dublin Road.*

### 2. LANDOWNER STATEMENT

I certify that, as the owner of the property listed on this form (check one):

☒ I have obtained all permits or approvals required to perform the work described above.
☐ No permits or approvals are required for this work.

| Property Owner (Print Name)<br>**Steve Kuepers, Owner, Kuepers Inc.** | Address<br>**17018 Commercial Park Road**<br>**Brainerd, MN 65401** | |
|---|---|---|
| Signature | Date<br>7/29/25 | Phone Number and E-mail Address (Optional)<br>**(218)829-0707**<br>**invoices@kuepers.com** |

## 3. CONTRACTOR VERIFICATION

By signing below, I verify that I have received a signed copy of this form and will be performing the indicated work as described above.

| Company and Individual Performing Proposed Work (Print) | Address | |
|---|---|---|
| Signature | Date | Phone Number and E-mail Address (Optional) |

Note: The contractor is responsible for ensuring this form is mailed to the appropriate office when complete.

**This statement is invalid if any of the above information is not supplied or is inaccurate. Work in violation of this notification requirement is a separate and independent offense from other violations of Minnesota Statutes chapter § 103G and is a misdemeanor punishable by fines up to $1,000 and/or 90 days in jail. The State Department of Natural Resources (DNR) Commissioner also has the authority to require restoration of any work done without the necessary permits or approvals or work that is beyond what was authorized.**

## 4. INFORMATION AND RESOURCES

A Wetland Conservation Act (WCA) replacement plan is required for any wetland draining, excavation, or filling activity that is not exempt under Minnesota Rules Chapter 8420.0420. A DNR Waters permit is required for any work in public waters.

National wetland inventory maps are available for review at the County Soil and Water Conservation District (SWCD) office and online at http://www.fws.gov/wetlands/Data/Mapper.html. Many wetlands are not identified on the maps but are still restricted from draining, excavating, or filling. If you are unsure the proposed work will affect a wetland, contact your local government unit (LGU) or SWCD for assistance.

Public Waters of the State of Minnesota include the channel to the top of the channel bank for watercourses and the basin from the ordinary high water level waterward for public waters (i.e. lakes) and public waters wetlands. Public waters inventory maps are available for review at the County Auditor's office, DNR Division of Waters regional offices, and online at http://www.dnr.state.mn.us/waters/watermgmt_section/pwi/download.html.

General information about public waters, wetlands, and related regulations are available on the DNR website at http://mndnr.gov and the MN Board of Water and Soil Resources (BWSR) website at http://www.bwsr.state.mn.us.

## 5. WHERE TO SEND THIS NOTIFICATION

- For work in public waters (lake, watercourse, or public waters wetland), send this completed form to the DNR Regional Enforcement Office serving the project's area. See below for DNR regional office information. A map of DNR regions can be found on the DNR website at: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf
- For work in any wetland that is not a public waters wetland, send this completed form to the WCA LGU with jurisdiction over the project area. The LGU is usually the County or SWCD, except in urban areas the City is often the LGU. Contact any of these local governments or BWSR for assistance. BWSR also maintains a list of LGUs on its website at: http://www.bwsr.state.mn.us/directories/WCA.pdf.
- If it is not known if the wetland is a public waters wetland, send the completed form to both the DNR Regional Enforcement Office and the WCA LGU.

Department of Natural Resources Regional Offices

| Northwest Region: | Northeast Region: | Central Region: | Southern Region: |
|---|---|---|---|
| 2115 Birchmont Beach Rd. NE<br>Bemidji, MN 56601<br>Phone: 218-308-2700 | 1201 E. Hwy. 2<br>Grand Rapids, MN 55744<br>Phone: 218-327-4455 | 1200 Warner Road<br>St. Paul, MN 55106<br>Phone: 651-259-5800 | 261 Hwy. 15 South<br>New Ulm, MN 56073<br>Phone: 507-359-6000 |

Keep a copy of this form for your records!

# Appendix

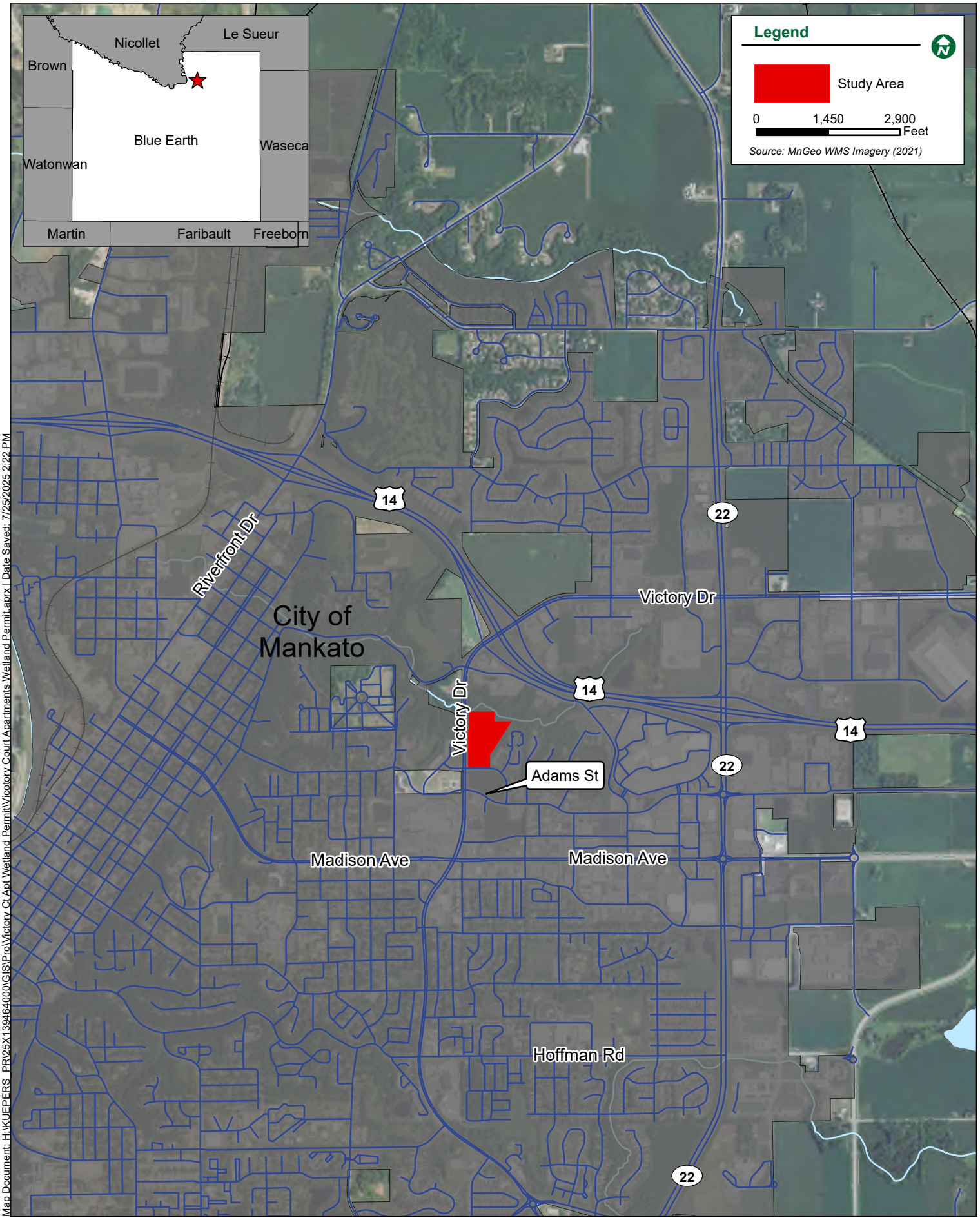
## Victory Ridge Apartments

**Exhibit A: Location Map**

**City of Mankato, Blue Earth County, MN**

**July 2025**

BOLTON & MENK
Real People. Real Solutions.




Map Document: H:\KUEPERS_PRJ\25X139464000\GIS\Pro\Victory Ct Apt Wetland Permit\Vicotory Court Apartments Wetland Permit.aprx | Date Saved: 7/25/2025 2:22 PM

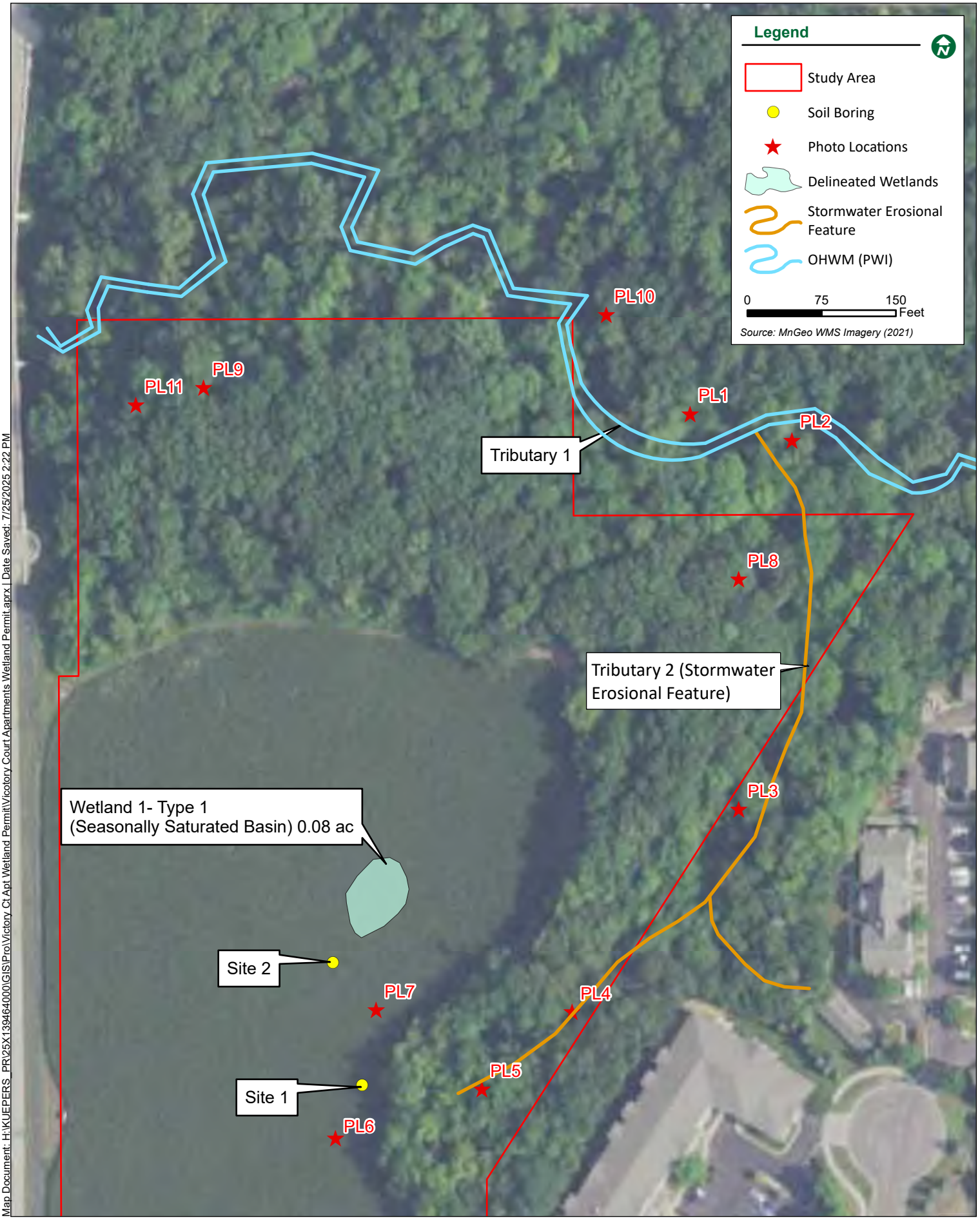
# Victory Ridge Apartments

City of Mankato, Blue Earth County, MN

## Exhibit B: Approved Wetland Delineation Map

July 2025

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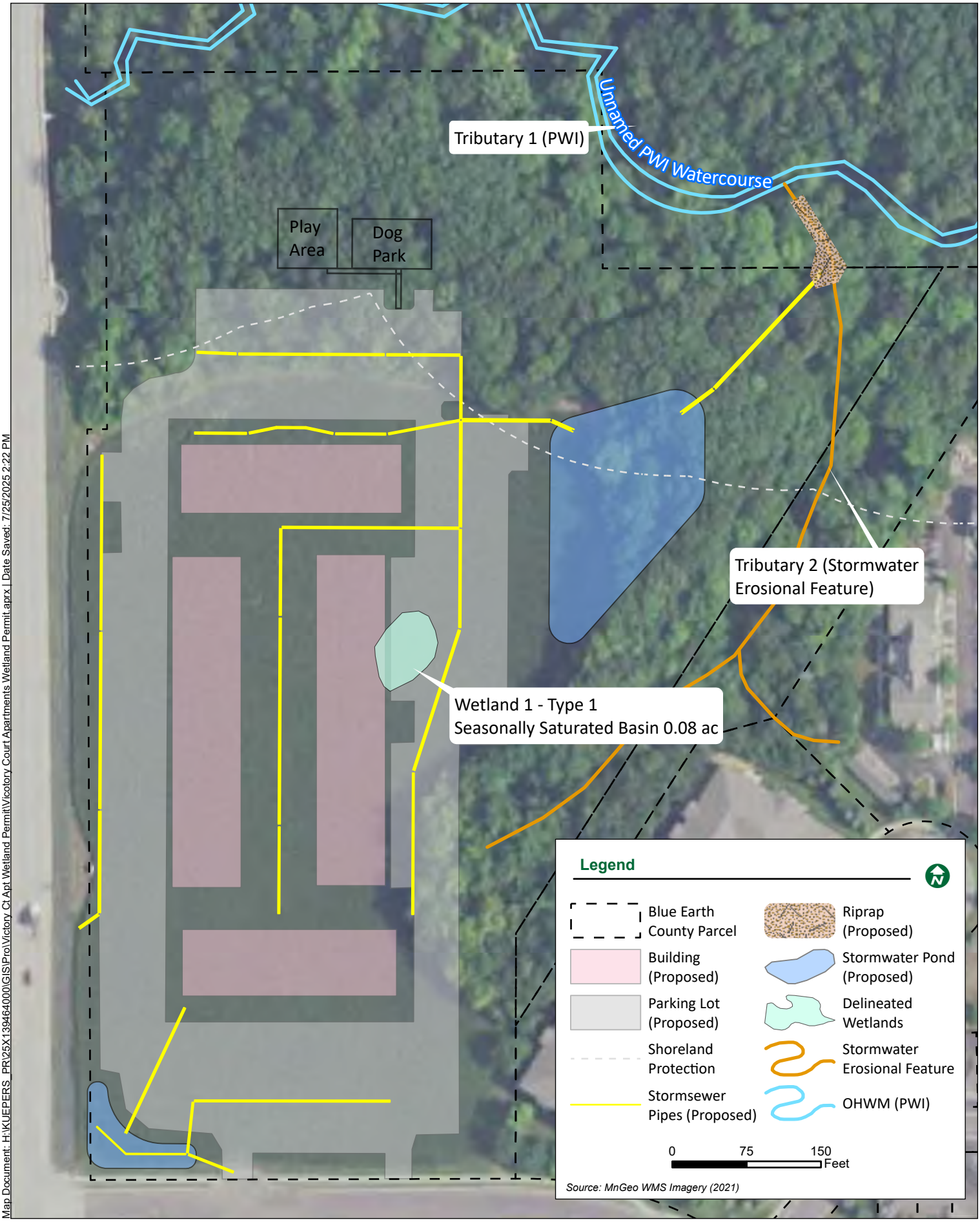
# Victory Ridge Apartments

**City of Mankato, Blue Earth County, MN**

## Exhibit C: Proposed Site Layout

**July 2025**

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Map Document: H:\KUEPERS_PR\25X\139464000\GIS\Pro\Victory Ct Apt Wetland Permit\Vicotory Court Apartments Wetland Permit.aprx | Date Saved: 7/25/2025 2:22 PM

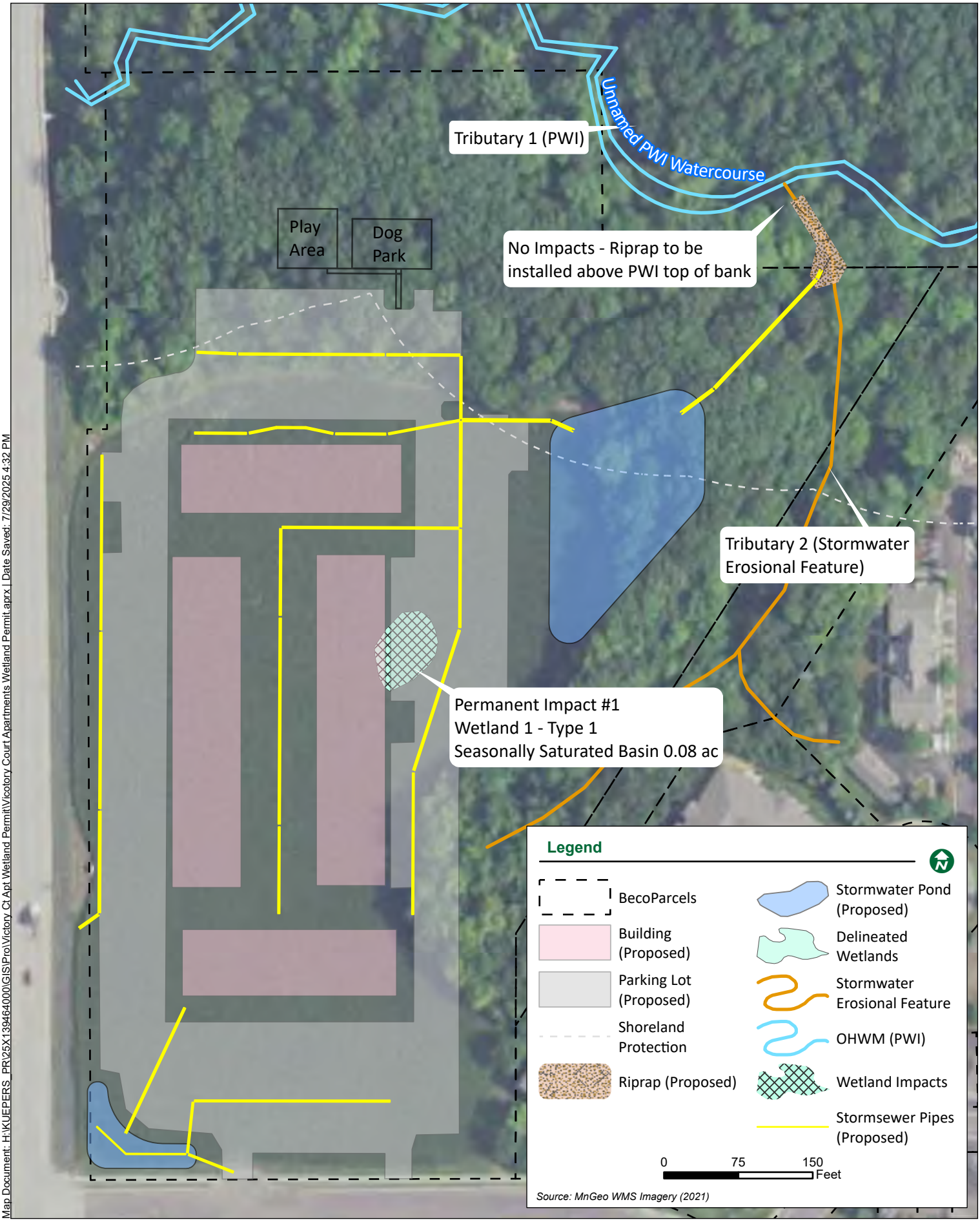
# Victory Ridge Apartments

**Exhibit D: Proposed Wetland Impacts**

City of Mankato, Blue Earth County, MN

July 2025

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Map Document: H:\KUEPERS_PR\25X\13946400\GIS\Pro\Victory Ct Apt Wetland Permit\Vicotory Court Apartments Wetland Permit.aprx | Date Saved: 7/29/2025 4:32 PM

# Attachment 1

BOLTON & MENK
Real People. Real Solutions.

1960 Premier Drive
Mankato, MN 56001-5900

Ph: (507) 625-4171
Fax: (507) 625-4177
Bolton-Menk.com

# Stormwater Management Memorandum

**Date**: August 1, 2025

**To**: United States Army Corps of Engineers and Minnesota Department of Natural Resources

**From**: Alec Pietz, P.E. – Project Manager

**Subject**: Kuepers, Inc. – Victory Ridge Apartments
BMI Project No.: 25X.139464

## I. Project Introduction

The following report provides a summary and analysis of the existing and proposed hydrology for Parcel I.D. R010909301015 in Mankato, Minnesota. The proposed project consists of four apartment buildings with a total of 180 units; necessary infrastructure, surface improvements, and stormwater management are also provided with this project. The SCS TR-20 hydrology method was utilized in Autodesk Storm and Sanitary Analysis (SSA) for the project. NOAA Atlas 14 rainfalls for Blue Earth County, Minnesota and MSE 3 distribution curves were used to develop rainfall events. Although additional storm events were used in the stormwater modeling, the 2-yr (2.87”), 10-yr (4.29”), and 100-yr (7.20”) events are reported for relevant data in this report.

## II. Existing Site Hydrology

The site currently consists of farmland and forested ravine mix that ultimately drains to the Thompson Ravine in primarily D soils. Several subbasins were identified within the property with three ultimate discharge points selected. An *Existing Hydrology* figure is provided with this memorandum as a graphical representation of existing drainage. Noted on the figure are the areas, curve numbers, time of concentrations, drainage directions, and other noted items. Modeling results for the design storms yield the following peak flows:

| Existing Condition Peak Flow Rates (cfs) | | | |
|---|---|---|---|
| **Location** | **2-yr** | **10-yr** | **100-yr** |
| Bottom of Tributary Ravine | 13.17 | 24.75 | 49.79 |
| Thompson Ravine (Center) | 11.93 | 23.91 | 50.13 |
| Thompson Ravine (West) | 4.10 | 7.88 | 16.05 |
| **Total** | **29.20** | **56.54** | **115.97** |

Proposed peak flows to these areas must not exceed the existing peak flows. Two connections to City of Mankato storm sewer are also available at Victory Drive and Dublin Road, where 10-year event peak flows must not exceed the design flow of the pipes. Those constraints are:

- Victory Drive – 27-inch at 0.3% = 16.96 cfs
- Dublin Road – 18-inch at 0.35% = 6.21 cfs

Bolton & Menk is an equal opportunity employer.

## III. Proposed Site Hydrology

The *Proposed Hydrology* figure illustrates the proposed improvements, drainage areas, storm sewer routing, a filtration basin, and a wet sedimentation basin. The wet sedimentation basin provides the required water quality volume for the entire project with the bulk of impervious area routed to it. A design summary sheet is provided showing the design information for the wet sedimentation basin. A total of 6.20 acres of impervious area is proposed with this project requiring 0.57 ac-ft of water quality volume to meet the City of Mankato's requirement of 1.1-inches over the impervious area.

The wet sedimentation basin is proposed to outfall near the bottom of the noted tributary ravine. The installation of the pipe is proposed to be done via trenchless/fusible methods with the bulk installed on top of existing ground, which is a common practice throughout the City of Mankato in ravine discharge situations. An energy dissipation structure is proposed near the outfall and armoring will be provided to reduce erosion potential. A plan and profile sheet is provided with this memorandum to illustrate this more clearly.

While the City of Mankato required water quality volume for all new proposed impervious areas regardless of routing, treatment was not required prior to connection to City storm sewer if the peak flow constraint was met. The Dublin Road connection does have a filtration basin upstream which provides some treatment and mitigates peak flow. The Victory Drive connection is a much larger pipe that did not require peak flow mitigation.

Proposed peak flow rates for the design storms were determined in SSA to be:

| Proposed Condition Peak Flow Rates (cfs) | | | |
|---|---|---|---|
| **Location** | **2-yr** | **10-yr** | **100-yr** |
| Bottom of Tributary Ravine | 4.73 | 9.03 | 25.48 |
| Thompson Ravine (Center) | 6.59 | 13.76 | 29.79 |
| Thompson Ravine (West) | 1.51 | 3.16 | 6.87 |
| Victory Drive Connection | 5.52 | 8.81 | 15.39 |
| Dublin Road Connection | 4.33 | 5.32 | 6.73 |
| **Total** | **22.68** | **40.08** | **84.26** |
| Overall Existing Peak Rate | 29.20 | 56.54 | 115.97 |

In review of the existing and proposed peak flow rates, the following is observed:

- Bottom of Tributary Ravine – the peak flow for all design events is reduced due to less drainage area being routed and the peak flow mitigation provided by the basin.
- Thompson Ravine (Center) and (West) – like the Tributary Ravine, peak flow for all design events is reduced due to less drainage area and peak flow mitigation with the basin.
- Victory Drive Connection – the 10-year peak flow of 8.81 cfs is less than the maximum allowed of 16.96 cfs.
- Dublin Road Connection – the 10-year peak flow of 5.32 cfs is less than the maximum allowed of 6.21 cfs.

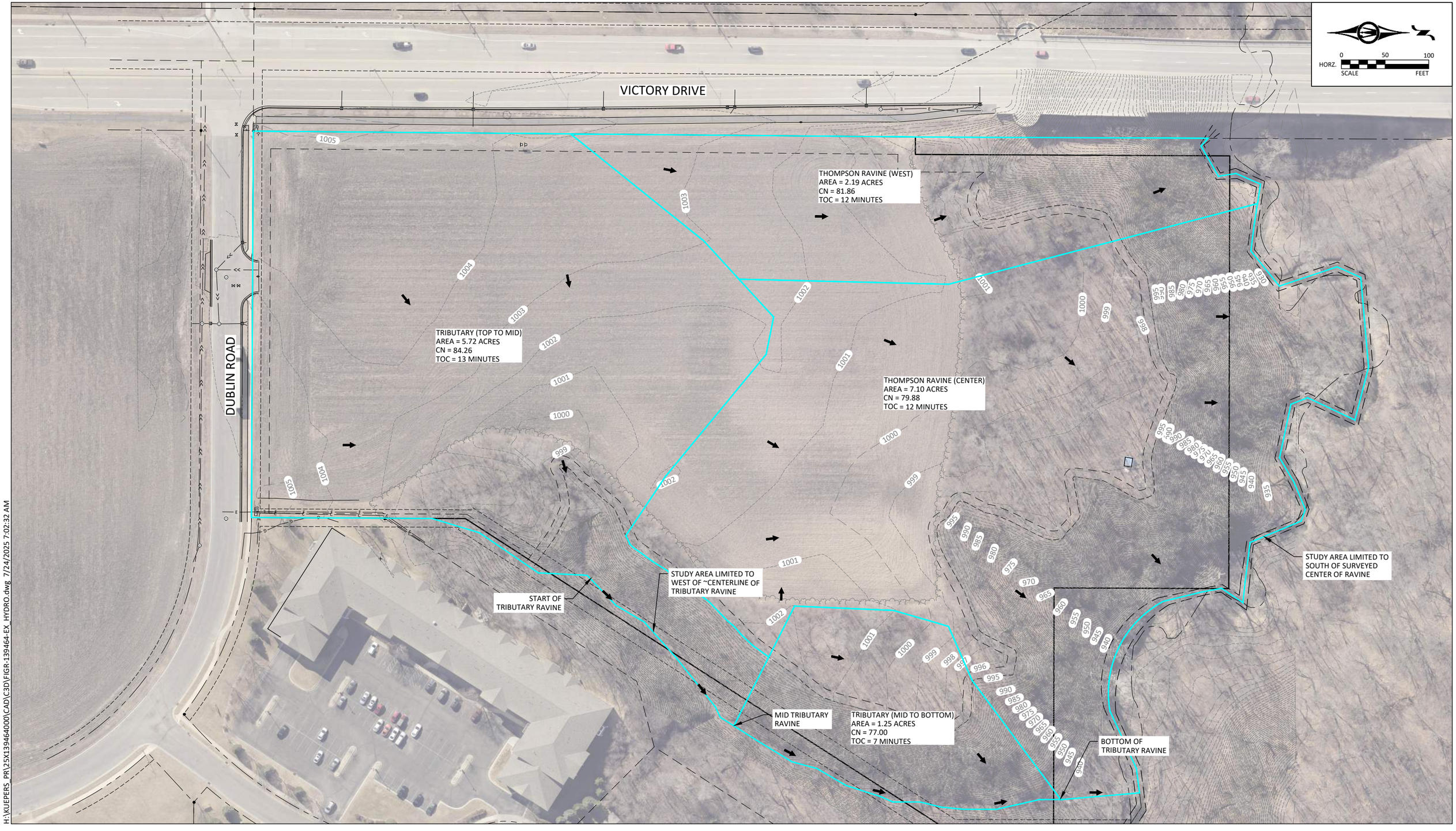
All peak flow constraints are met.

Please review the provided supplemental information and feel free to contact Alec Pietz, P.E. at Alec.Pietz@bolton-menk.com or 507-766-3283.

**Victory Ridge Apartments**
Mankato, Minnesota

**Existing Hydrology**
August 2025

BOLTON & MENK

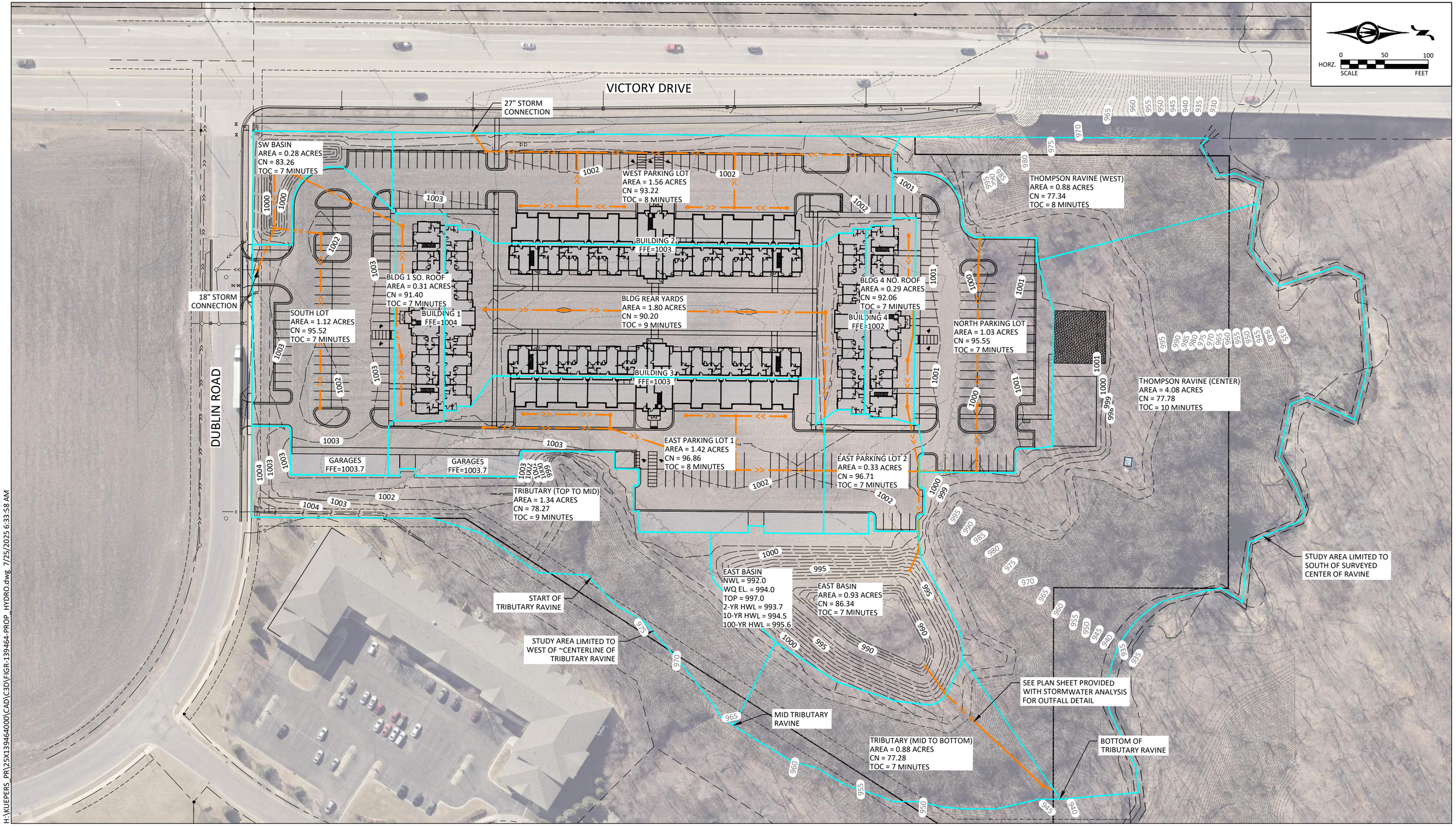



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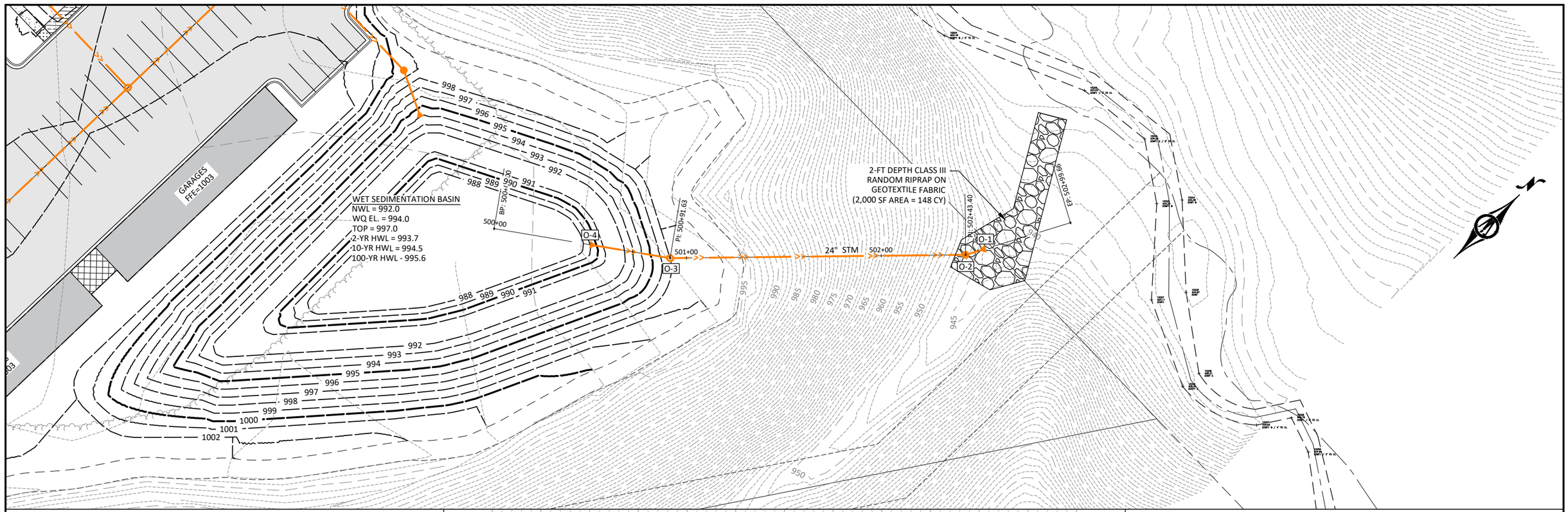
**Victory Ridge Apartments**
Mankato, Minnesota

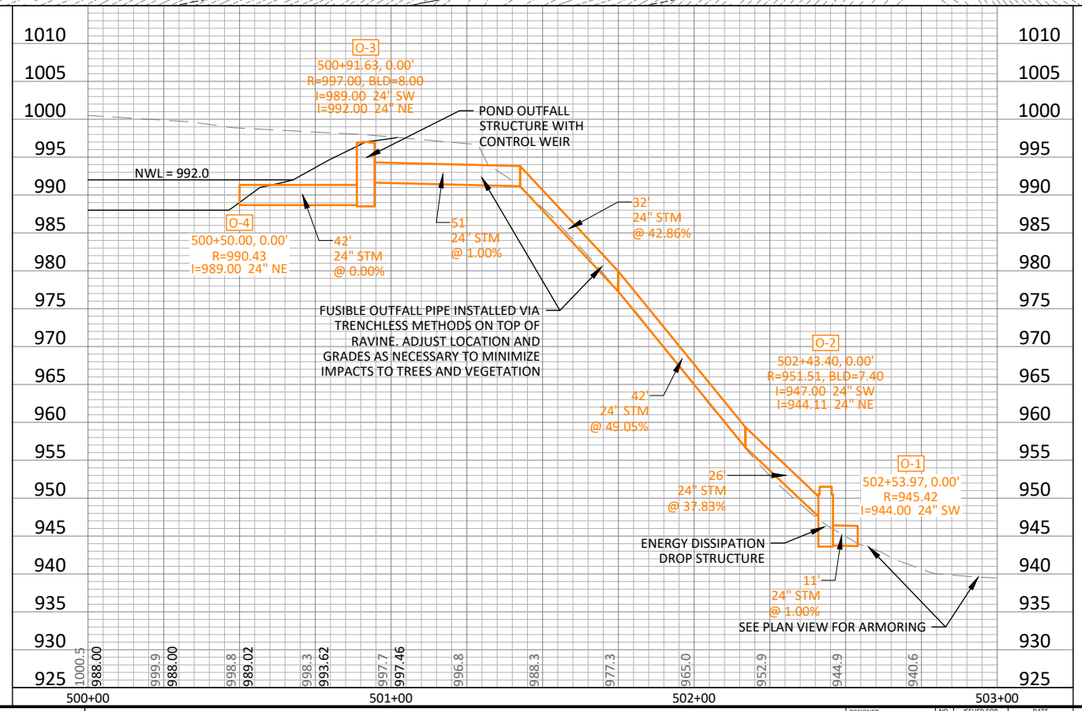
**Proposed Hydrology**
August 2025

BOLTON & MENK




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HORZ. SCALE 0 25 50 FEET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

NOT FOR CONSTRUCTION

WESLEY S. MORDES, P.E.
LIC. NO. 64053 DATE MM/DD/YYYY

BOLTON & MENK

1960 PREMIER DRIVE
MANKATO, MN 56001
Phone: (507) 625-4171
Email: Mankato@bolton-menk.com
www.bolton-menk.com

| DESIGNED | WSC |
|---|---|
| DRAWN | WSC |
| CHECKED | CJL |
| CLIENT PROJ. NO. | 25X.139464 |

| NO. | ISSUED FOR | DATE |
|---|---|---|
| | | |

KUEPERS, INC.
VICTORY RIDGE APARTMENTS
STORM SEWER OUTFALL

SHEET 1

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# NPDES/SDS CONSTRUCTION STORMWATER PERMIT
# WET SEDIMENTATION POND CALCULATIONS
## KUEPERS, INC. - VICTORY RIDGE APARTMENTS
## BMI Project No. 25X.139464

**Input Data**

| | | |
|---|---|---|
| Drainage Area: | 5.47 | Acres |
| New Impervious Area to Basin: | 3.46 | Acres |
| Total Site Impervious: | 6.20 | Acres |

**Dead Storage Volume Required**

1800 cubic feet per drainage area or 1.1 inches of runoff from all new and fully reconstructed impervious surfaces.

| | | | | | |
|---|---|---|---|---|---|
| Volume (1800 CF) : | 9846 | cubic feet = | 0.23 | acre-feet | |
| Volume (1.1") : | 13816 | cubic feet = | 0.32 | acre-feet | Controls |

**Water Quality Volume Required**

(1.1 inches of runoff from new impervious surfaces) (Total Site Impervious)

| | | | | |
|---|---|---|---|---|
| Volume : | 24,757 | cubic feet = | 0.57 | acre-feet |

**Pond Information**

| | Elev | Area (Square Feet) | Area (Acres) | Incr. Volume (Acre-Feet) | Total Volume (Acre-Feet) | |
|---|---|---|---|---|---|---|
| | **Dead Storage Volume** | | | | | |
| Pond Bottom: | 988 | 5815 | 0.13 | 0.00 | 0.00 | |
| | 989 | 6860 | 0.16 | 0.15 | 0.15 | |
| | 990 | 8140 | 0.19 | 0.17 | 0.32 | |
| Bench Bottom: | 991 | 9385 | 0.22 | 0.20 | 0.52 | |
| Maintained Water Surface: | 992 | 14215 | 0.33 | 0.27 | 0.79 | Meets Req'm |
| | **Water Quality Volume** | | | | | |
| Maintained Water Surface: | 992 | 14215 | 0.33 | 0.00 | 0.00 | |
| Water Quality Bump Elev: | 994 | 18530 | 0.43 | 0.75 | 0.75 | Meets Req'm |
| | **Extended Retention** | | | | | |
| Water Quality Bump Elev: | 994 | 18530 | 0.43 | 0.75 | 0.75 | |
| | 995 | 20840 | 0.48 | 0.45 | 1.20 | |
| Pond Top: | 997 | 26170 | 0.60 | 1.08 | 2.28 | |

**Discharge Requirements**

(5.66 cfs per acre of surface area of pond)

| | | |
|---|---|---|
| Surface Area of Pond at Water Quality Bump Elevation: | 0.43 | acres |
| Maximum Discharge Rate at Water Quality Bump Elevation: | 2.41 | cfs |
| Designed Discharge Rate at Water Quality Bump Elevation: | 1.31 | cfs |

| Basin High Water Levels | |
|---|---|
| 2-year | 993.7 |
| 10-year | 994.5 |
| 100-year | 995.6 |

# Attachment 2

# Formal Natural Heritage Review - Cover Page

See next page for results of review. A draft watermark means the project details have not been finalized and the results are not official.

**Project Name:** Victory Court Development

**Project Proposer:** Steve Kuepers, Kuepers, Inc.

**Project Type:** Development, Residential

**Project Type Activities:** Wetland impacts (e.g., dewatering, tiling, drainage, discharge, excavation, fill, runoff, sedimentation, changes in hydrology);Tree Removal;Grading

**TRS:** T108 R26 S9

**County(s):** Blue Earth

**DNR Admin Region(s):** South

**Reason Requested:** Local Government Permit

**Project Description:** Kuepers, Inc. plans to develop a portion of an approximately 14.6 acre property located at the northeast corner of Victory Drive and Dublin Road in Mankato, ...

**Existing Land Uses:** The existing property is primarily agricultural and partially forested.

**Landcover / Habitat Impacted:** ag fields, forest

**Waterbodies Affected:** one wetland, seasonally flooded basin, in the ag field will be filled

**Groundwater Resources Affected:** none

**Previous Natural Heritage Review:** No

**Previous Habitat Assessments / Surveys:** No

## SUMMARY OF AUTOMATED RESULTS

| Category | Results | Response By Category |
|---|---|---|
| **Project Details** | Comments | Tree Removal - Recommendations |
| **Ecologically Significant Area** | Comments | MBS Sites - Recommendations<br>Potential Local Conservation Value<br>Protected Wetlands: Calcareous Fens |
| **State-Listed Endangered or Threatened Species** | No Comments | No Further Review Required |
| **State-Listed Species of Special Concern** | No Comments | No Further Review Required |
| **Federally Listed Species** | No Records | Visit IPaC For Federal Review |

DEPARTMENT OF NATURAL RESOURCES

Minnesota Department of Natural Resources
Division of Ecological & Water Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155-4025

July 17, 2025

Project ID: MCE #2025-00613

Chad Ponce
Bolton & Menk, Inc.
1960 Premier Drive
Mankato, MN 56001

RE: Automated Natural Heritage Review of the proposed Victory Court Development
See Cover Page for location and project details.

Dear Chad Ponce,

As requested, the above project has been reviewed for potential effects to rare features. Based on this review, the following rare features may be adversely affected by the proposed project:

*Project Type and/or Project Type Activity Comments*

- The Natural Heritage Information System (NHIS) tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. Even if there are no bat records listed below, all of Minnesota's bats, including the federally endangered northern long-eared bat (*Myotis septentrionalis*), can be found throughout Minnesota. During the active season (approximately April-November) bats roost underneath bark, in cavities, or in crevices of both live and dead trees. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, the DNR recommends that tree removal be avoided from June 1 through August 15.

*Ecologically Significant Area*

- The Minnesota Biological Survey (MBS) has identified one or more Sites of Biodiversity Significance within or adjacent to the project boundary. Sites of Biodiversity Significance have varying levels of native biodiversity and are ranked based on the relative significance of this biodiversity at a statewide level. Factors taken into account during the ranking process include the number of rare species documented within the site, the quality of the native plant communities in the site, the size of the site, and the context of the site within the landscape.

  Areas with Potential Local Conservation Value - The proposed project may impact one or more areas that have local conservation value. These areas are ranked as Below in the MBS Sites of Biodiversity Significance layer, and are retained in the layer as negative data. These areas do not meet the minimum biodiversity threshold for statewide significance but may have conservation value

at the local level as habitat for native plants and animals, corridors for animal movements, buffers surrounding higher quality natural areas, or as areas with high potential for restoration of native habitat.

- One or more calcareous fens have been documented in the vicinity of the proposed project. A calcareous fen is a rare and distinctive peat-accumulating wetland that is legally protected in Minnesota. Many of the unique characteristics of calcareous fens result from the upwelling of groundwater through calcareous substrates. Because of this dependence on groundwater hydrology, calcareous fens can be affected by nearby activities or even those several miles away. Calcareous fens are fragile and may be impacted by activities within the fen, activities that affect surface water flows (e.g., stormwater flow/runoff, erosion), or activities that affect groundwater hydrology (e.g., groundwater pumping, contamination, or discharge). For more information regarding calcareous fens, please see the Calcareous Fen Fact Sheet. To minimize stormwater impacts, please refer to the Minnesota Pollution Control Agency's General Principles for Erosion Prevention and Sediment Control in the Minnesota Stormwater Manual. Please note that calcareous fens are "Special Waters" and a buffer zone may be required.

  Depending on the distance to the calcareous fen(s), additional guidance may be provided below if you indicated that potential project activities include wetland impacts or groundwater impacts. **If you did not correctly identify wetland or groundwater impacts as part of your project, this impact analysis may be incorrect.**

*State-Listed Endangered or Threatened Species*

No state-listed endangered or threatened species have been documented in the vicinity of the project.

*State-Listed Species of Special Concern*

No state-listed species of special concern have been documented in the vicinity of the project.

*Federally Listed Species*

The Natural Heritage Information System does not contain any records for federally listed species within one mile of the proposed project. Please note, however, that not all federally listed species are tracked within the NHIS. To ensure compliance with federal law, please conduct a federal regulatory review using the U.S. Fish and Wildlife Service's online Information for Planning and Consultation (IPaC) tool.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota’s rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area. If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location and the project description provided on the cover page. If project details change or construction has not occurred within one year, please resubmit the project for review before initiating project activities.

The Natural Heritage Review does not constitute project approval by the Department of Natural Resources. Instead, it identifies issues regarding known occurrences of rare features and potential impacts to these rare features. For information on the environmental review process or other natural resource concerns, you may contact your DNR Regional Environmental Assessment Ecologist.

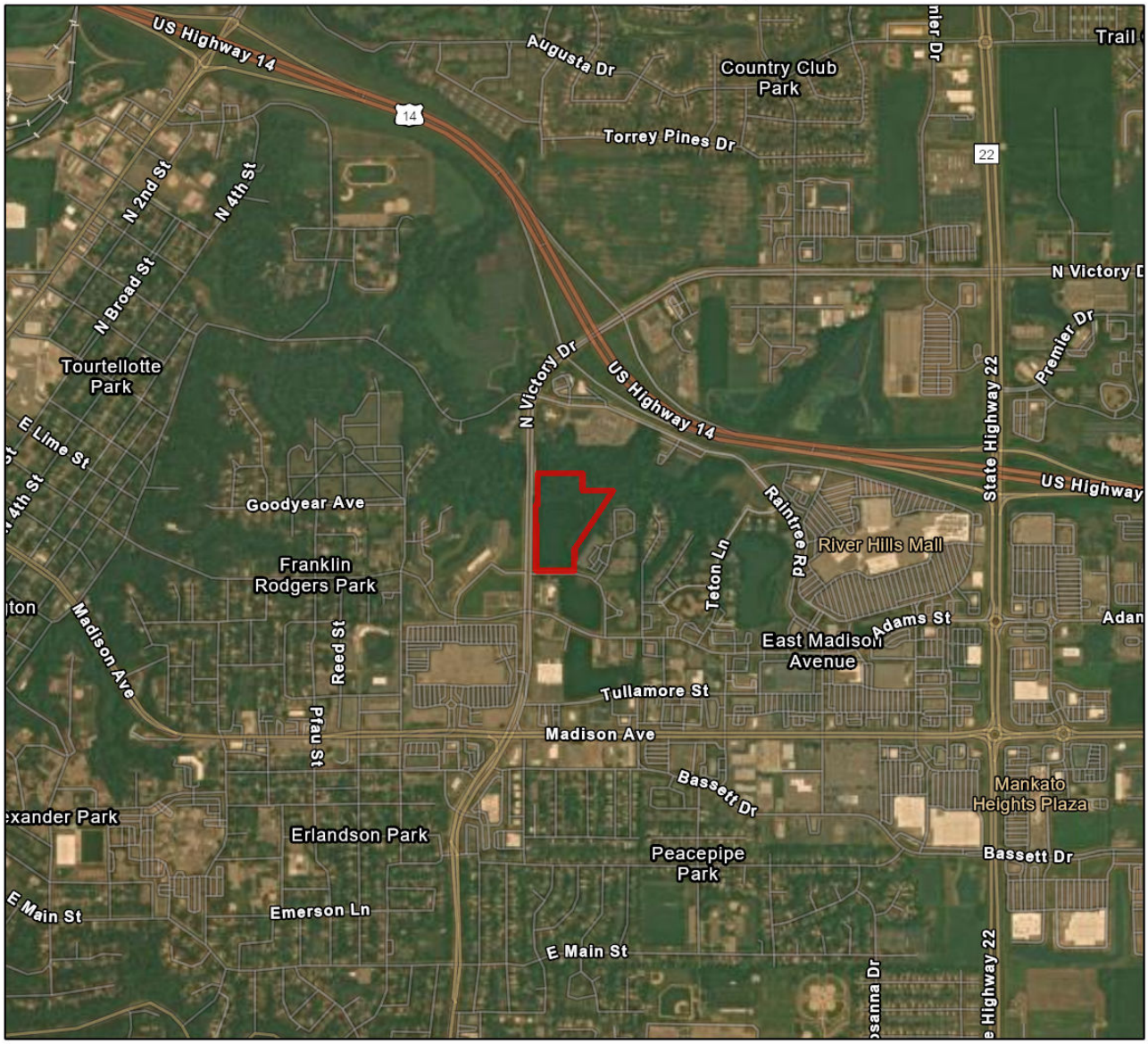
Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources.

Sincerely, *The Natural Heritage Review Team* Natural Heritage Review Program
Review.NHIS@state.mn.us

Links: USFWS Information for Planning and Consultation (IPaC) tool
Information for Planning and Consultation (IPaC) tool
DNR Regional Environmental Assessment Ecologist Contact Info
https://www.dnr.state.mn.us/eco/ereview/erp_regioncontacts.html

# Victory Court Development

## Aerial Imagery With Locator Map




N
W E
S

0 0.13 0.25 0.5 0.75 1 Miles

Project Boundary




Project Type: Development, Residential

Project Size (acres): 14.59

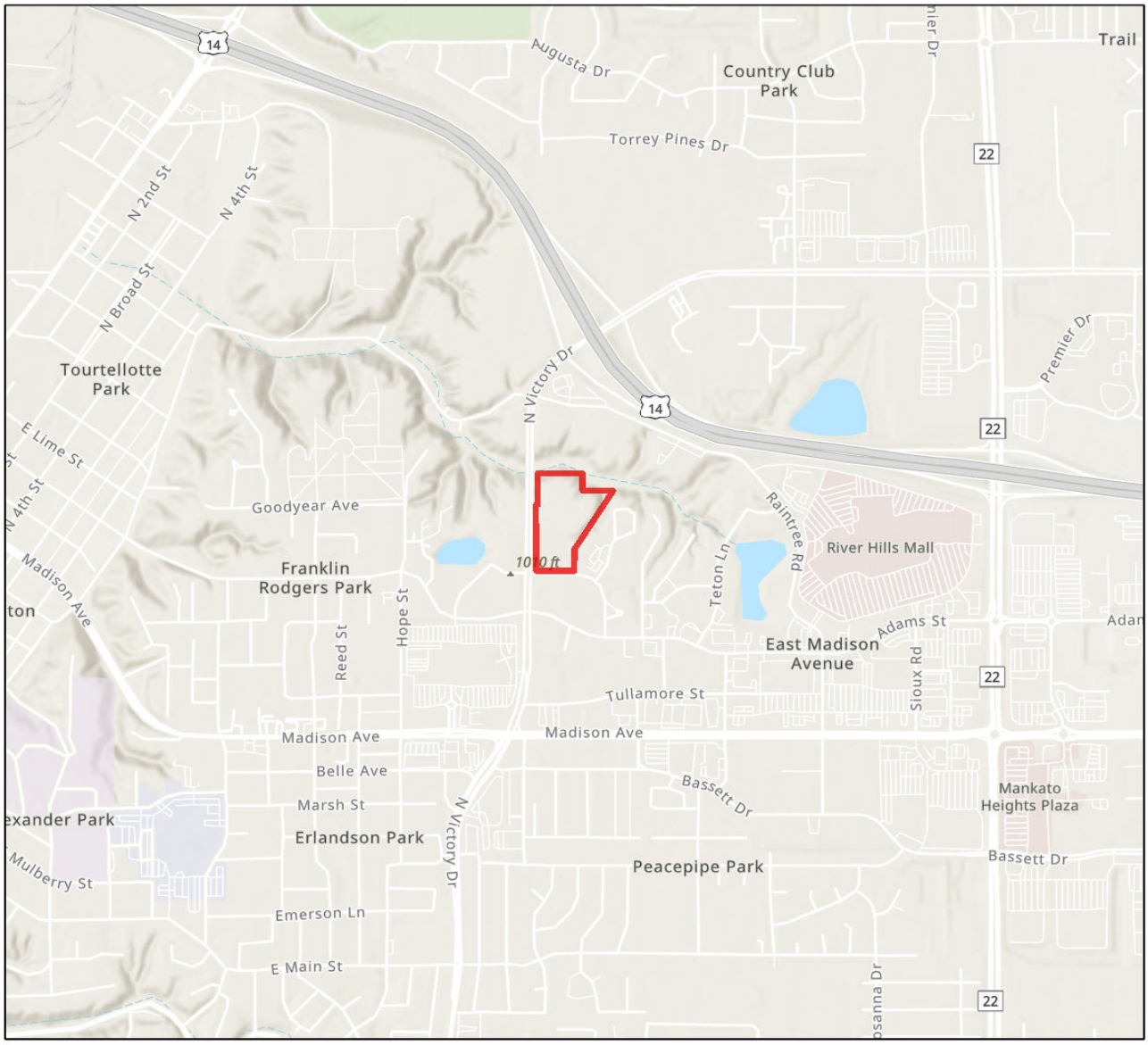
County(s): Blue Earth

TRS: T108 R26 S9

Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS
Maxar
Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,

# Victory Court Development

## USA Topo Basemap With Locator Map




N
W E
S

0 0.13 0.25 0.5 0.75 1 Miles

Project Boundary




Project Type: Development, Residential

Project Size (acres): 14.59

County(s): Blue Earth

TRS: T108 R26 S9

Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS
Esri, NASA, NGA, USGS, FEMA
Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,

# Attachment 3

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
Phone: (952) 858-0793

In Reply Refer To: 07/21/2025 17:55:32 UTC
Project code: 2025-0124355
Project Name: Victory Court Development

Subject: Technical Assistance letter for 'Victory Court Development' for specified threatened and endangered species that may occur in your proposed project location consistent with the Minnesota-Wisconsin Endangered Species Determination Key (Minnesota-Wisconsin DKey).

Dear Chad Ponce:

The U.S. Fish and Wildlife Service (Service) received on **July 21, 2025** your effect determination(s) for the 'Victory Court Development' (Action) using the Minnesota-Wisconsin DKey within the Information for Planning and Consultation (IPaC) system. You have submitted this key to satisfy requirements under Section 7(a)(2). The Service developed this system in accordance of with the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 et seq.).

Based on your answers and the assistance of the Service's Minnesota-Wisconsin DKey, you made the following effect determination(s) for the proposed Action:

| Species | Listing Status | Determination |
|---|---|---|
| Monarch Butterfly (*Danaus plexippus*) | Proposed Threatened | No effect |
| Salamander Mussel (*Simpsonaias ambigua*) | Proposed Endangered | May affect |

## Determination Information

**Consultation with the Service is not complete.** Further consultation with the Minnesota-Wisconsin Ecological Services Field Office is required for those species with a determination of "May Affect," listed above. Please email our office at TwinCities@fws.gov and attach a copy of this letter, so we can discuss methods to avoid or minimize potential adverse effects to those species.

## Additional Information

**Sufficient project details:** Please provide sufficient project details on your project homepage in IPaC (Define Project, Project Description) to support your conclusions. Failure to disclose important aspects of your project that would influence the outcome of your effects determinations may negate your determinations and invalidate this letter. If you have site-specific information that leads you to believe a different determination is more appropriate for your project than what the Dkey concludes, you can and should proceed based on the best available information.

**Future project changes:** The Service recommends that you contact the Minnesota-Wisconsin Ecological Services Field Office or re-evaluate the project in IPaC if: 1) the scope or location of the proposed Action is changed; 2) new information reveals that the action may affect listed species or designated critical habitat in a manner or to an extent not previously considered; 3) the Action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project changes are final or resources committed.

**For non-Federal representatives:** Please note that when a project requires consultation under section 7 of the Act, the Service must consult directly with the Federal action agency unless that agency formally designates a non-Federal representative (50 CFR 402.08). Non-Federal representatives may prepare analyses or conduct informal consultations; however, the ultimate responsibility for section 7 compliance under the Act remains with the Federal agency. Please include the Federal action agency in additional correspondence regarding this project.

**Species-specific information**

**Bald and Golden Eagles:** Bald eagles, golden eagles, and their nests are protected under the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended, 16 U.S.C. 668a-d) (Eagle Act). The Eagle Act prohibits, except when authorized by an Eagle Act permit, the “taking” of bald and golden eagles and defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” The Eagle Act’s implementing regulations define disturb as “… to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

The following species and/or critical habitats may also occur in your project area and **are not** covered by this conclusion:

- Northern Long-eared Bat *Myotis septentrionalis* Endangered

**Coordination with the Service is not complete if additional coordination is advised above for any species.**

**Action Description**
You provided to IPaC the following name and description for the subject Action.

**1. Name**

Victory Court Development

**2. Description**

The following description was provided for the project 'Victory Court Development':

> Kuepers, Inc. plans to develop a portion of an approximately 14.6-acre property located at the northeast corner of Victory Drive and Dublin Road in Mankato, MN. The property will be improved with a multi-family development including 180 units, parking lot, parking garage, and amenities. Access to the site will be constructed on the north side of Dublin Road.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@44.173385800000005,-93.96749008547468,14z



# QUALIFICATION INTERVIEW

1. This determination key is intended to assist the user in evaluating the effects of their actions on Federally listed species in Minnesota and Wisconsin. It does not cover other prohibited activities under the Endangered Species Act (e.g., for wildlife: import/export, Interstate or foreign commerce, possession of illegally taken wildlife, etc.; for plants: import/export, reduce to possession, malicious destruction on Federal lands, commercial sale, etc.) or other statutes. Additionally, this key DOES NOT cover wind development, purposeful take (e.g., for research or surveys), communication towers that have guy wires or are over 450 feet in height, aerial or other large-scale application of any chemical (such as insecticide or herbicide), and approval of long-term permits or plans (e.g., FERC licenses, HCP's).

   Click **YES** to acknowledge that you must consider other prohibitions of the ESA or other statutes outside of this determination key.

   *Yes*
2. Is the action being funded, authorized, or carried out by a Federal agency?

   *Yes*
3. Are you the Federal agency or designated non-federal representative?

   *No*
4. Does the proposed action involve **wind or solar energy**?

   *No*
5. Does the action involve purposeful take of a listed animal?

   *No*
6. Does the action involve a new communications tower?

   *No*
7. Does the activity involve aerial or other large-scale application of ANY chemical, including pesticides (insecticide, herbicide, fungicide, rodenticide, etc)?

   *No*
8. Will your action permanently affect local hydrology?

   *Yes*

9. Does your project have the potential to impact the riparian zone or indirectly impact a stream/river (e.g., cut and fill; horizontal directional drilling; construction; vegetation removal; pesticide or fertilizer application; discharge; runoff of sediment or pollutants; increase in erosion, etc.)?

   **Note:** Consider all potential effects of the action, including those that may happen later in time and outside and downstream of the immediate area involved in the action.

   Endangered Species Act regulation defines "effects of the action" to include all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (50 CFR 402.02).

   *Yes*

10. Will your action disturb the ground or existing vegetation?

    **Note:** This includes any off-road vehicle access, soil compaction (enough to collapse a rodent burrow), digging, seismic survey, directional drilling, heavy equipment, grading, trenching, placement of fill, pesticide application (herbicide, fungicide), vegetation management (including removal or maintenance using equipment or prescribed fire), cultivation, development, etc.

    *Yes*

11. Will your action include spraying insecticides?

    *No*

12. Does your action area occur entirely within an already developed area?

    **Note:** Already developed areas are already paved, covered by existing structures, manicured lawns, industrial sites, or cultivated cropland, AND do not contain trees that could be roosting habitat. Be aware that listed species may occur in areas with natural, or semi-natural, vegetation immediately adjacent to existing utilities (e.g. roadways, railways) or within utility rights-of-way such as overhead transmission line corridors, and can utilize suitable trees, bridges, or culverts for roosting even in urban dominated landscapes (so these are not considered "already developed areas" for the purposes of this question). If unsure, select NO..

    *No*

13. [Semantic] Does the project intersect the Salamander mussel AOI?

    **Automatically answered**

    *Yes*

14. [Hidden Semantic] Does the action area intersect the monarch butterfly species list area?

    **Automatically answered**

    *Yes*

15. Under the ESA, monarchs remain warranted but precluded by listing actions of higher priority. The monarch is a candidate for listing at this time. The Endangered Species Act does not establish protections or consultation requirements for candidate species. Some Federal and State agencies may have policy requirements to consider candidate species in planning. We encourage implementing measures that will remove or reduce threats to these species and possibly make listing unnecessary.

    If your project will have no effect on monarch butterflies (for example, if your project won't affect their habitat or individuals), then you can make a "no effect" determination for this project.

    Are you making a "no effect" determination for monarch?

    *No*

16. Is this project funded, authorized, or carried out by the U.S. Fish and Wildlife Service?

    *No*

# IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Chad Ponce
Address: 116 North Markley Street, Suite 101
City: Greenville
State: SC
Zip: 29601
Email chad.ponce@bolton-menk.com
Phone: 8432863631

# LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
Phone: (952) 858-0793

In Reply Refer To: 07/21/2025 18:21:28 UTC
Project code: 2025-0124355
Project Name: Victory Court Development

Federal Nexus: yes
Federal Action Agency (if applicable): Army Corps of Engineers

**Subject:** Technical assistance for 'Victory Court Development'

Dear Chad Ponce:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on July 21, 2025, for 'Victory Court Development' (here forward, Project). This project has been assigned Project Code 2025-0124355 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

**Ensuring Accurate Determinations When Using IPaC**

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project. **Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey), invalidates this letter.**

**Determination for the Northern Long-Eared Bat and Tricolored Bat**

Based on your IPaC submission and a standing analysis completed by the Service, you determined the proposed Project will have the following effect determinations:

| Species | Listing Status | Determination |
|---|---|---|
| Northern Long-eared Bat (*Myotis septentrionalis*) | Endangered | May affect |

**Other Species and Critical Habitat that May be Present in the Action Area**

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Salamander Mussel *Simpsonaias ambigua* Proposed Endangered

You may coordinate with our Office to determine whether the Action may cause prohibited take of the species listed above.

**Conclusion**

Consultation with the Service is not complete. Further consultation or coordination with the Service is necessary for those species or designated critical habitats with a determination of "May Affect." A "May Affect" determination in this key indicates that the project, as entered, is not consistent with the questions in the key. Not all projects that reach a "May Affect" determination are anticipated to result in adverse impacts to listed species. These projects may result in a "No Effect", "May Affect, Not Likely to Adversely Affect", or "May Affect, Likely to Adversely Affect" determination depending on the details of the project. Please contact our Minnesota-Wisconsin Ecological Services Field Office to discuss methods to avoid or minimize potential adverse effects to those species or designated critical habitats.

**Action Description**
You provided to IPaC the following name and description for the subject Action.

**1. Name**

Victory Court Development

**2. Description**

The following description was provided for the project 'Victory Court Development':

> Kuepers, Inc. plans to develop a portion of an approximately 14.6-acre property located at the northeast corner of Victory Drive and Dublin Road in Mankato, MN. The property will be improved with a multi-family development including 180 units, parking lot, parking garage, and amenities. Access to the site will be constructed on the north side of Dublin Road.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@44.173385800000005,-93.96749008547468,14z



# DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of "may affect" for a least one species covered by this determination key.

## QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

   **Note:** Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   *No*

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

   **Automatically answered**
   *No*

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

   **Automatically answered**
   *No*

4. Does the proposed action involve wind or solar energy?

   *No*

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   **Note for projects in Pennsylvania**: Projects requiring authorization under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act would be considered as having a federal nexus. Since the U.S. Army Corps of Engineers (Corps) has issued the Pennsylvania State Programmatic General Permit (PASPGP), which may be verified by the PA Department of Environmental Protection or certain Conservation Districts, the need to receive a Corps authorization to perform the work under the PASPGP serves as a federal nexus. As such, if proposing to use the PASPGP, you would answer 'yes' to this question.

   *Yes*

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   *No*

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   **Note:** This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   *No*

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   *Yes*

9. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum? Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

   **Automatically answered**

   *No*

10. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

    *No*

11. Does the action area contain (1) talus or (2) anthropogenic or naturally formed rock shelters or crevices in rocky outcrops, rock faces or cliffs?

    *No*

12. Will the action cause effects to a bridge?

    **Note:** Covered bridges should be considered as bridges in this question.

    *No*

13. Will the action result in effects to a culvert or tunnel at any time of year?

    *No*

14. Are trees present within 1000 feet of the action area?

    **Note:** If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    *Yes*

15. Does the action include the intentional exclusion of bats from a building or building-like structure? **Note:** Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

    *No*

16. Does the action involve removal, modification, or maintenance of a human-made building-like structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    *No*

17. Will the action cause construction of one or more new roads open to the public?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    *No*

18. Will the action include or cause any construction or other activity that is reasonably certain to increase average night-time traffic permanently or temporarily on one or more existing roads? **Note:** For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

    *No*

19. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    *No*

20. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

    **Note:** For information regarding NSF/ANSI 60 please visit https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects

    *No*

21. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

    *No*

22. Will the action include drilling or blasting?

    *No*

23. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

    *No*

24. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

    *No*

25. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

    Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

    **Note:** Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    *No*

26. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

    **Note:** Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    *Yes*

27. Will the action cause an increase in the extent of suitable forested habitat exposed to artificial lighting?

    *No*

28. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

    *Yes*

29. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way?

    *No*

30. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

    **Note:** A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

    *No*

31. Does the project intersect with the 0- 9.9% forest density category?

    **Automatically answered**
    *Yes*

32. Does the project intersect with the 10.0- 19.9% forest density category map?

    **Automatically answered**
    *Yes*

33. Does the project intersect with the 20.0- 29.9% forest density category map?

    **Automatically answered**
    *No*

34. Does the project intersect with the 30.0- 100% forest density category map?

    **Automatically answered**
    *No*

35. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 0.5 acre in total extent?

    *Yes*

36. Does the action area intersect the northern long-eared bat species list area?

    **Automatically answered**
    *Yes*

37. [Semantic] Is the action area located within 0.5 miles of radius of an entrance/opening to any known NLEB hibernacula? Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    **Automatically answered**
    *No*

38. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    **Automatically answered**
    *No*

39. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.Have you contacted the appropriate agency to determine if your action is within 150 feet of any documented northern long-eared bat roosts?

    Note: A document with links to Natural Heritage Inventory databases and other state-specific sources of information on the locations of northern long-eared bat roosts is available here. Location information for northern long-eared bat roosts is generally kept in state natural heritage inventory databases – the availability of this data varies by state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited.

    **Automatically answered**
    *No*

40. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
    If unsure, answer "Yes."

    **Note:** Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    *Yes*

41. Has a presence/probable absence summer bat survey targeting the northern long-eared bat following the Service's Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines been conducted within the project area?

    *No*

42. Do you have any documents that you want to include with this submission?

    *No*

# PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

*1.5*

# IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Chad Ponce
Address: 116 North Markley Street, Suite 101
City: Greenville
State: SC
Zip: 29601
Email chad.ponce@bolton-menk.com
Phone: 8432863631

# LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
Phone: (952) 858-0793

In Reply Refer To: 07/21/2025 17:48:35 UTC
Project Code: 2025-0124355
Project Name: Victory Court Development

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system to provide information on natural resources that could be affected by your project. The U.S. Fish and Wildlife Service (Service) provides this response under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*).

**Threatened and Endangered Species**
The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and may be affected by your proposed project. The species list fulfills the requirement for obtaining a Technical Assistance Letter from the U.S. Fish and Wildlife Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

**Consultation Technical Assistance**
Please refer to refer to our Section 7 website for guidance and technical assistance, including step-by-step instructions for making effects determinations for each species that might be present and for specific guidance on the following types of projects: projects in developed areas, HUD, CDBG, EDA, USDA Rural Development projects, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

We recommend running the project (if it qualifies) through our **Minnesota-Wisconsin Federal Endangered Species Determination Key (Minnesota-Wisconsin ("D-key"))**. A demonstration video showing how-to access and use the determination key is available. Please note that the Minnesota-Wisconsin D-key is the third option of 3 available d-keys. D-keys are tools to help Federal agencies and other project proponents determine if their proposed action has the potential to adversely affect federally listed species and designated critical habitat. The Minnesota-Wisconsin D-key includes a structured set of questions that assists a project proponent in determining whether a proposed project qualifies for a certain predetermined consultation outcome for all federally listed species found in Minnesota and Wisconsin (except for the northern long-eared bat- see below), which includes determinations of “no effect” or “may affect, not likely to adversely affect." In each case, the Service has compiled and analyzed the best available information on the species’ biology and the impacts of certain activities to support these determinations.

If your completed d-key output letter shows a "No Effect" (NE) determination for all listed species, print your IPaC output letter for your files to document your compliance with the Endangered Species Act.

For Federal projects with a “Not Likely to Adversely Affect” (NLAA) determination, our concurrence becomes valid if you do not hear otherwise from us after a 30-day review period, as indicated in your letter.

If your d-key output letter indicates additional coordination with the Minnesota-Wisconsin Ecological Services Field Office is necessary (i.e., you get a “May Affect” determination), you will be provided additional guidance on contacting the Service to continue ESA coordination outside of the key; ESA compliance cannot be concluded using the key for “May Affect” determinations unless otherwise indicated in your output letter.

**Note: Once you obtain your official species list, you are not required to continue in IPaC with d-keys, although in most cases these tools should expedite your review.** If you choose to make an effects determination on your own, you may do so. If the project is a Federal Action, you may want to review our section 7 step-by-step instructions before making your determinations.

**Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species**

1. If IPaC returns a result of “There are no listed species found within the vicinity of the project,” then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **no effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.
2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project – other than bats (see below) – then project proponents must determine if proposed activities will have **no effect** on or **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain Life History Information for Listed and Candidate Species on our office website. If no impacts will occur to a species on the IPaC species list (e.g., there is no habitat present in the project area), the appropriate determination is **no effect**. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.

3. Should you determine that project activities **may affect** any federally listed, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

**Northern Long-Eared Bats**
Northern long-eared bats occur throughout Minnesota and Wisconsin and the information below may help in determining if your project may affect these species.

Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches dbh for northern long-eared bat that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, northern long-eared bats could be affected. For bat activity dates, please review Appendix L in the Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines.

Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas,
- Trees found in highly developed urban areas (e.g., street trees, downtown areas),
- A pure stand of less than 3-inch dbh trees that are not mixed with larger trees, and
- A monoculture stand of shrubby vegetation with no potential roost trees.

If IPaC returns a result that northern long-eared bats are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** this species **IF** one or more of the following activities are proposed:

- Clearing or disturbing suitable roosting habitat, as defined above, at any time of year,
- Any activity in or near the entrance to a cave or mine,
- Mining, deep excavation, or underground work within 0.25 miles of a cave or mine,
- Construction of one or more wind turbines, or
- Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

*If none of the above activities are proposed*, project proponents can conclude the proposed activities will have **no effect** on the northern long-eared bat. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC

species list report for your records.

*If any of the above activities are proposed*, and the northern long-eared bat appears on the user's species list, the federal project user will be directed to either the northern long-eared bat and tricolored bat range-wide D-key or the Federal Highways Administration, Federal Railways Administration, and Federal Transit Administration Indiana bat/Northern long-eared bat D-key, depending on the type of project and federal agency involvement. Similar to the Minnesota-Wisconsin D-key, these d-keys helps to determine if prohibited take might occur and, if not, will generate an automated verification letter. Additional information about available tools can be found on the Service's northern long-eared bat website.

**Whooping Crane**
Whooping crane is designated as a non-essential experimental population in Wisconsin and consultation under Section 7(a)(2) of the Endangered Species Act is only required if project activities will occur within a National Wildlife Refuge or National Park. If project activities are proposed on lands outside of a National Wildlife Refuge or National Park, then you are not required to consult. For additional information on this designation and consultation requirements, please review "Establishment of a Nonessential Experimental Population of Whooping Cranes in the Eastern United States."

**Other Trust Resources and Activities**
*Bald and Golden Eagles* - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. It is the responsibility of the project proponent to survey the area for any migratory bird nests. If there is an eagle nest on-site while work is on-going, eagles may be disturbed. We recommend avoiding and minimizing disturbance to eagles whenever practicable. If you cannot avoid eagle disturbance, you may seek a permit. A nest take permit is always required for removal, relocation, or obstruction of an eagle nest. For communication and wind energy projects, please refer to additional guidelines below.

*Migratory Birds* - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of recommendations that minimize potential impacts to migratory birds. Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

*Communication Towers* - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed voluntary guidelines for minimizing impacts.

*Transmission Lines* - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to guidelines developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas that support large numbers of raptors and migratory birds.

*Wind Energy* - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's Wind Energy Guidelines. In addition, please refer to the Service's Eagle Conservation Plan Guidance, which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

**State Department of Natural Resources Coordination**
While it is not required for your Federal section 7 consultation, please note that additional state endangered or threatened species may also have the potential to be impacted. **Please contact the Minnesota or Wisconsin Department of Natural Resources for information on state listed species that may be present in your proposed project area.**

*Minnesota*
Minnesota Department of Natural Resources - Endangered Resources Review Homepage
Email: Review.NHIS@state.mn.us

*Wisconsin*
Wisconsin Department of Natural Resources - Endangered Resources Review Homepage
Email: DNRERReview@wi.gov

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

Attachment(s):

- Official Species List
- Bald & Golden Eagles
- Migratory Birds

# OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Minnesota-Wisconsin Ecological Services Field Office**
3815 American Blvd East
Bloomington, MN 55425-1659
(952) 858-0793

# PROJECT SUMMARY

Project Code: 2025-0124355
Project Name: Victory Court Development
Project Type: Residential Construction
Project Description: Kuepers, Inc. plans to develop a portion of an approximately 14.6-acre property located at the northeast corner of Victory Drive and Dublin Road in Mankato, MN. The property will be improved with a multi-family development including 180 units, parking lot, parking garage, and amenities. Access to the site will be constructed on the north side of Dublin Road.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@44.173385800000005,-93.96749008547468,14z




Counties: Blue Earth County, Minnesota

# ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## MAMMALS

| NAME | STATUS |
|---|---|
| Northern Long-eared Bat *Myotis septentrionalis*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9045 | Endangered |

## CLAMS

| NAME | STATUS |
|---|---|
| Salamander Mussel *Simpsonaias ambigua*<br>There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/6208 | Proposed Endangered |

## INSECTS

| NAME | STATUS |
|---|---|
| Monarch Butterfly *Danaus plexippus*<br>There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/9743 | Proposed Threatened |

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

**Measures for Proactively Minimizing Eagle Impacts**

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

**Ensure Your Eagle List is Accurate and Complete**
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON |
|---|---|
| Bald Eagle *Haliaeetus leucocephalus*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1626 | Breeds Dec 1 to Aug 31 |

# PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

**Probability of Presence** (■)

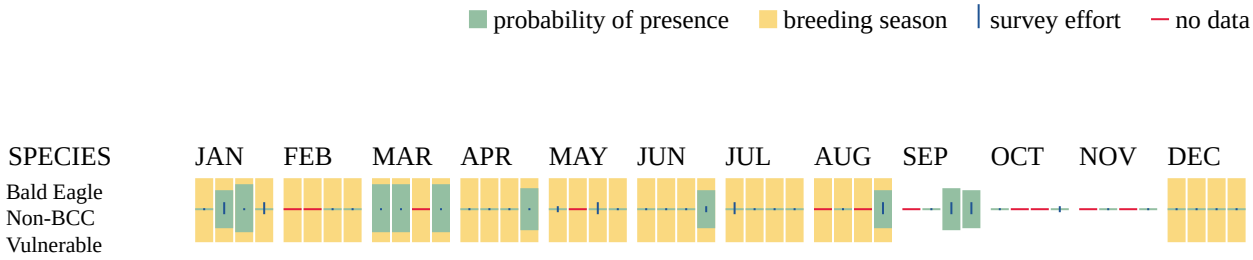
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

**Breeding Season** (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

**Survey Effort** (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.

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Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

# MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON |
|---|---|
| Bald Eagle *Haliaeetus leucocephalus*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1626 | Breeds Dec 1 to Aug 31 |
| Bobolink *Dolichonyx oryzivorus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9454 | Breeds May 20 to Jul 31 |
| Chimney Swift *Chaetura pelagica*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9406 | Breeds Mar 15 to Aug 25 |
| Franklin's Gull *Leucophaeus pipixcan*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/10567 | Breeds May 1 to Jul 31 |
| Grasshopper Sparrow *Ammodramus savannarum perpallidus*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/8329 | Breeds Jun 1 to Aug 20 |
| Northern Harrier *Circus hudsonius*<br>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA<br>https://ecos.fws.gov/ecp/species/8350 | Breeds Apr 1 to Sep 15 |

# PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

**Probability of Presence** (■)

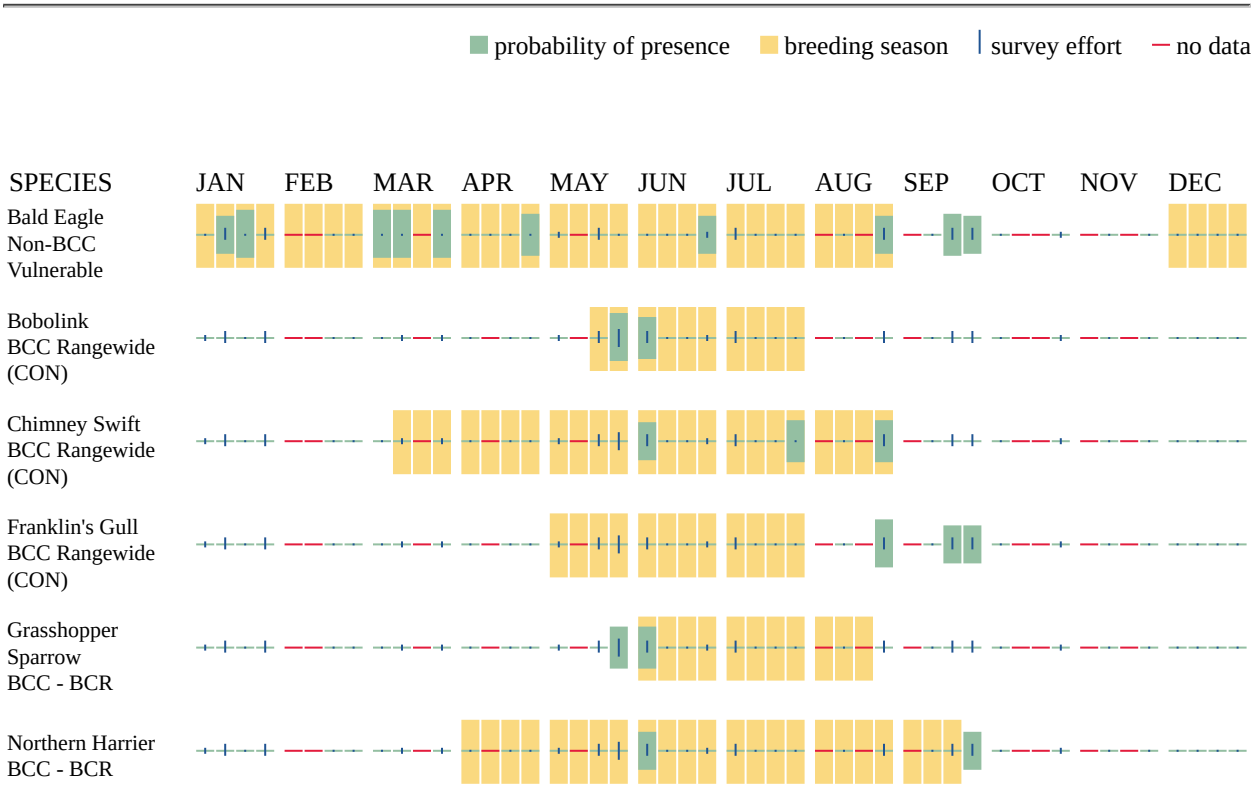
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

**Breeding Season** (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

**Survey Effort** (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.




Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

## IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Chad Ponce
Address: 116 North Markley Street, Suite 101
City: Greenville
State: SC
Zip: 29601
Email chad.ponce@bolton-menk.com
Phone: 8432863631

## LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

## Chad Ponce

**From:** Utrup, Nick J <nick_utrup@fws.gov>
**Sent:** Tuesday, July 22, 2025 3:26 PM
**To:** Chad Ponce
**Subject:** Re: [EXTERNAL] Project Code: 2025-0124355, Blue Earth County, Victory Court Apartments, Mankato, MN

***** WARNING: This email is from outside the company. Proceed with Caution*****

---

Chad,

Based on the avoidance and minimization/conservation measures you are proposing, and the limited area proposed for tree removal, we concur with your determination that the project may affect but is not likely to adversely affect northern long-eared bat.

Thanks,

Nick

Nick Utrup
Minnesota-Wisconsin Ecological Services Field Office
U.S. Fish and Wildlife Service
3815 American Boulevard East
Bloomington, MN 55425

Phone: (612) 600-6122
Email: Nick_Utrup@fws.gov

---

**From:** Chad Ponce <chad.ponce@bolton-menk.com>
**Sent:** Tuesday, July 22, 2025 2:17 PM
**To:** Utrup, Nick J <nick_utrup@fws.gov>
**Subject:** RE: [EXTERNAL] Project Code: 2025-0124355, Blue Earth County, Victory Court Apartments, Mankato, MN

Nick,

I am working on wetland permitting for a development project in Mankato, MN. The project is located on a 14.6 acre property located at the northeast corner of Victory Drive and Dublin Road in Mankato, MN. The property will be improved with a multi-family development including 180 units, parking lot, parking garage, and amenities. Access to the site will be constructed on the north side of Dublin Road. Based on a determination key used in IPaC, we received a "May affect" determination for the northern long eared bat (NLEB). The total amount of tree clearing proposed at the site is 1.35 acres.

We are proposing the following conservation measures for this project with the intent of minimizing or avoiding impacts to the NLEB.

1. The minimum amount of trees will be removed at the site. Total tree removal = 1.35 acres (less than the 5-acre threshold for 10-19.9% forest density category).
2. Tree removal will be limited to the time outside of the summer occupancy period of the NLEB. Tree removals will occur between October 1 and April 14.
3. Artificial lighting used with the project will be downward facing and will not increase ambient lighting conditions in NLEB habitat.

Based on the conservation measures we are proposing above, our determination is "May Affect, Not Likely to Adversely Affect" the NLEB. Will you provide concurrence with this opinion?

**Chad Ponce, PWS**
Natural Resources Specialist
**Bolton & Menk, Inc.**

(843) 286-3631

**From:** Utrup, Nick J <nick_utrup@fws.gov>
**Sent:** Tuesday, July 22, 2025 1:24 PM
**To:** Chad Ponce <chad.ponce@bolton-menk.com>
**Subject:** Re: [EXTERNAL] Project Code: 2025-0124355, Blue Earth County, Victory Court Apartments, Mankato, MN

*** WARNING: This email is from outside the company. Proceed with Caution***

Yes, please provide a project description with map and your proposed conservation measures and your determination NLAA based on the conservation measures. Use this document to get the conservation measures:

https://www.fws.gov/sites/default/files/documents/2025-04/nleb_tcb_consultation_guidance_version-1.1_final_.pdf

Nick Utrup
Minnesota-Wisconsin Ecological Services Field Office
U.S. Fish and Wildlife Service
3815 American Boulevard East
Bloomington, MN 55425

Phone: (612) 600-6122
Email: Nick_Utrup@fws.gov

---

**From:** Chad Ponce <chad.ponce@bolton-menk.com>
**Sent:** Tuesday, July 22, 2025 12:16 PM
**To:** Utrup, Nick J <nick_utrup@fws.gov>
**Subject:** RE: [EXTERNAL] Project Code: 2025-0124355, Blue Earth County, Victory Court Apartments, Mankato, MN

Yes, that is my current understanding. In general, do we need consultation or a letter from USFWS to clear trees in the inactive season with a May affect determination?

Thanks,

**Chad Ponce, PWS**
Natural Resources Specialist
**Bolton & Menk, Inc.**

(843) 286-3631

---

**From:** Utrup, Nick J <nick_utrup@fws.gov>
**Sent:** Tuesday, July 22, 2025 1:13 PM
**To:** Chad Ponce <chad.ponce@bolton-menk.com>
**Subject:** Re: [EXTERNAL] Project Code: 2025-0124355, Blue Earth County, Victory Court Apartments, Mankato, MN

*** WARNING: This email is from outside the company. Proceed with Caution***

---

Will the tree cutting occur in the winter inactive season?

Nick Utrup
Minnesota-Wisconsin Ecological Services Field Office
U.S. Fish and Wildlife Service
3815 American Boulevard East
Bloomington, MN 55425

Phone: (612) 600-6122
Email: Nick_Utrup@fws.gov

**From:** Chad Ponce <chad.ponce@bolton-menk.com>
**Sent:** Tuesday, July 22, 2025 11:58 AM
**To:** Utrup, Nick J <nick_utrup@fws.gov>
**Subject:** RE: [EXTERNAL] Project Code: 2025-0124355, Blue Earth County, Victory Court Apartments, Mankato, MN

Thank you, Nick. Can you comment on the restrictions associated with the May affect determination for the northern long eared bat? What can we plan for tree clearing at the site (timing and other requirements or restrictions)?

Thanks,

**Chad Ponce, PWS**
Natural Resources Specialist
**Bolton & Menk, Inc.**

(843) 286-3631

**From:** Utrup, Nick J <nick_utrup@fws.gov>
**Sent:** Tuesday, July 22, 2025 12:48 PM
**To:** Chad Ponce <chad.ponce@bolton-menk.com>
**Subject:** Re: [EXTERNAL] Project Code: 2025-0124355, Blue Earth County, Victory Court Apartments, Mankato, MN

***** WARNING: This email is from outside the company. Proceed with Caution*****

Hi Chad,

In general you don't need our concurrence or acknowledgment for a "no effect" determination (just develop a rational and keep in your files). But I agree with your logic that the project should have no effect on salamander mussel based on its location and lack of suitable habitat.

Thanks,

Nick

Nick Utrup
Minnesota-Wisconsin Ecological Services Field Office
U.S. Fish and Wildlife Service

3815 American Boulevard East
Bloomington, MN  55425

Phone:  (612) 600-6122
Email:  Nick_Utrup@fws.gov

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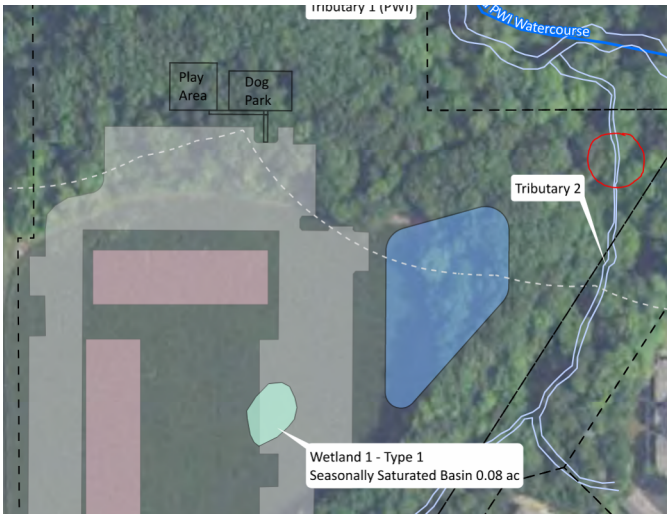
**From:** Chad Ponce <chad.ponce@bolton-menk.com>
**Sent:** Tuesday, July 22, 2025 10:25 AM
**To:** Utrup, Nick J <nick_utrup@fws.gov>
**Subject:** [EXTERNAL] Project Code: 2025-0124355, Blue Earth County, Victory Court Apartments, Mankato, MN

**This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.**

Hello Nick,

I am working on wetland permitting for a development project in Mankato, MN. The project is located on a 14.6 acre property located at the northeast corner of Victory Drive and Dublin Road in Mankato, MN. The property will be improved with a multi-family development including 180 units, parking lot, parking garage, and amenities. Access to the site will be constructed on the north side of Dublin Road.

Based on the determination keys used in IPaC, we received a “May affect” for the salamander mussel and the northern long eared bat. The nearest observation of salamander mussel is located approximately 4 miles  west-southwest of the project site in the Minnesota River in 2006. Salamander mussels habitat is specific to swift flowing rivers and streams under flat rocks and ledges of rock walls. The only impacts to a tributary at the site are a planned stormwater outfall to tributary 2 at the location circled below in red. Tributary 2 is an ephemeral channel with a silty substrate, approximately 5 feet wide. Based on the lack of appropriate habitat at the project site and no observations of salamander mussels in the vicinity of the project, it is my opinion that the installation of a stormwater outfall at this location would result in “No effect” to the salamander mussel. Will you acknowledge or concur with this determination?




Also, regarding the northern long eared bat, what can we plan for tree clearing at the site? What are the allowable times to clear trees for this project?

Thanks,

BOLTON & MENK

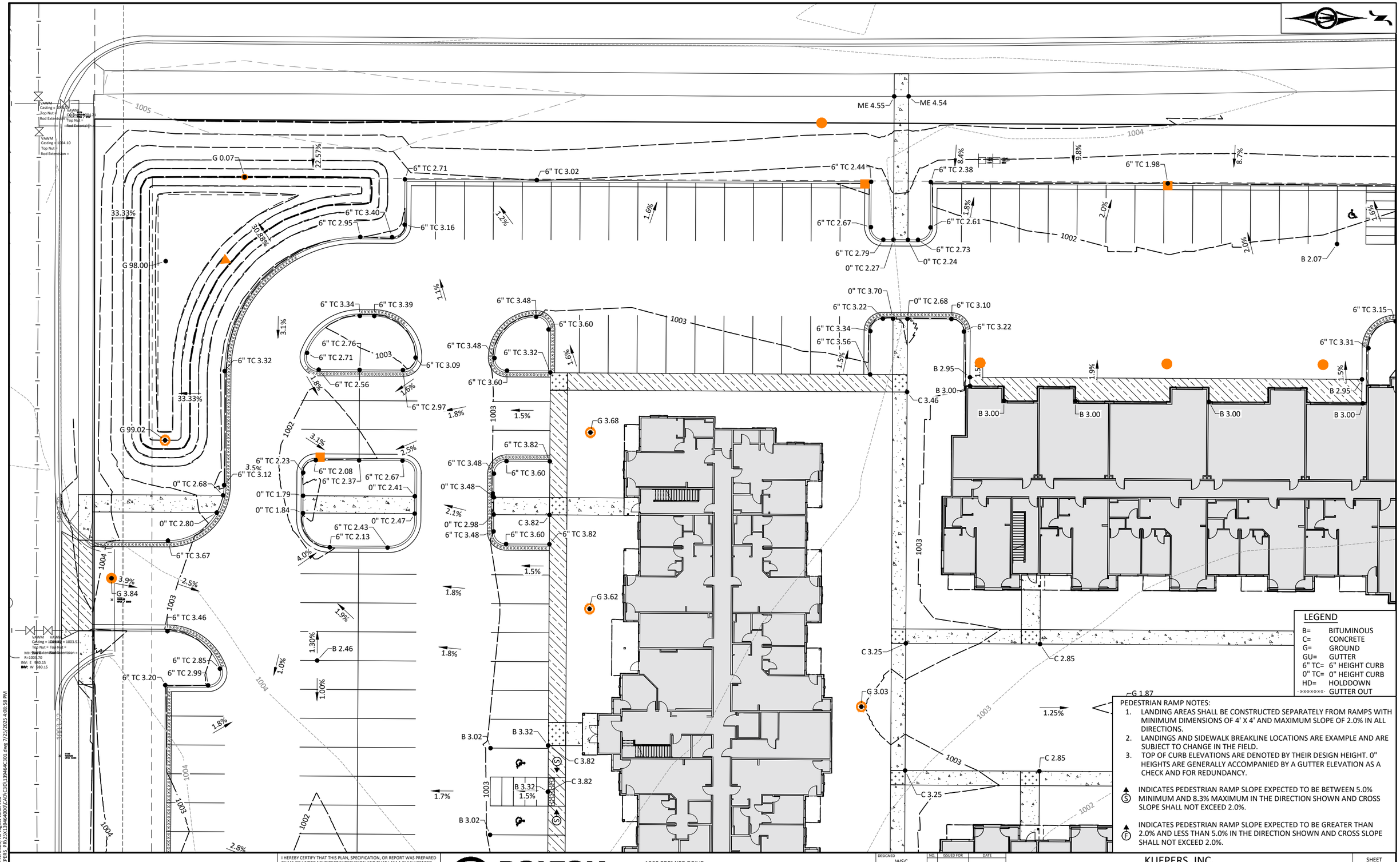
Real People. Real Solutions.

TOP WORK PLACES 2025 Star Tribune
TOP WORK PLACES 2024 Des Moines Register
TOP WORK PLACES 2024 Charlotte Magazine
TOP WORK PLACES 2025 Greenville Columbia Charleston

**Chad Ponce, PWS**
Natural Resources Specialist
**Bolton & Menk, Inc.**

116 N Markley Street Suite 101, Greenville, South Carolina, 29601
(864) 794-6826
(843) 286-3631
chad.ponce@bolton-menk.com
**www.Bolton-Menk.com**

# Attachment 4




LEGEND

| | |
|---|---|
| B= | BITUMINOUS |
| C= | CONCRETE |
| G= | GROUND |
| GU= | GUTTER |
| 6" TC= | 6" HEIGHT CURB |
| 0" TC= | 0" HEIGHT CURB |
| HD= | HOLDDOWN |
| ·x·x·x·x·x· | GUTTER OUT |

PEDESTRIAN RAMP NOTES:

1. LANDING AREAS SHALL BE CONSTRUCTED SEPARATELY FROM RAMPS WITH MINIMUM DIMENSIONS OF 4' X 4' AND MAXIMUM SLOPE OF 2.0% IN ALL DIRECTIONS.
2. LANDINGS AND SIDEWALK BREAKLINE LOCATIONS ARE EXAMPLE AND ARE SUBJECT TO CHANGE IN THE FIELD.
3. TOP OF CURB ELEVATIONS ARE DENOTED BY THEIR DESIGN HEIGHT. 0" HEIGHTS ARE GENERALLY ACCOMPANIED BY A GUTTER ELEVATION AS A CHECK AND FOR REDUNDANCY.

(S) INDICATES PEDESTRIAN RAMP SLOPE EXPECTED TO BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP SLOPE EXPECTED TO BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

HORZ. SCALE 0 15 30 FEET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

NOT FOR CONSTRUCTION

WESLEY S. MORDES, P.E.
LIC. NO. 64053 DATE MM/DD/YYYY

BOLTON & MENK
1960 PREMIER DRIVE
MANKATO, MN 56001
Phone: (507) 625-4171
Email: Mankato@bolton-menk.com
www.bolton-menk.com

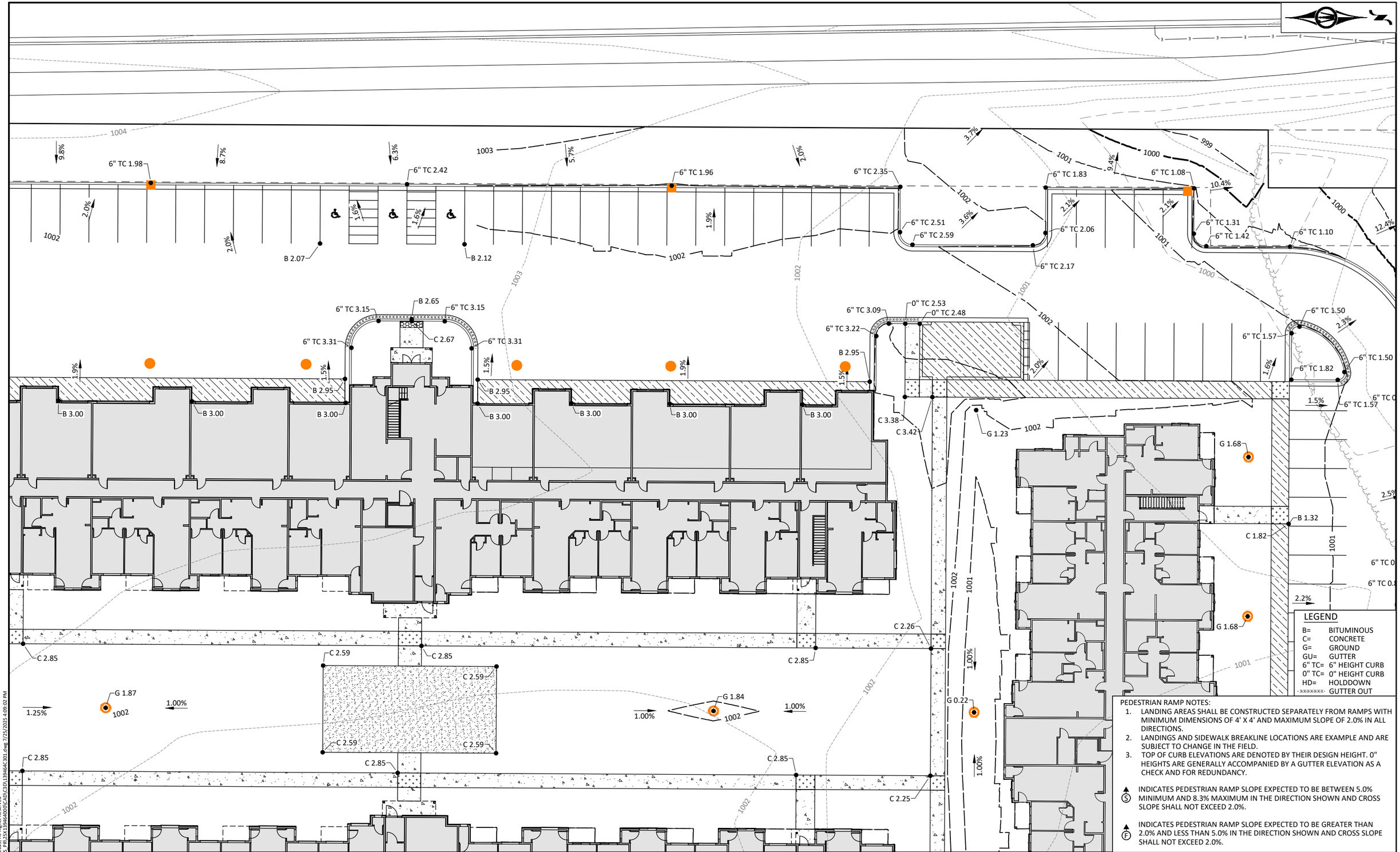
| | |
|---|---|
| DESIGNED | WSC |
| DRAWN | WSC |
| CHECKED | CJL |
| CLIENT PROJ. NO. | 25X.139464 |

| NO. | ISSUED FOR | DATE |
|---|---|---|

KUEPERS, INC.
VICTORY RIDGE APARTMENTS
GRADING PLAN

SHEET C3.01

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## LEGEND

| | |
|---|---|
| B= | BITUMINOUS |
| C= | CONCRETE |
| G= | GROUND |
| GU= | GUTTER |
| 6" TC= | 6" HEIGHT CURB |
| 0" TC= | 0" HEIGHT CURB |
| HD= | HOLDDOWN |
| -x-x-x-x-x- | GUTTER OUT |

PEDESTRIAN RAMP NOTES:

1. LANDING AREAS SHALL BE CONSTRUCTED SEPARATELY FROM RAMPS WITH MINIMUM DIMENSIONS OF 4' X 4' AND MAXIMUM SLOPE OF 2.0% IN ALL DIRECTIONS.
2. LANDINGS AND SIDEWALK BREAKLINE LOCATIONS ARE EXAMPLE AND ARE SUBJECT TO CHANGE IN THE FIELD.
3. TOP OF CURB ELEVATIONS ARE DENOTED BY THEIR DESIGN HEIGHT. 0" HEIGHTS ARE GENERALLY ACCOMPANIED BY A GUTTER ELEVATION AS A CHECK AND FOR REDUNDANCY.

(S) INDICATES PEDESTRIAN RAMP SLOPE EXPECTED TO BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP SLOPE EXPECTED TO BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

HORZ. SCALE 0 15 30 FEET

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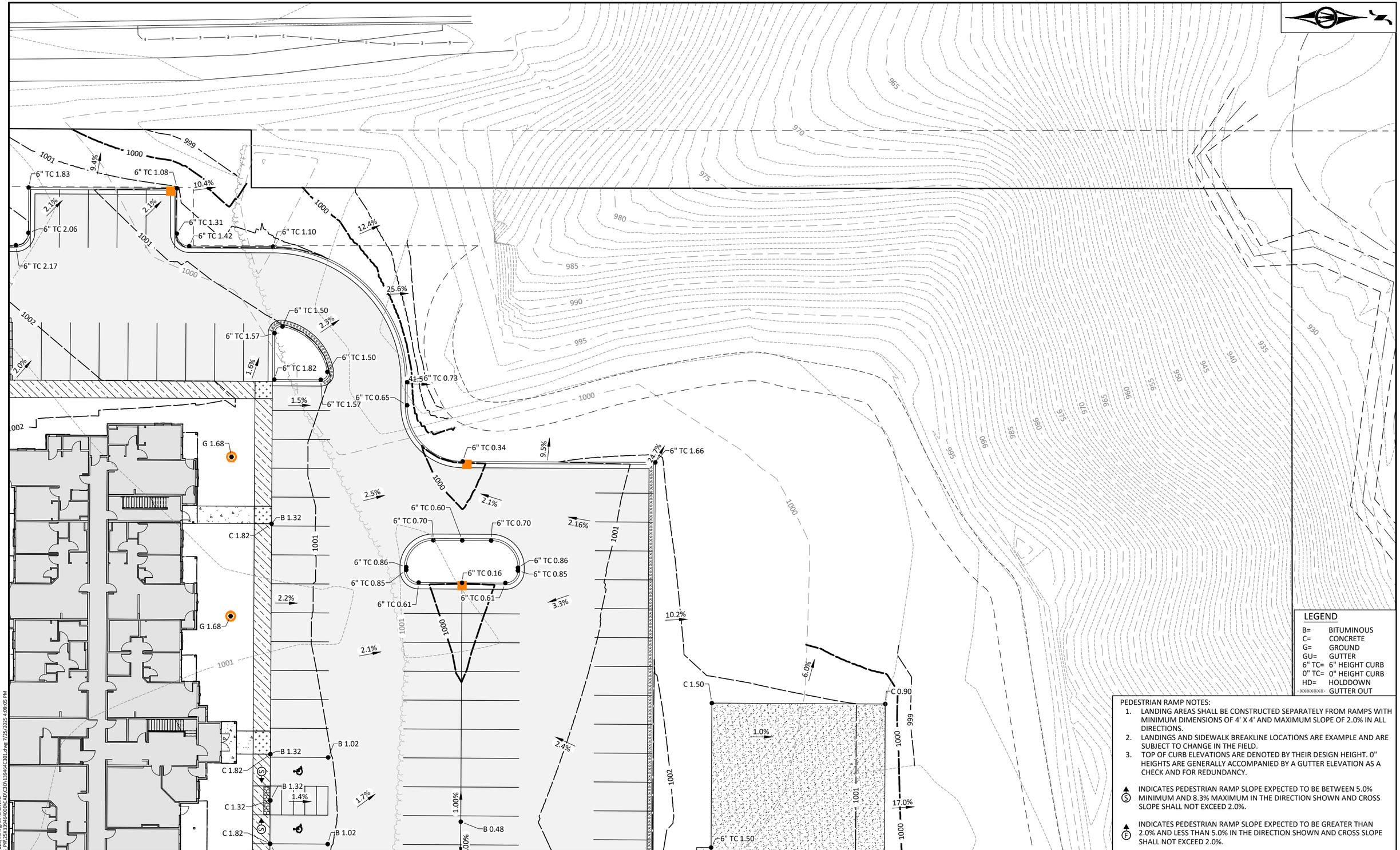
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KUEPERS, INC.
VICTORY RIDGE APARTMENTS
GRADING PLAN

SHEET C3.02

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## LEGEND

| | |
|---|---|
| B= | BITUMINOUS |
| C= | CONCRETE |
| G= | GROUND |
| GU= | GUTTER |
| 6" TC= | 6" HEIGHT CURB |
| 0" TC= | 0" HEIGHT CURB |
| HD= | HOLDDOWN |
| -x-x-x-x-x- | GUTTER OUT |

PEDESTRIAN RAMP NOTES:

1. LANDING AREAS SHALL BE CONSTRUCTED SEPARATELY FROM RAMPS WITH MINIMUM DIMENSIONS OF 4' X 4' AND MAXIMUM SLOPE OF 2.0% IN ALL DIRECTIONS.
2. LANDINGS AND SIDEWALK BREAKLINE LOCATIONS ARE EXAMPLE AND ARE SUBJECT TO CHANGE IN THE FIELD.
3. TOP OF CURB ELEVATIONS ARE DENOTED BY THEIR DESIGN HEIGHT. 0" HEIGHTS ARE GENERALLY ACCOMPANIED BY A GUTTER ELEVATION AS A CHECK AND FOR REDUNDANCY.

(S) INDICATES PEDESTRIAN RAMP SLOPE EXPECTED TO BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

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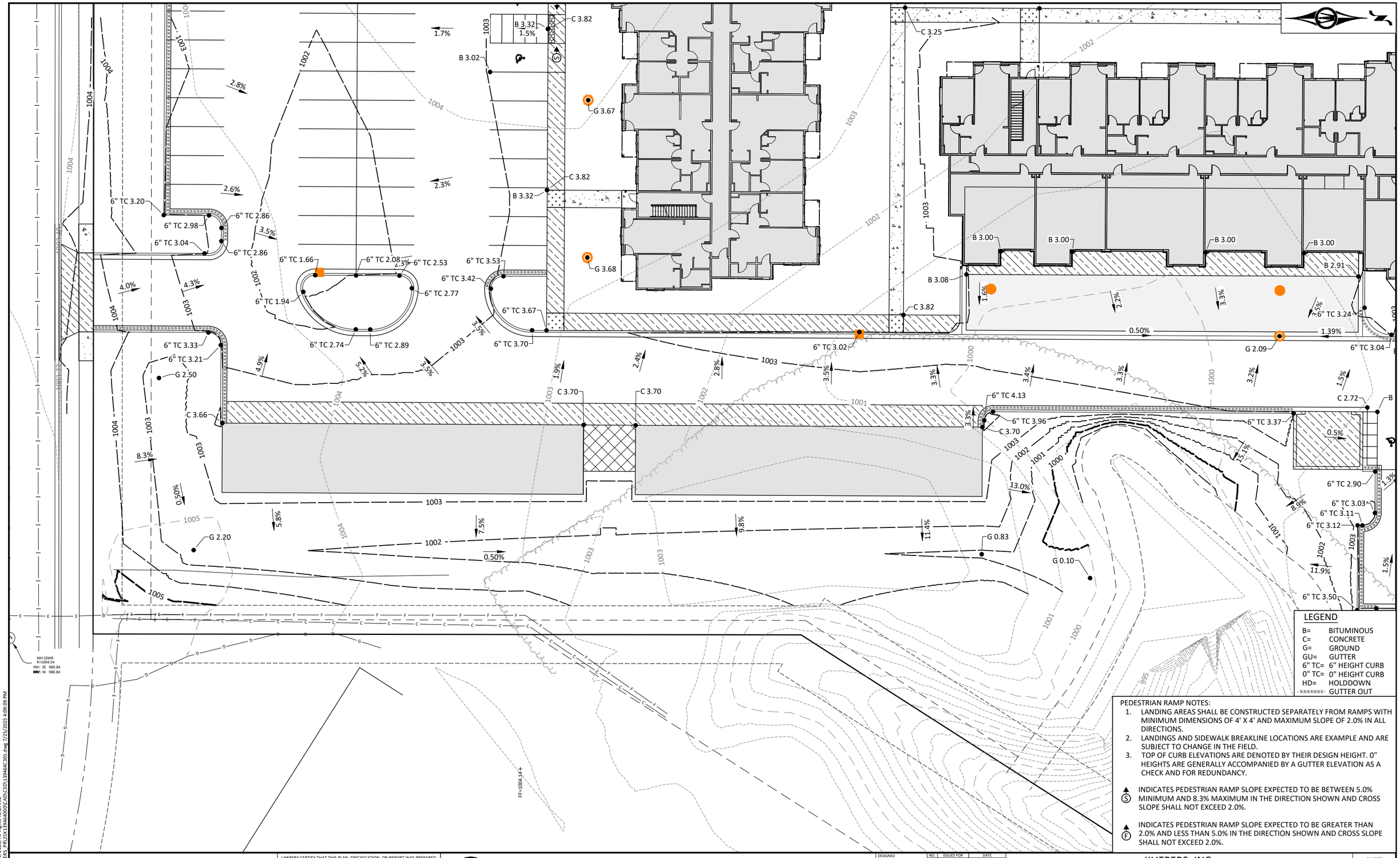
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KUEPERS, INC.
VICTORY RIDGE APARTMENTS
GRADING PLAN

SHEET C3.03




LEGEND

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|---|---|
| B= | BITUMINOUS |
| C= | CONCRETE |
| G= | GROUND |
| GU= | GUTTER |
| 6" TC= | 6" HEIGHT CURB |
| 0" TC= | 0" HEIGHT CURB |
| HD= | HOLDDOWN |
| -x-x-x-x-x- | GUTTER OUT |

PEDESTRIAN RAMP NOTES:

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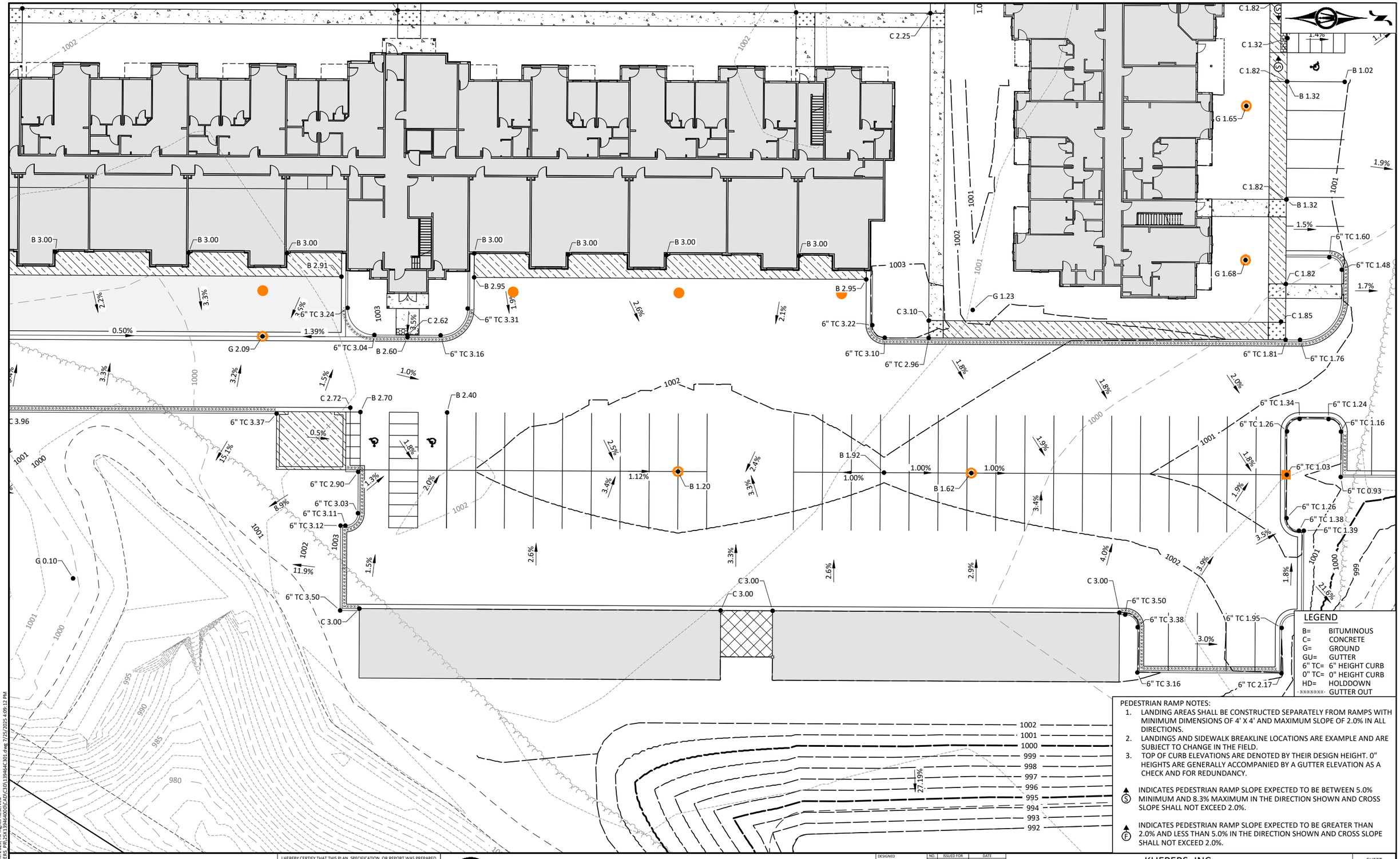
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KUEPERS, INC.
VICTORY RIDGE APARTMENTS
GRADING PLAN

SHEET C3.04




## LEGEND

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|---|---|
| B= | BITUMINOUS |
| C= | CONCRETE |
| G= | GROUND |
| GU= | GUTTER |
| 6" TC= | 6" HEIGHT CURB |
| 0" TC= | 0" HEIGHT CURB |
| HD= | HOLDDOWN |
| -x-x-x-x-x- | GUTTER OUT |

PEDESTRIAN RAMP NOTES:

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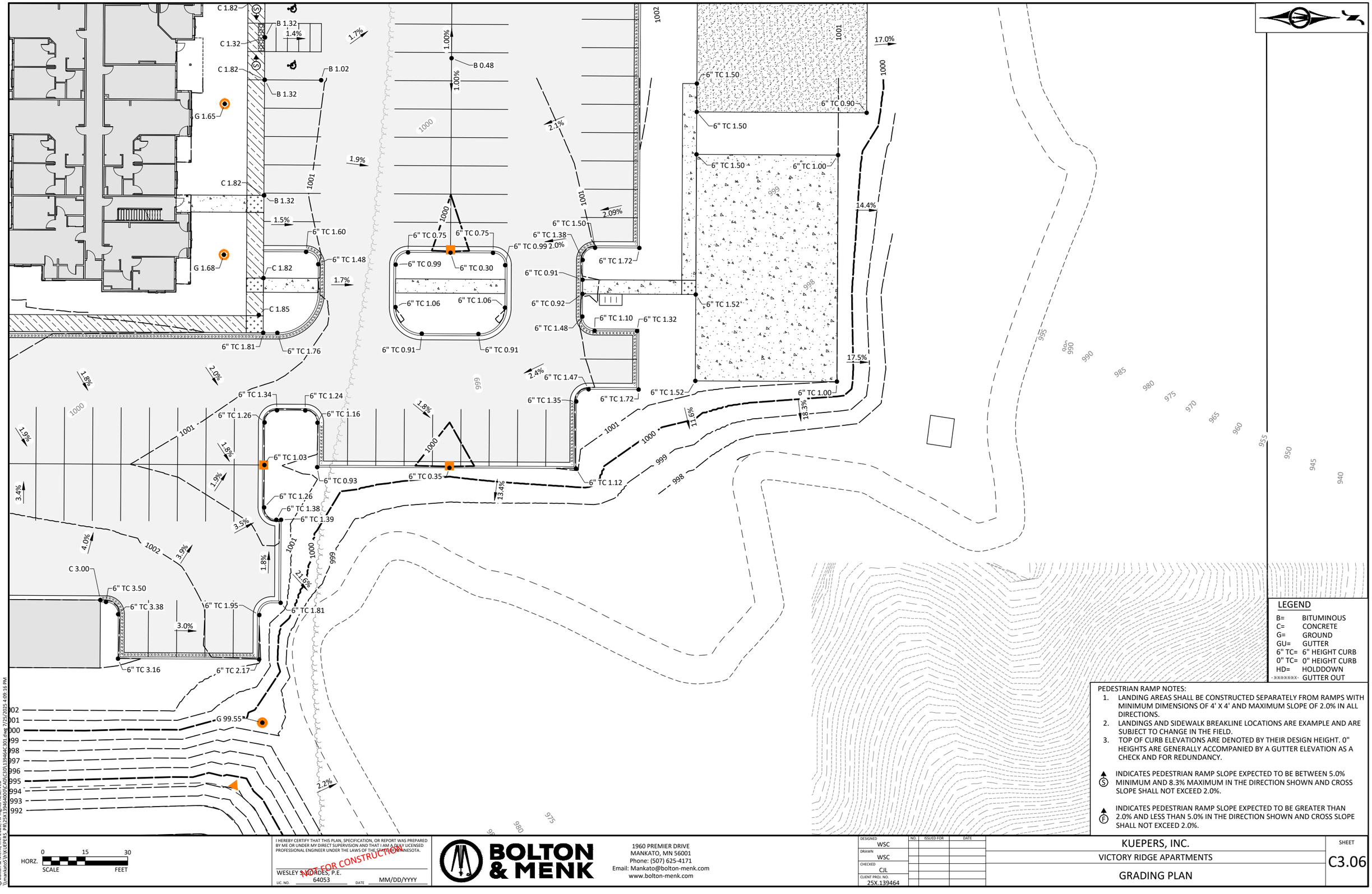
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## LEGEND

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|---|---|
| B= | BITUMINOUS |
| C= | CONCRETE |
| G= | GROUND |
| GU= | GUTTER |
| 6" TC= | 6" HEIGHT CURB |
| 0" TC= | 0" HEIGHT CURB |
| HD= | HOLDDOWN |
| -x-x-x-x- | GUTTER OUT |

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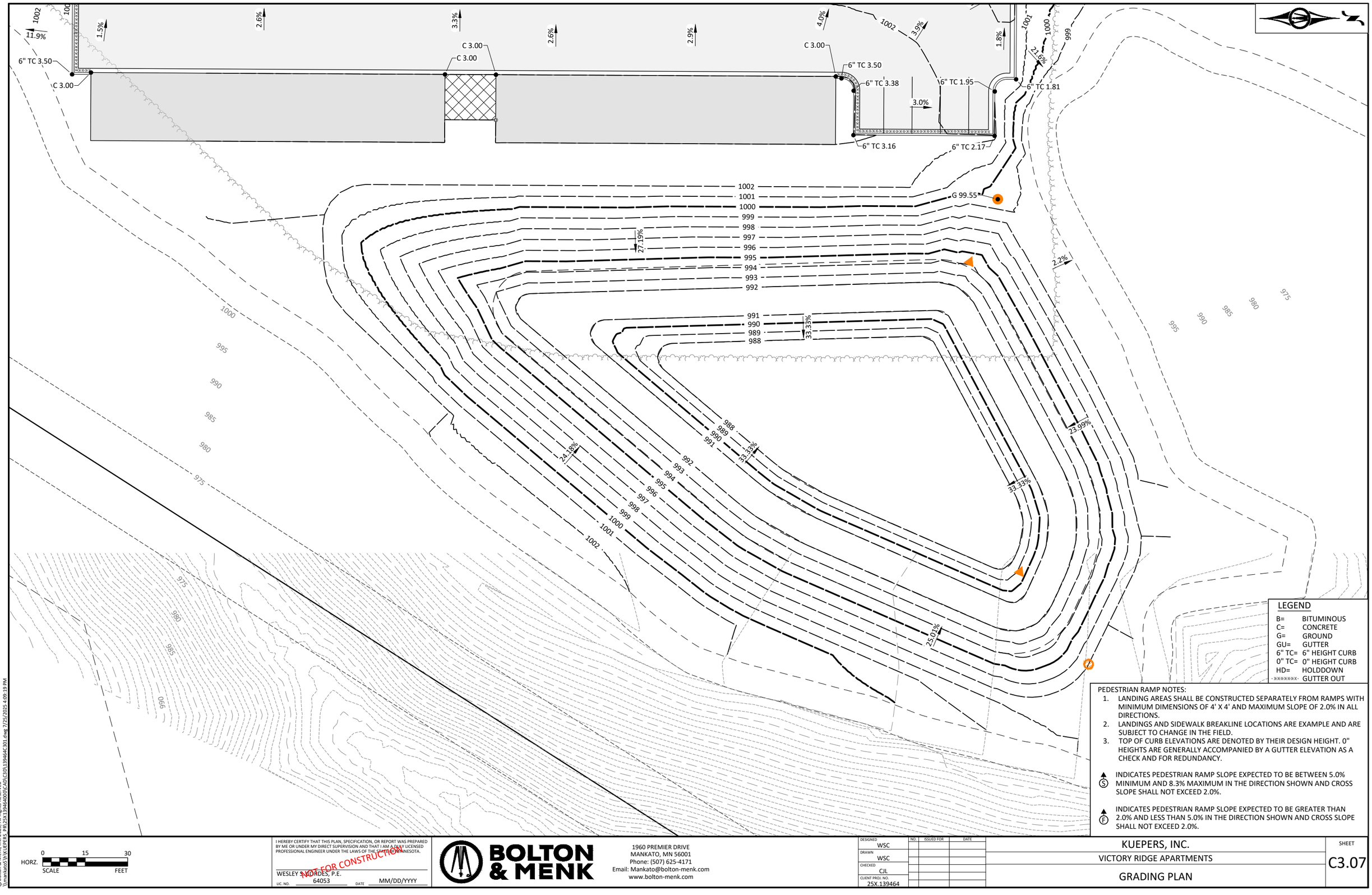
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KUEPERS, INC.
VICTORY RIDGE APARTMENTS
GRADING PLAN

SHEET C3.06




LEGEND

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|---|---|
| B= | BITUMINOUS |
| C= | CONCRETE |
| G= | GROUND |
| GU= | GUTTER |
| 6" TC= | 6" HEIGHT CURB |
| 0" TC= | 0" HEIGHT CURB |
| HD= | HOLDDOWN |
| -x-x-x-x- | GUTTER OUT |

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LEGEND

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|---|---|
| B= | BITUMINOUS |
| C= | CONCRETE |
| G= | GROUND |
| GU= | GUTTER |
| 6" TC= | 6" HEIGHT CURB |
| 0" TC= | 0" HEIGHT CURB |
| HD= | HOLDDOWN |
| xxxxxxx | GUTTER OUT |

PEDESTRIAN RAMP NOTES:

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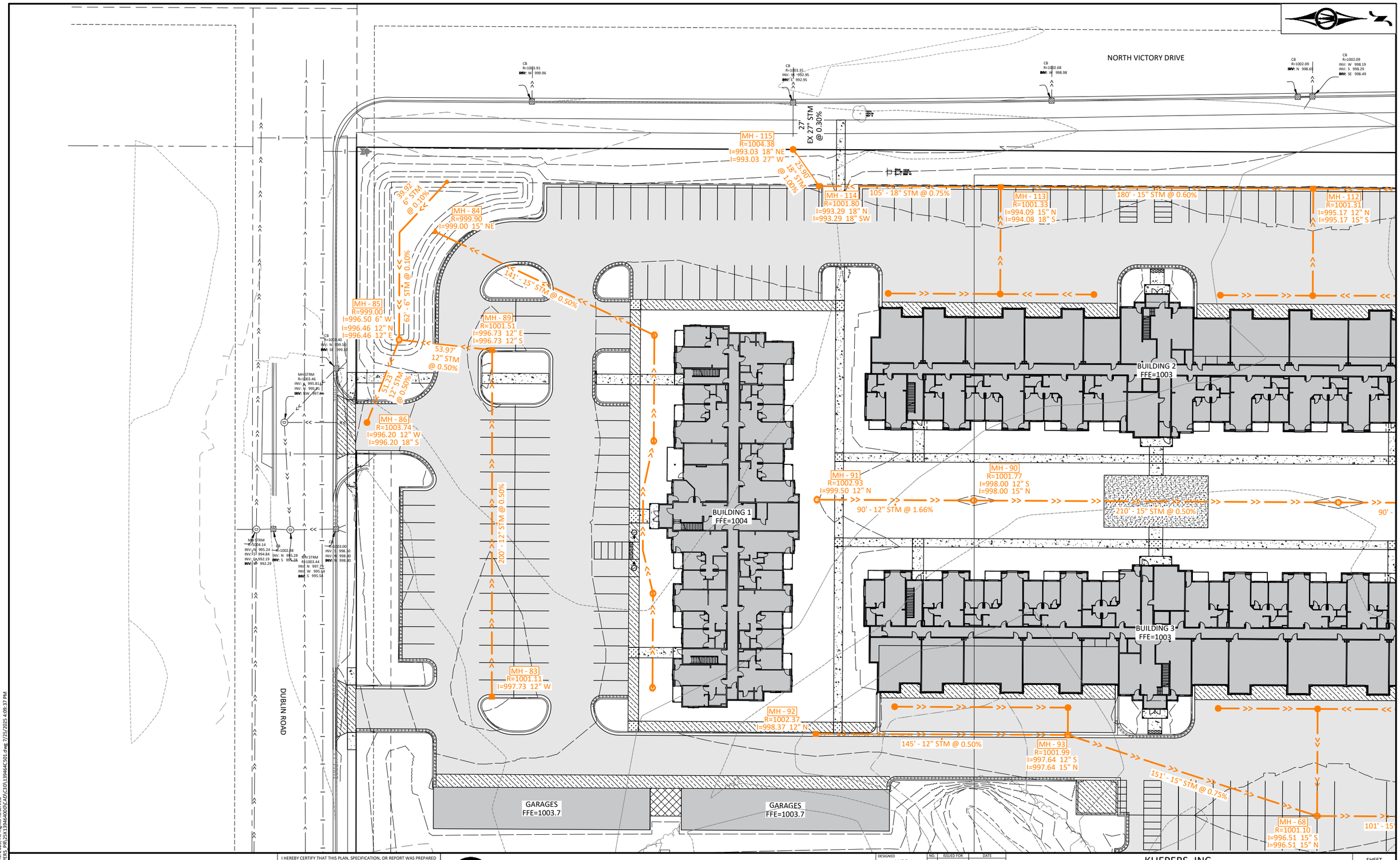
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VICTORY RIDGE APARTMENTS
GRADING PLAN

SHEET C3.08




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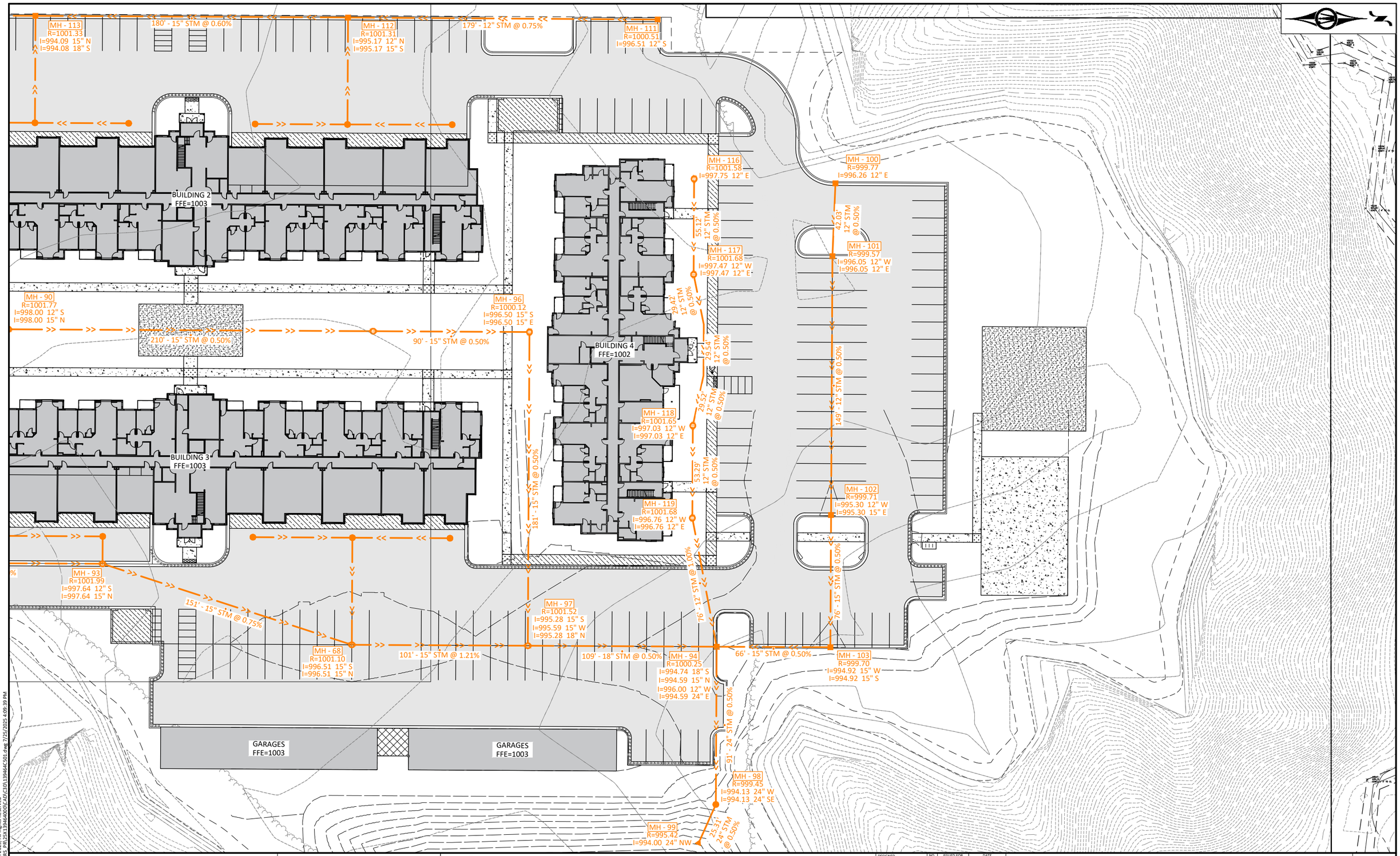
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KUEPERS, INC.
VICTORY RIDGE APARTMENTS
STORM SEWER PLAN & PROFILE
SOUTHERN DEVELOPMENT

SHEET C5.01




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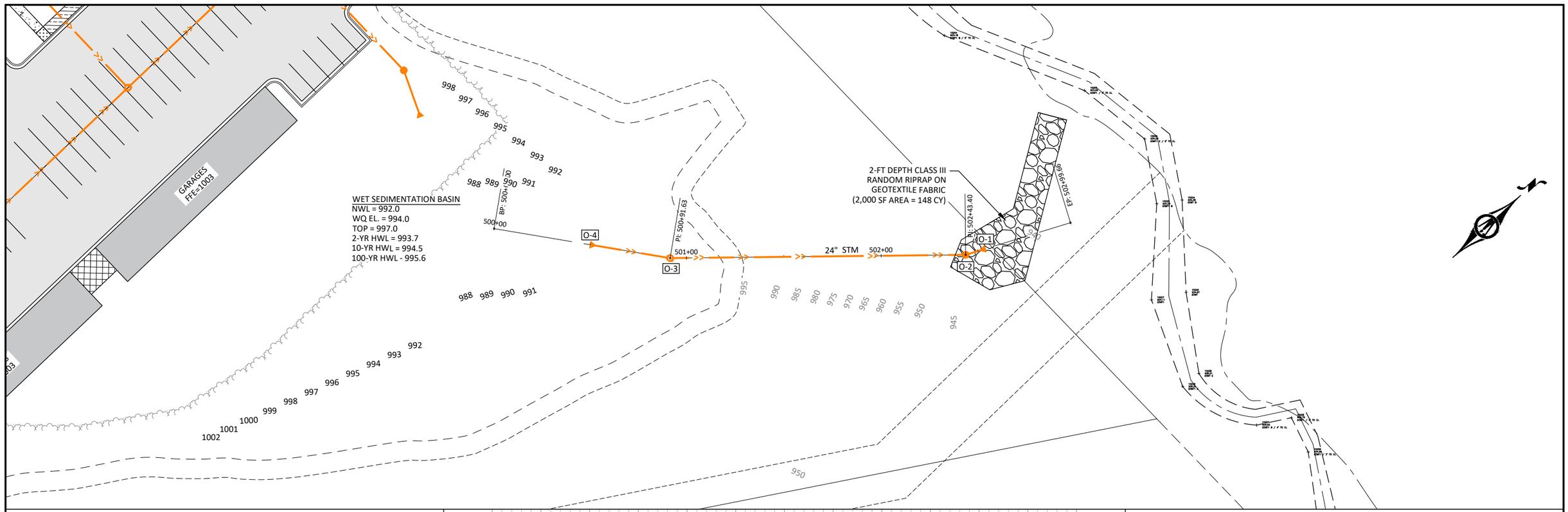
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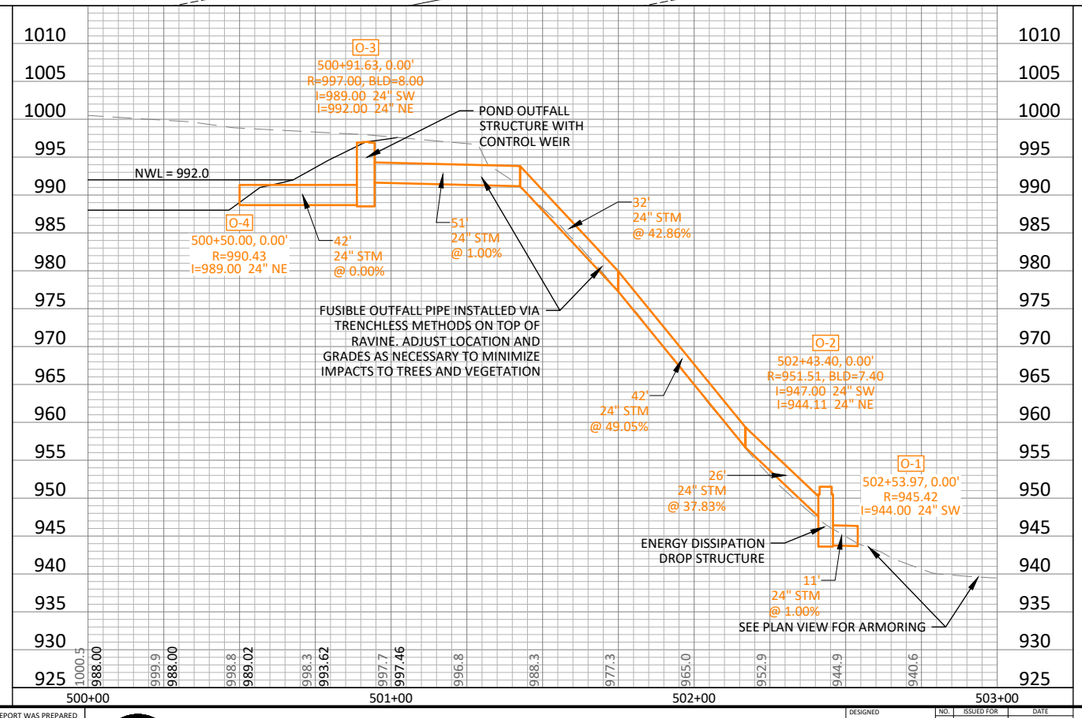
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KUEPERS, INC.
VICTORY RIDGE APARTMENTS
STORM SEWER PLAN & PROFILE
NORTHERN DEVELOPMENT

SHEET C5.02




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HORZ. SCALE 0 25 50 FEET
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KUEPERS, INC.
VICTORY RIDGE APARTMENTS
STORM SEWER PLAN & PROFILE
OUTFALL

SHEET C5.03




# Victory Ridge Apartments | Renderings

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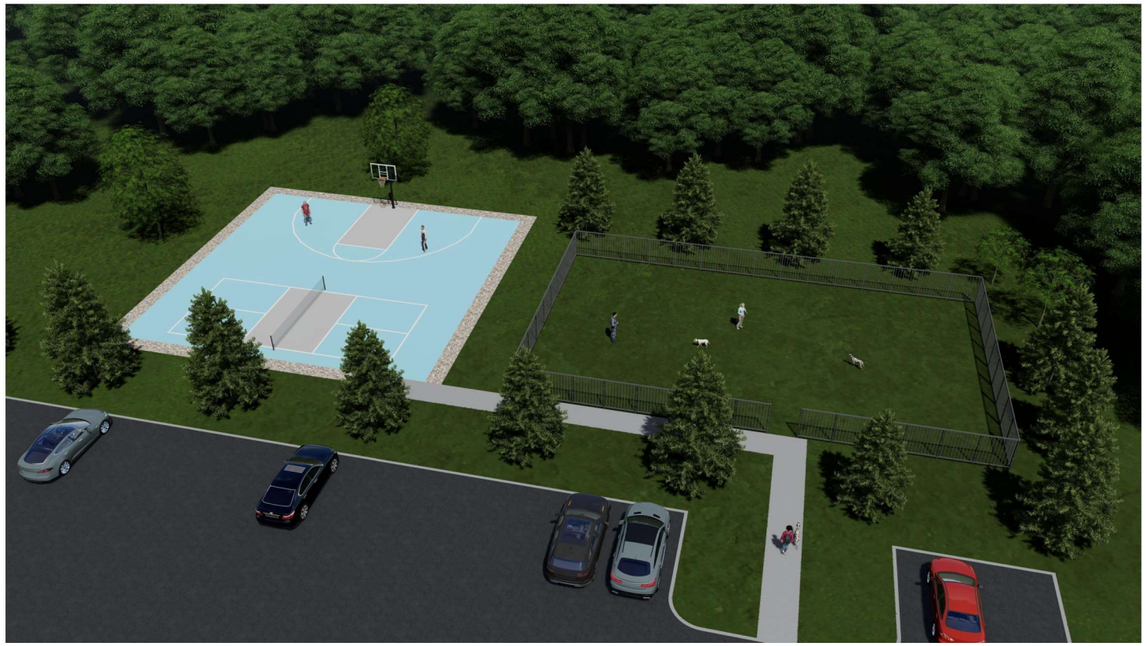
KUEPERS INC
ARCHITECTS & BUILDERS




# Victory Ridge Apartments | Renderings

MANKATO, MN | 09.15.2025 | #25-1111

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ARCHITECTS & BUILDERS





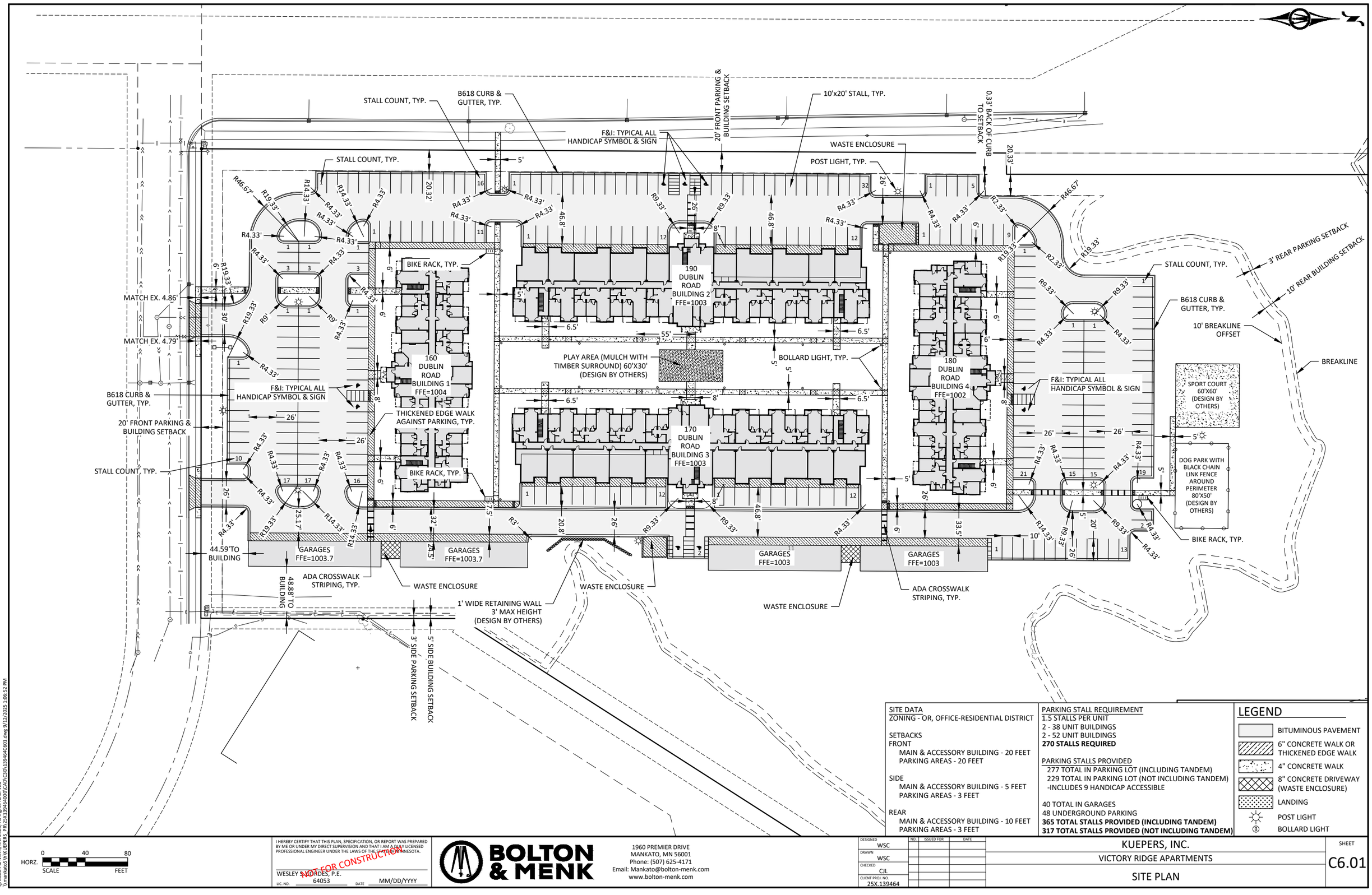





# Victory Ridge Apartments | Renderings

MANKATO, MN | 09.15.2025 | #25-1111

KUEPERS INC
ARCHITECTS & BUILDERS




SITE DATA
ZONING - OR, OFFICE-RESIDENTIAL DISTRICT

SETBACKS
FRONT
MAIN & ACCESSORY BUILDING - 20 FEET
PARKING AREAS - 20 FEET

SIDE
MAIN & ACCESSORY BUILDING - 5 FEET
PARKING AREAS - 3 FEET

REAR
MAIN & ACCESSORY BUILDING - 10 FEET
PARKING AREAS - 3 FEET

PARKING STALL REQUIREMENT
1.5 STALLS PER UNIT
2 - 38 UNIT BUILDINGS
2 - 52 UNIT BUILDINGS
**270 STALLS REQUIRED**

PARKING STALLS PROVIDED
277 TOTAL IN PARKING LOT (INCLUDING TANDEM)
229 TOTAL IN PARKING LOT (NOT INCLUDING TANDEM)
-INCLUDES 9 HANDICAP ACCESSIBLE

40 TOTAL IN GARAGES
48 UNDERGROUND PARKING
**365 TOTAL STALLS PROVIDED (INCLUDING TANDEM)**
**317 TOTAL STALLS PROVIDED (NOT INCLUDING TANDEM)**

LEGEND
- BITUMINOUS PAVEMENT
- 6" CONCRETE WALK OR THICKENED EDGE WALK
- 4" CONCRETE WALK
- 8" CONCRETE DRIVEWAY (WASTE ENCLOSURE)
- LANDING
- POST LIGHT
- BOLLARD LIGHT

HORZ. SCALE 0 40 80 FEET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

NOT FOR CONSTRUCTION

WESLEY S. MORDES, P.E.
LIC. NO. 64053 DATE MM/DD/YYYY

BOLTON & MENK

1960 PREMIER DRIVE
MANKATO, MN 56001
Phone: (507) 625-4171
Email: Mankato@bolton-menk.com
www.bolton-menk.com

| DESIGNED | NO. | ISSUED FOR | DATE |
|---|---|---|---|
| WSC | | | |
| DRAWN | | | |
| WSC | | | |
| CHECKED | | | |
| CJL | | | |
| CLIENT PROJ. NO. | | | |
| 25X.139464 | | | |

KUEPERS, INC.
VICTORY RIDGE APARTMENTS
SITE PLAN

SHEET C6.01

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# VICTORY RIDGE APARTMENTS

## BUILDING 2
## MANKATO, MN



## DESIGN TEAM

**OWNER:**

VICTORY RIDGE APARTMENTS OF MANKATO, LLLP.
17018 COMMERCIAL PARK ROAD
BRAINERD, MN 56401
PHONE: 218-829-0707

**GENERAL CONTRACTOR / ARCHITECT:**

KUEPERS INC.
17018 COMMERCIAL PARK ROAD
BRAINERD, MN 56401
PHONE: 218-829-0707

**CIVIL ENGINEER:**

BOLTON & MENK, INC.
MANKATO, MN 56001
PHONE: 507-508-9106

**ELECTRICAL:**

KMI MECHANICAL
BRAINERD, MN
PHONE: 218-454-0829

**MECHANICAL ENGINEER:**

KMI MECHANICAL
BRAINERD, MN
PHONE: 218-454-0829

**STRUCTURAL ENGINEER:**

SANDMAN STRUCTURAL ENGINEERS
BRAINERD, MN
PHONE: 218-227-0022

## CODE NOTES

**APPLICABLE CODES:**

2018 INTERNATIONAL BUILDING CODE
MINNESOTA STATE BUILDING CODE (MSBC) - 2020
MINNESOTA ENERGY CODE - 2024
MINNESOTA ACCESSIBILITY CODE - 2020
MINNESOTA PLUMBING CODE - 2020
MINNESOTA MECHANICAL & FUEL GAS CODE - 2020
MINNESOTA FIRE CODE - 2020
MINNESOTA ELECTRICAL CODE - 2023

**OCCUPANCY REQUIREMENTS:**

BUILDING OCCUPANCY: R-2
CONSTRUCTION TYPE: V-B
FIRE SUPPRESSION: SPRINKLED PER NFPA 13

**ALLOWABLE AREA (PER FLOOR):**

BASIC ALLOWABLE AREA PER IBC TABLE 506.2: R2,VB = 36,750 SQ.FT.
SPRINKLED PER NFPA 13

ALLOWABLE AREA PER FLOOR = 36,750 SQ.FT.

**ACTUAL AREA PER FLOOR:**
LEVEL 1 = 21,713 SQ.FT.
LEVEL 2 = 21,694 SQ.FT.
LEVEL 3 = 21,694 SQ.FT.

**MAXIMUM HEIGHT:**

ALLOWABLE NUMBER OF STORIES = 3
ACTUAL NUMBER OF STORIES = 3

**STRUCTURAL DATA:**

SOIL BEARING CAPACITY = 1,500 PSF (PRESUMED)
ROOF LOAD = 46 PSF (SNOW LOAD)
FLOOR LOAD = 40 PSF AT UNITS
= 100 PSF AT CORRIDOR AND COMMON AREAS
= 125 PSF AT STORAGE AREA
WIND LOAD = 115 MPH

**SITE DATA:**

SEE CIVIL DRAWINGS

## DESCRIPTION

**BUILDING TYPE:**

APARTMENT BUILDING - 52 TOTAL DWELLING UNITS
W/ 23 TUCK-UNDER GARAGES

**BUILDING/SITE AMENITIES:**

IN-UNIT HVAC SYSTEMS
DECKS/PATIOS
COMMUNITY ROOM
FITNESS CENTER
IN-UNIT WASHER / DRYER
ELEVATOR

**BUILDING SIZE:**

LEVEL 1 AREA - 21,713 SQ.FT. GROSS
LEVEL 2 AREA - 21,694 SQ.FT. GROSS
LEVEL 3 AREA - 21,694 SQ.FT. GROSS
STUDIO A UNIT AREA - 505 SQ.FT.
STUDIO B UNIT AREA - 554 SQ.FT.
ONE BED A UNIT AREA - 711 SQ.FT.
ONE BED B UNIT AREA - 724 SQ.FT.
ONE BED C UNIT AREA - 729 SQ.FT.
ONE BED D UNIT AREA - 740 SQ.FT.
ONE BED E UNIT AREA - 812 SQ.FT.
TWO BED A UNIT AREA - 998 SQ.FT.
TWO BED B UNIT AREA - 1,008 SQ.FT.
TWO BED C TYPE 'A' UNIT AREA - 1,008 SQ.FT.

**UNIT MIX:**

LEVEL 1:
ONE BED A UNIT - 1
ONE BED B UNIT - 2
ONE BED C UNIT - 2
TWO BED A UNIT - 4
TWO BED C TYPE 'A' UNIT - 1

LEVEL 2:
ONE BED A UNIT - 1
ONE BED B UNIT - 2
ONE BED C UNIT - 2
ONE BED D UNIT - 2
ONE BED E UNIT - 2
TWO BED A UNIT - 8
TWO BED B UNIT - 3

LEVEL 3:
STUDIO A UNIT - 1
STUDIO B UNIT - 1
ONE BED B UNIT - 2
ONE BED C UNIT - 2
ONE BED D UNIT - 2
ONE BED E UNIT - 2
TWO BED A UNIT - 8
TWO BED B UNIT - 4

TOTAL UNIT MIX:
STUDIO A UNIT - 1
STUDIO B UNIT - 1
ONE BED A UNIT - 2
ONE BED B UNIT - 6
ONE BED C UNIT - 6
ONE BED D UNIT - 4
ONE BED E UNIT - 4
TWO BED A UNIT - 20
TWO BED B UNIT - 7
TWO BED C TYPE 'A' UNIT - 1

Sheet List

| Sheet Number | Sheet Name |
|---|---|
| T.1 | Title Sheet |
| CR1.1 | Code Review |
| CR1.2 | Code Review |
| CR1.3 | Code Review |
| CR1.4 | Signage Plan |
| CR1.5 | Signage Plan |
| A1.1 | Overall Floor Plan |
| A1.2 | Floor Plan - Level 1 |
| A1.3 | Floor Plan - Level 1 |
| A1.4 | Floor Plan - Level 2 |
| A1.5 | Floor Plan - Level 2 |
| A1.6 | Floor Plan - Level 3 |
| A1.7 | Floor Plan - Level 3 |
| A2.1 | Schedules |
| A2.2 | Schedules |
| A2.3 | Schedules |
| A2.4 | Schedules |
| A2.5 | Schedules |
| A2.6 | Schedules |
| A3.1 | Building Elevations |
| A3.2 | Enlarged Elevations |
| A3.3 | Enlarged Elevations |
| A3.4 | Enlarged Elevations |
| A4.1 | Building Sections |
| A4.2 | Building Sections |
| A4.3 | Stair Sections |
| A4.4 | Stair Sections |
| A5.1 | Wall Sections |
| A5.2 | Wall Sections |
| A5.3 | Wall Sections |
| A5.4 | Wall Sections |
| A5.5 | Wall Sections |
| A5.6 | Elevator Sections |
| A5.7 | Details |
| A5.8 | Details |
| A5.9 | Details |
| A5.10 | Details |
| A6.1 | Roof Plan |
| A7.1 | Reflected Ceiling Plans |
| A8.1 | Dwelling Unit Plans |
| A8.2 | Dwelling Unit Plans |
| A8.3 | Dwelling Unit Plans |
| A8.4 | Dwelling Unit Plans |
| A8.5 | Dwelling Unit Plans |
| A8.6 | Dwelling Unit Plans |
| A9.1 | Enlarged Floor Plans |
| A9.2 | Enlarged Floor Plans |
| A10.1 | Mounting Heights |
| A10.2 | Unit Clearances |

| No. | Description | Date |
|---|---|---|
| | | |

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Name: Christopher J. Raimann, AIA
Signed:

Date: 4-13-2020 License #: 46319

KUEPERS INC
ARCHITECTS & BUILDERS
BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 2

Kuepers Inc.

52 Unit

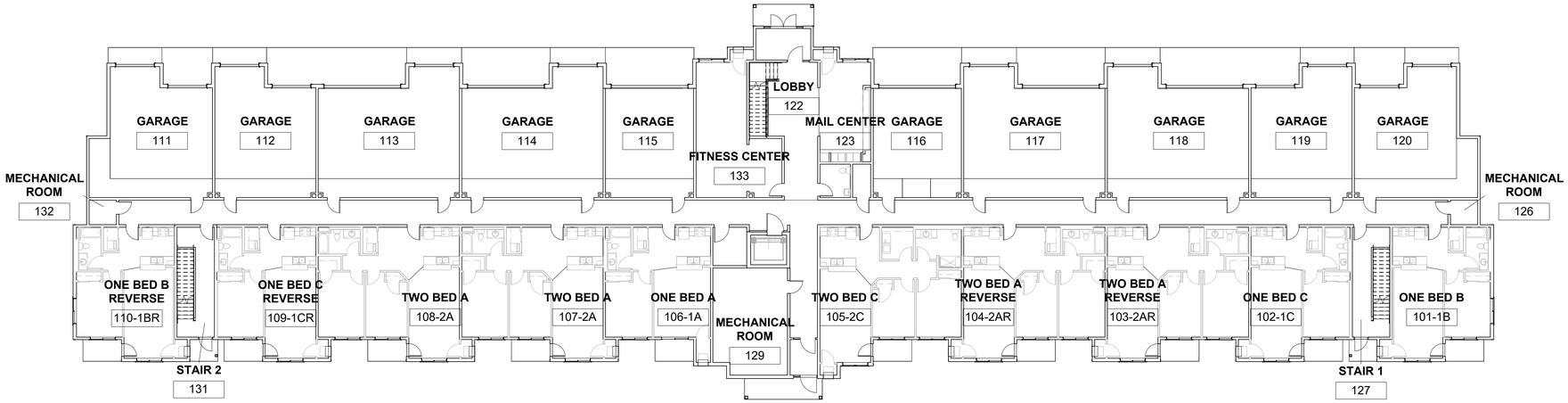
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| Drawn by | RET | Checked by | CJR/ZAR |

T.1
Title Sheet

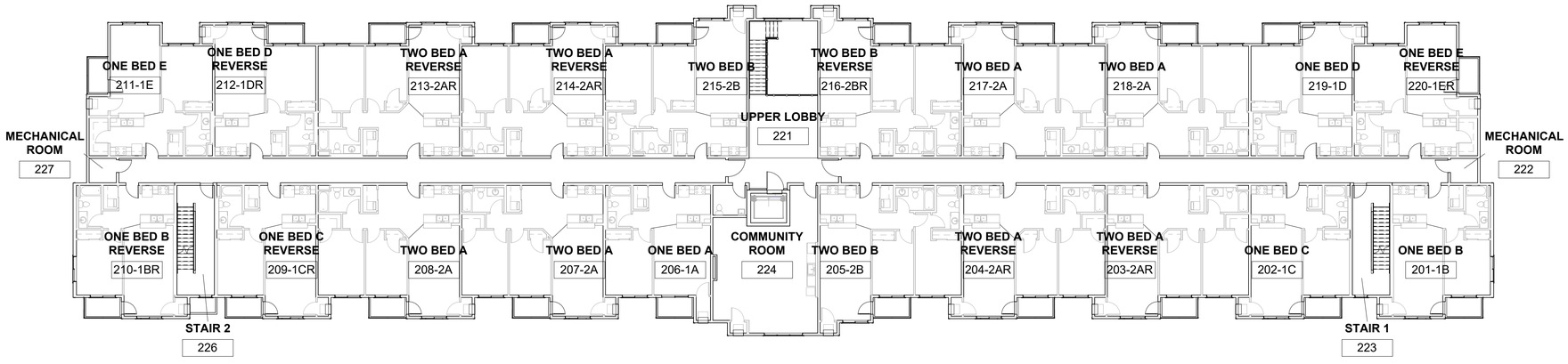
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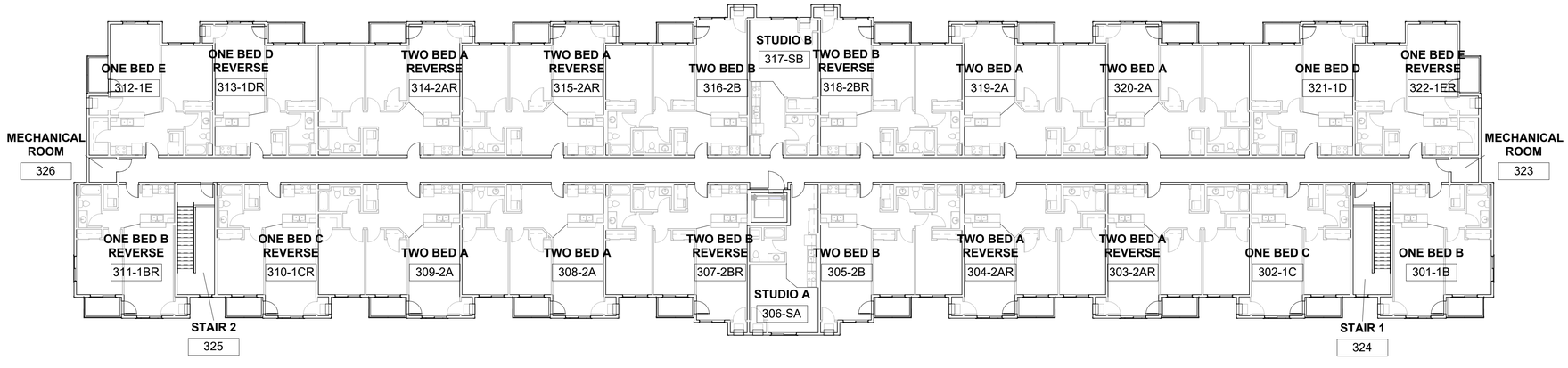
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1 Overall Floor Plan - Level 1
1/16" = 1'-0"




2 Overall Floor Plan - Level 2
1/16" = 1'-0"




3 Overall Floor Plan - Level 3
1/16" = 1'-0"

| No. | Description | Date |
|---|---|---|

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52 Unit

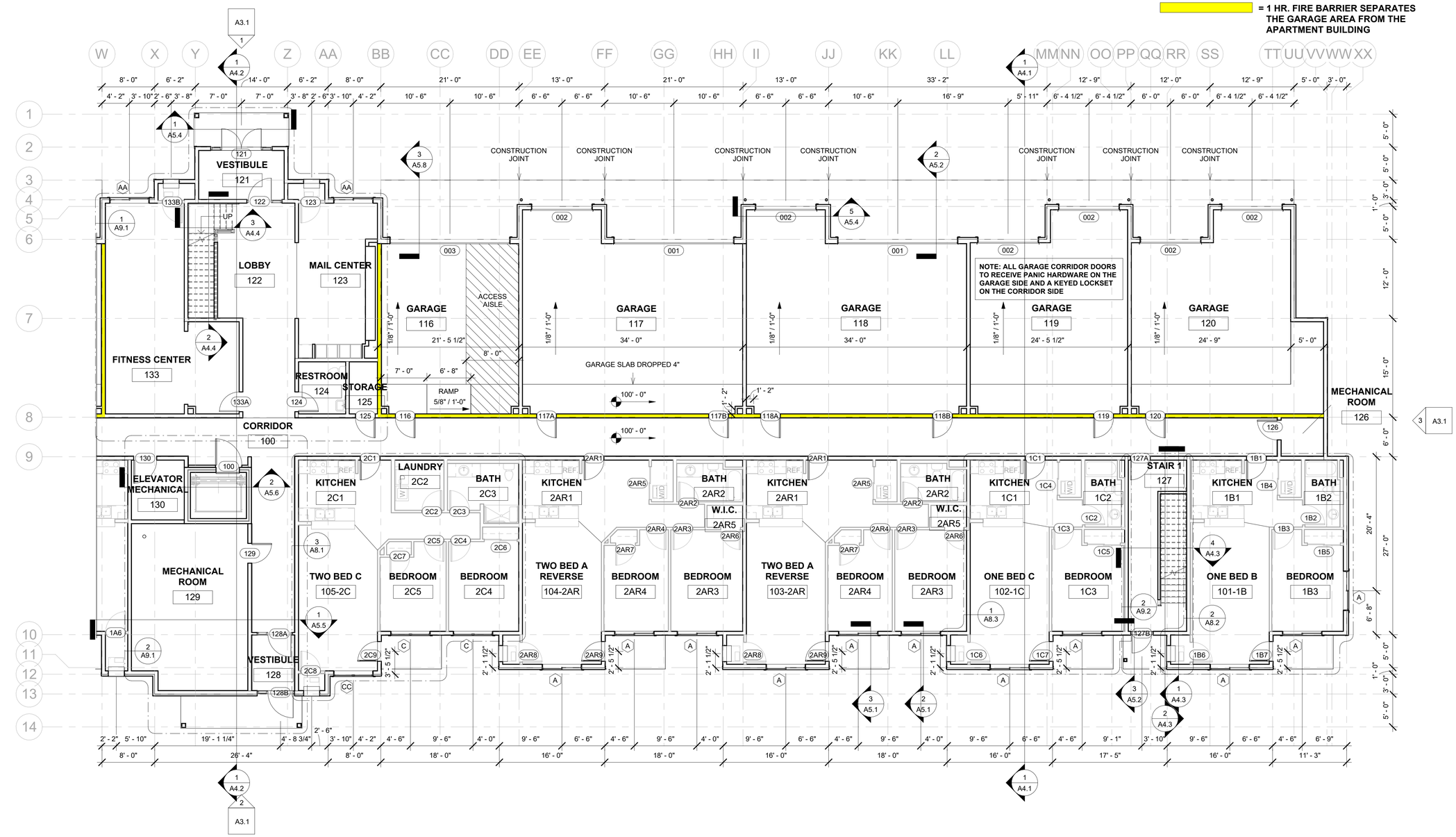
| | |
|---|---|
| Project number 01-25-1112 | Date xx-xx-xxxx |
| Drawn by RET | Checked by CJR/ZAR |

# A1.1
## Overall Floor Plan

Scale 1/16" = 1'-0"

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1 Level 1 - East
1/8" = 1'-0"

| No. | Description | Date |
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| | | |

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Victory Ridge Apartments - Building 2

PRELIMINARY NFC

Kuepers Inc.
52 Unit

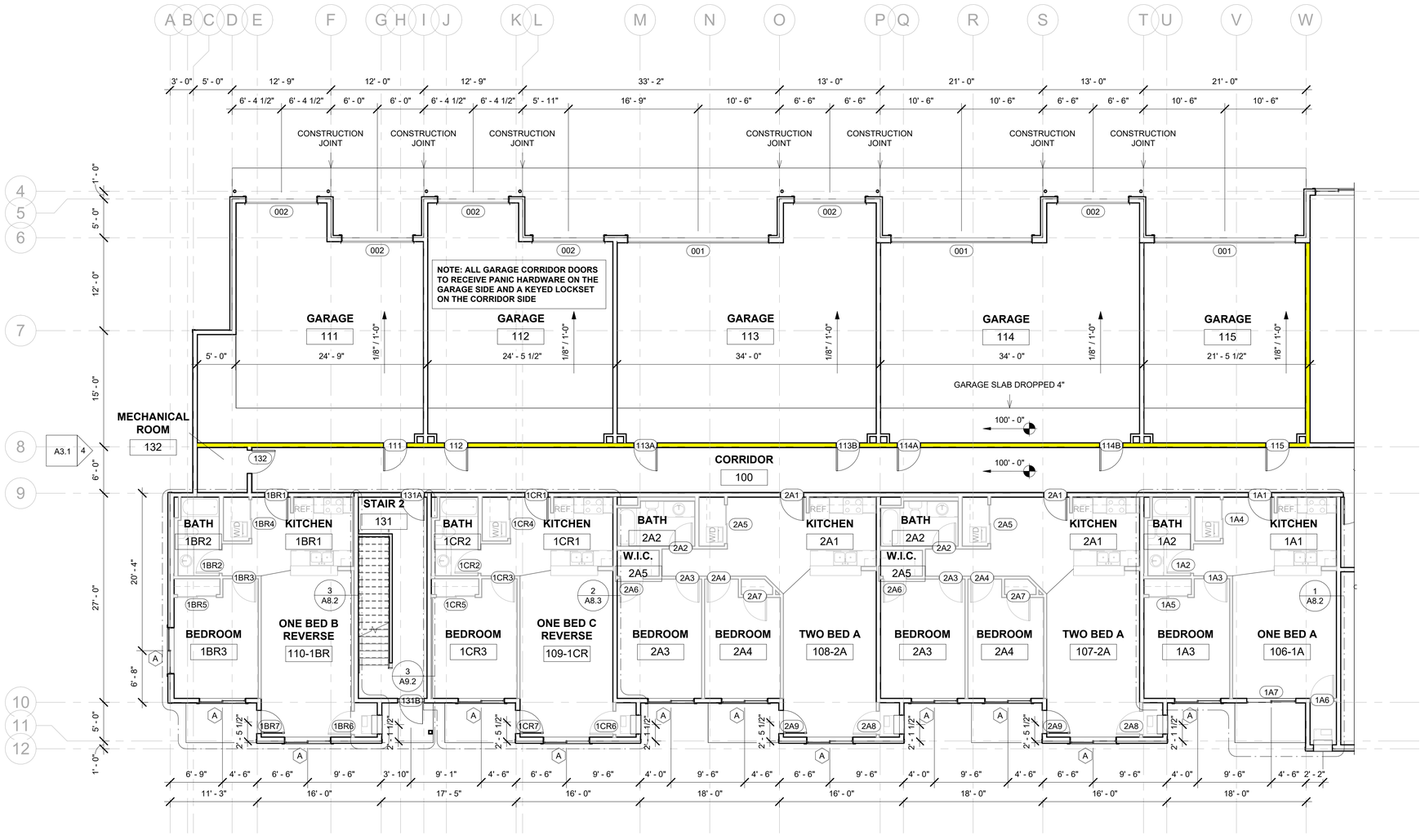
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| Drawn by | RET | Checked by | CJR/ZAR |

# A1.2
## Floor Plan - Level 1

Scale 1/8" = 1'-0"

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= 1 HR. FIRE BARRIER SEPARATES THE GARAGE AREA FROM THE APARTMENT BUILDING




1 Level 1 - West
1/8" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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Victory Ridge Apartments - Building 2

Kuepers Inc.

52 Unit

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|---|---|---|---|
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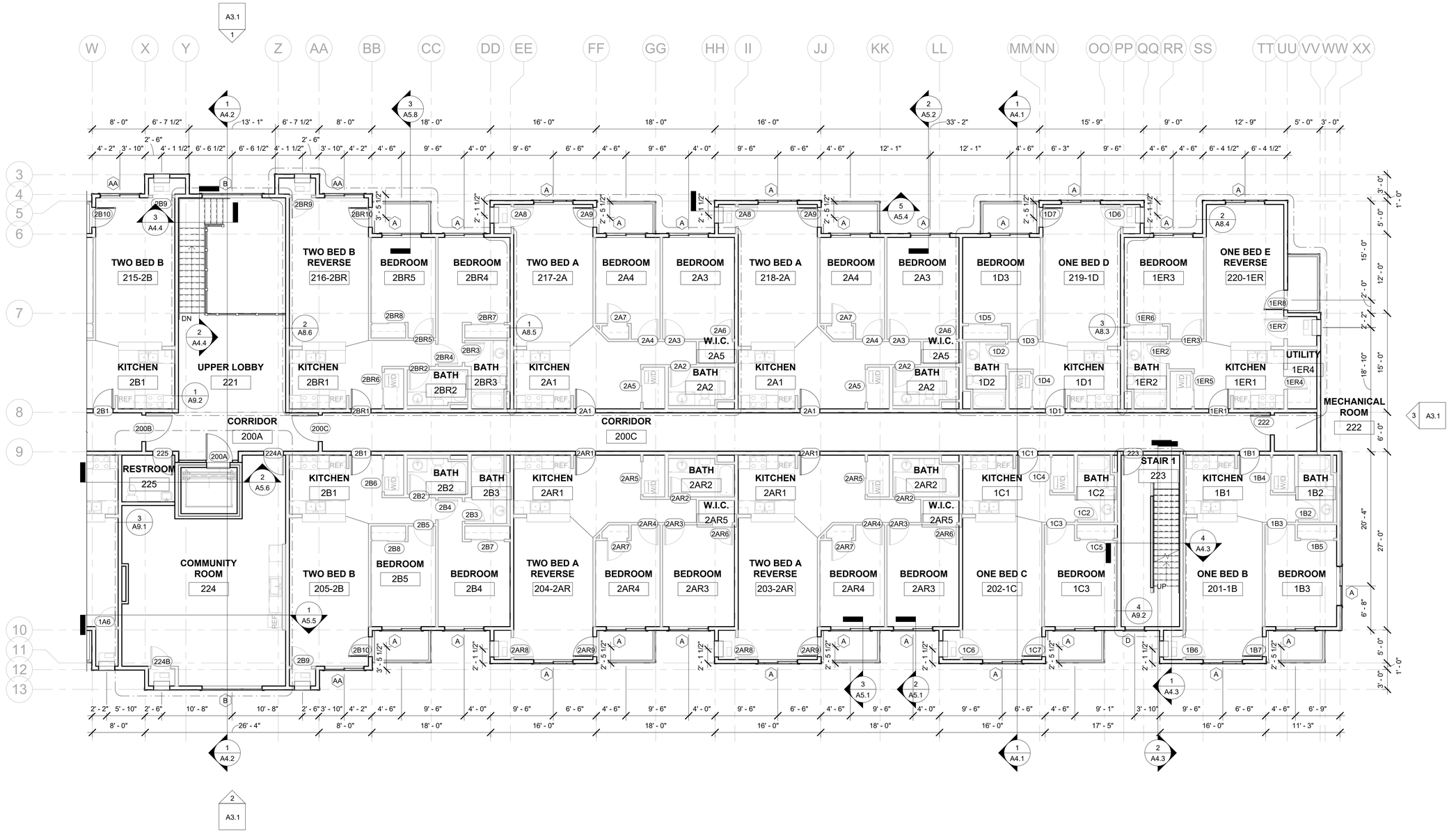
# A1.3

Floor Plan - Level 1

Scale 1/8" = 1'-0"

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1 Level 2 - East
1/8" = 1'-0"

| No. | Description | Date |
|---|---|---|

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Victory Ridge Apartments - Building 2

PRELIMINARY NFC

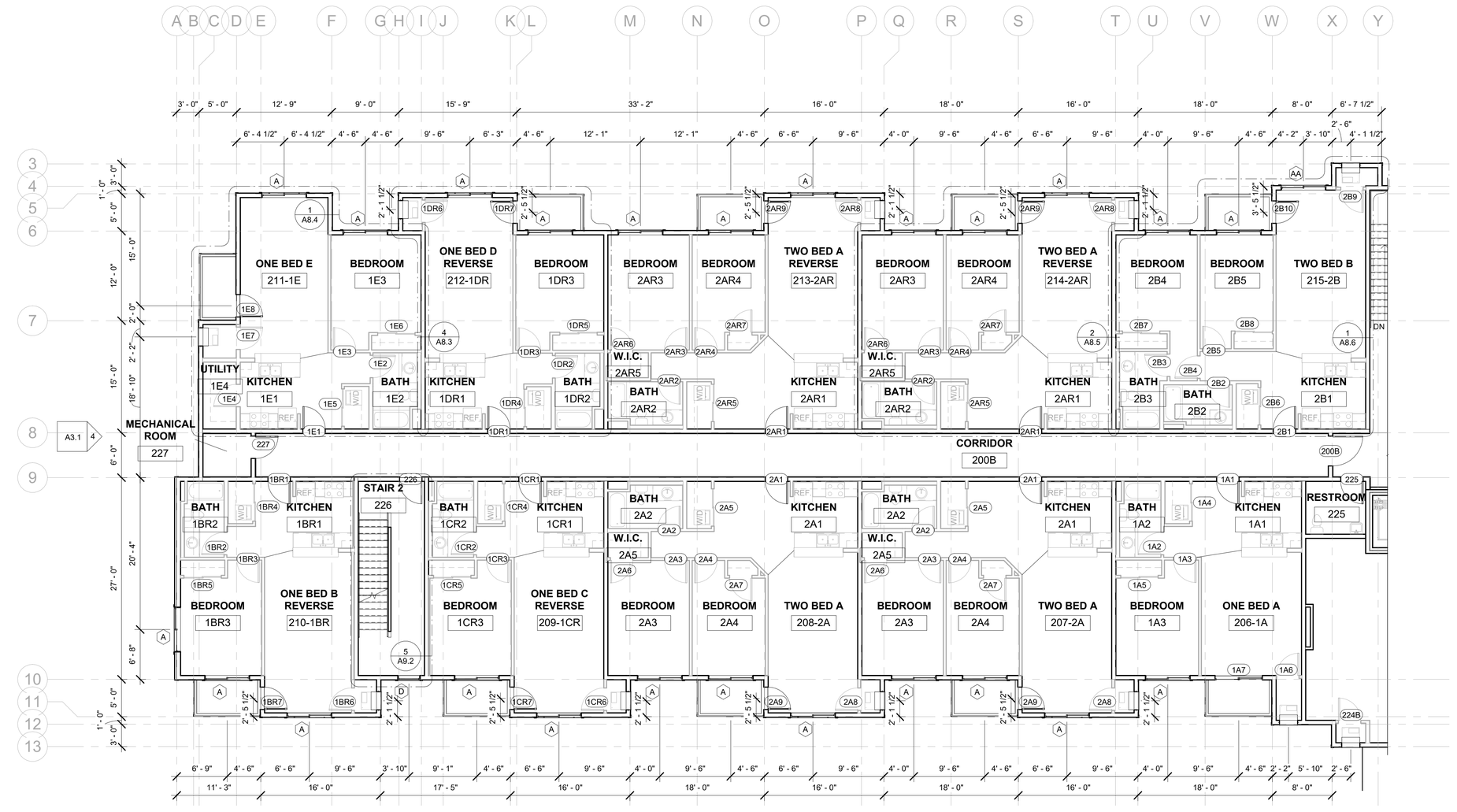
Kuepers Inc.
52 Unit

| Project number | 01-25-1112 | Date | XX-XX-XXXX |
|---|---|---|---|
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# A1.4
## Floor Plan - Level 2

Scale 1/8" = 1'-0"

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1 Level 2 - West
1/8" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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Signed:

Date: 4-13-2020 License #: 46319

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ARCHITECTS & BUILDERS
BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 2

Kuepers Inc.
52 Unit

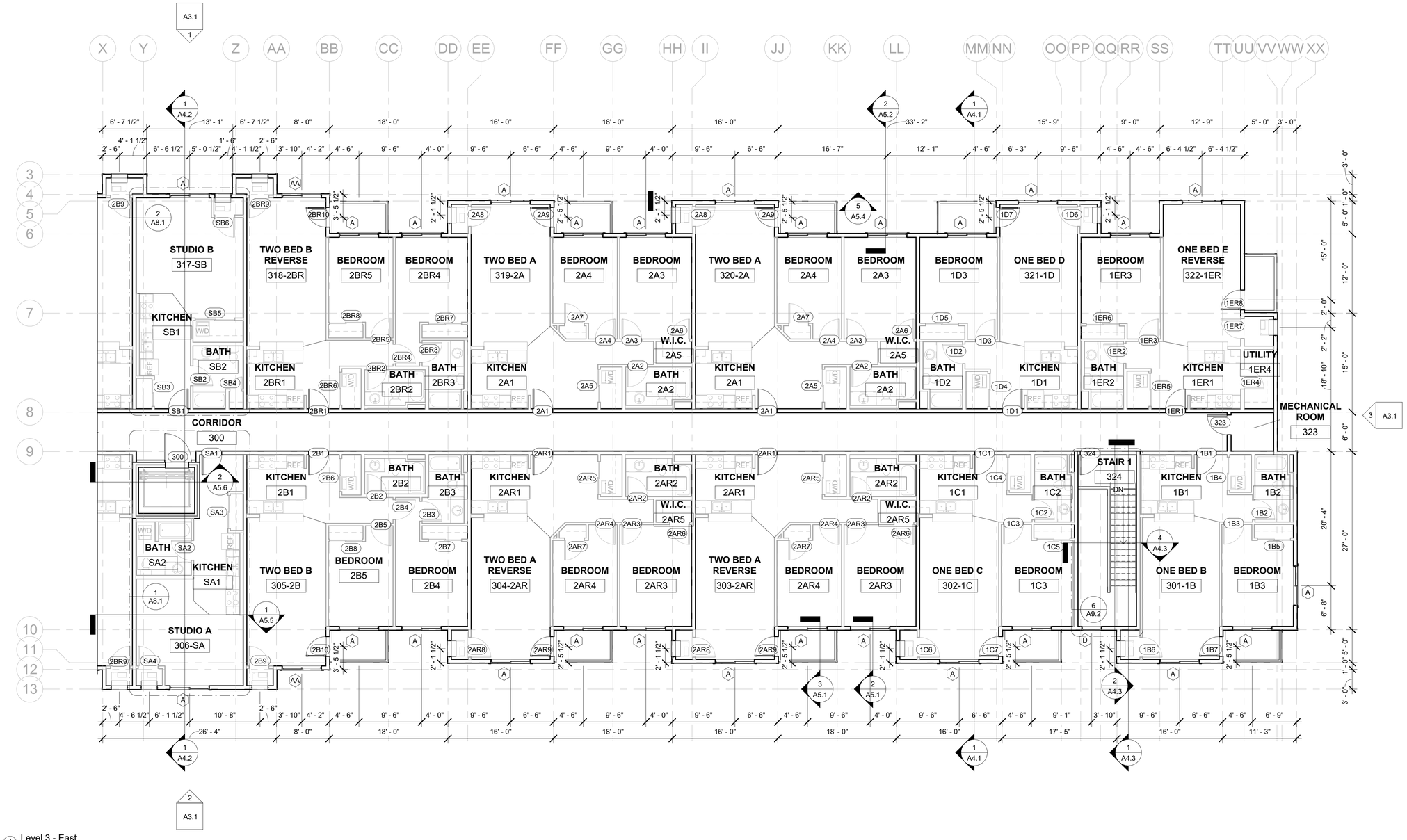
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|---|---|
| Project number 01-25-1112 | Date XX-XX-XXXX |
| Drawn by RET | Checked by CJR/ZAR |

# A1.5
## Floor Plan - Level 2

Scale 1/8" = 1'-0"

PRELIMINARY NFC

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1 Level 3 - East
1/8" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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Victory Ridge Apartments - Building 2

Kuepers Inc.
52 Unit

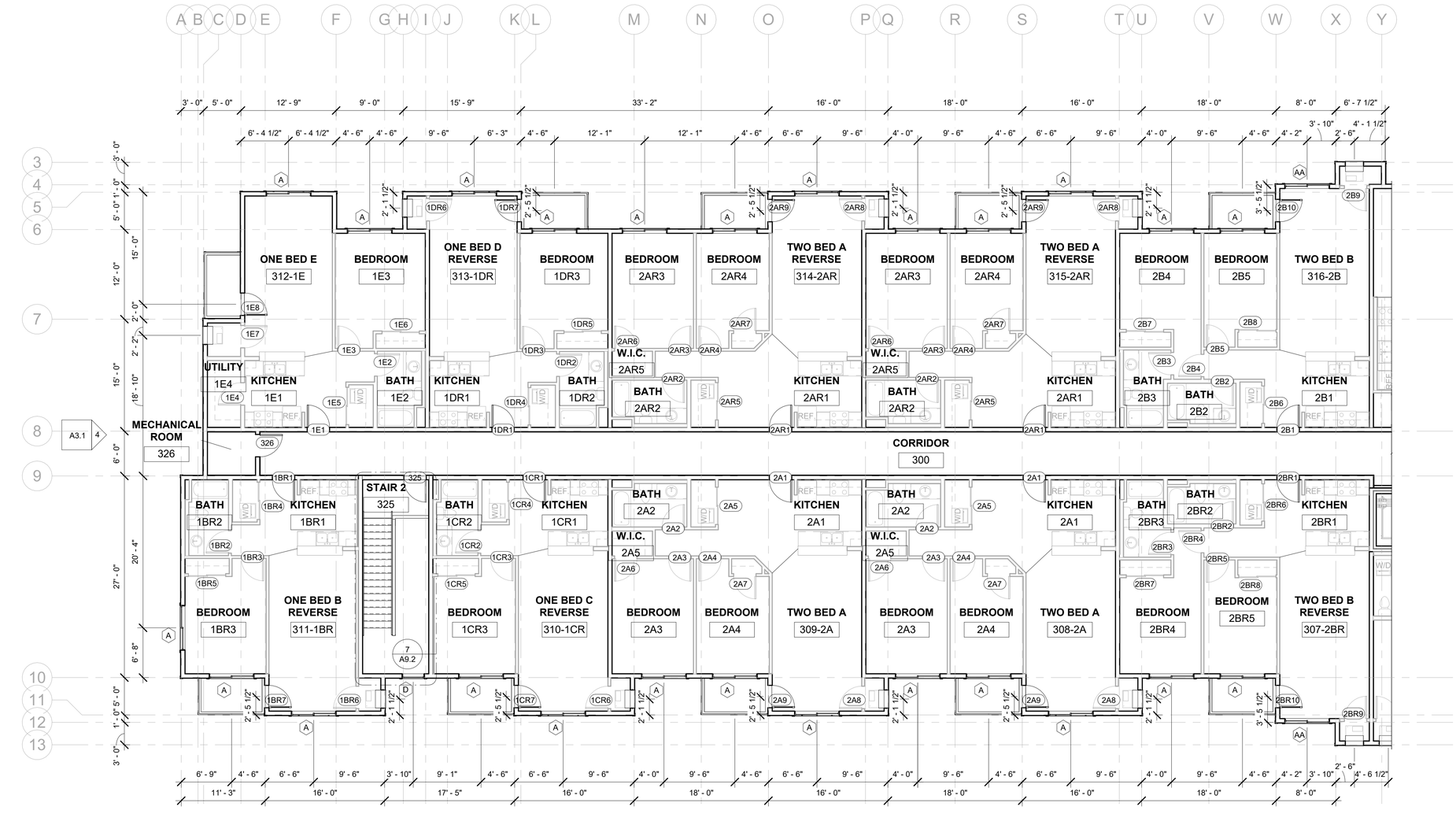
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PRELIMINARY NFC

# A1.6
## Floor Plan - Level 3

Scale 1/8" = 1'-0"

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1 Level 3 - West
1/8" = 1'-0"

| No. | Description | Date |
|---|---|---|
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Victory Ridge Apartments - Building 2

Kuepers Inc.
52 Unit

| Project number | 01-25-1112 | Date | XX-XX-XXXX |
|---|---|---|---|
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# A1.7
## Floor Plan - Level 3

Scale 1/8" = 1'-0"

PRELIMINARY NFC

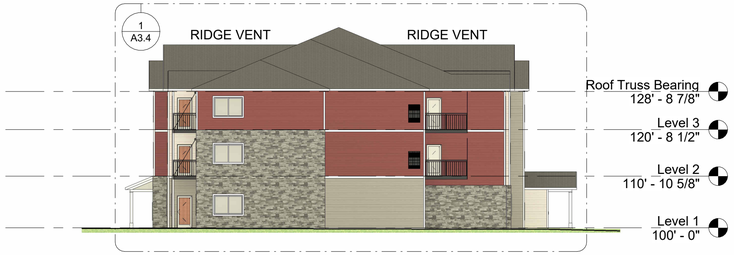
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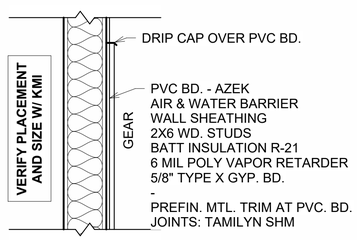

1 Building Elevation - North
1/16" = 1'-0"



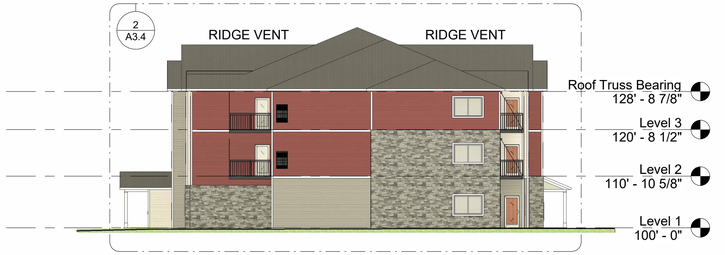

2 Building Elevation - South
1/16" = 1'-0"




3 Building Elevation - East
1/16" = 1'-0"




Typical Wall Detail at Elec. Gear Locations
1" = 1'-0"




4 Building Elevation - West
1/16" = 1'-0"

GENERAL NOTES:

1. ALL PLUMBING PENETRATIONS MUST TERMINATE AT A MIN. OF 12" ABOVE THE ROOF SURFACE LINE.

2. ADDRESS NUMBERS SHALL BE INSTALLED IN A VISIBLE LOCATION PER IBC 501.2.

3. FDC (CONNECTION) MUST BE LOCATED AT THE ADDRESS SIDE OF THE BLDG. OR AT AN APPROVED LOCATION.

4. WATER FLOW ALARMS MUST BE INSTALLED ON THE EXTERIOR PER IBC 903.4.2.

5. ALL EXIT DISCHARGE SHALL BE ILLUMINATED PER IBC 1006.1

6. ALL GLAZING WITHIN 24" OF THE ARC OF A DOOR SHALL BE SAFETY GLAZING PER IBC 2406.3.

| No. | Description | Date |
|---|---|---|
| | | |

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Date: 4-13-2020 License #: 46319

KUEPERS INC
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BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 2

Kuepers Inc.
52 Unit

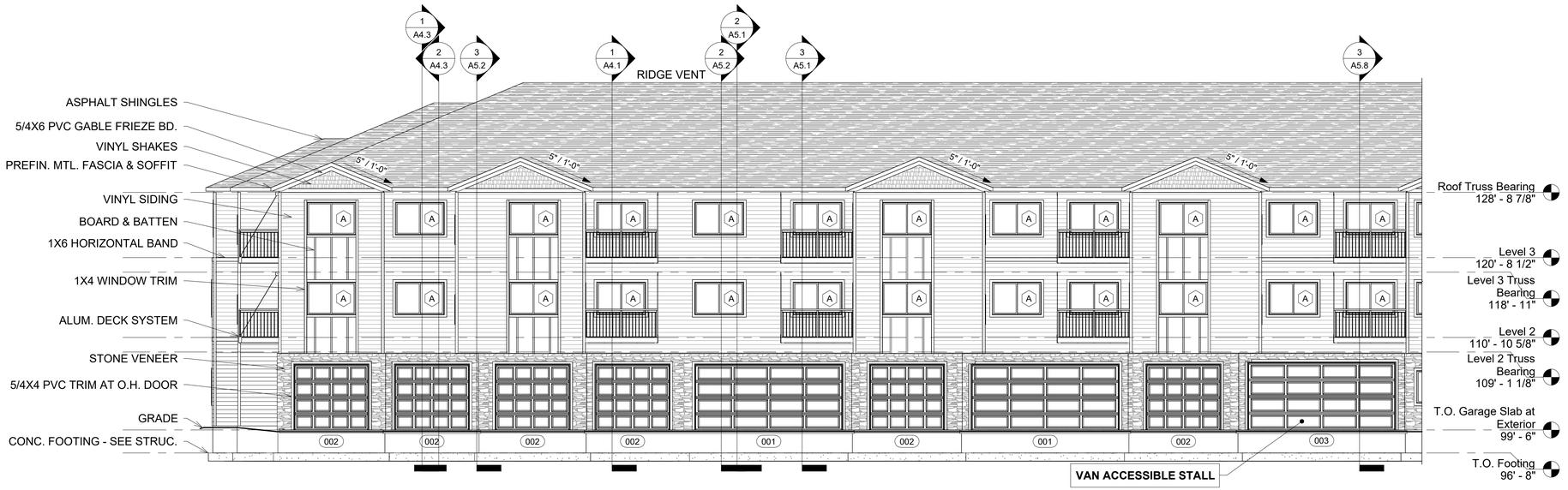
| Project number | 01-25-1112 | Date | xx-xx-xxxx |
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| Drawn by | RET | Checked by | CJR/ZAR |

# A3.1
## Building Elevations

Scale As indicated

PRELIMINARY NFC

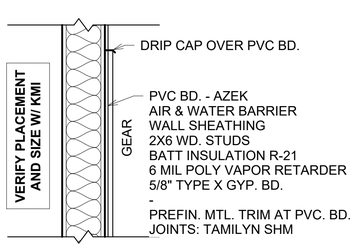
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1 Enlarged Building Elevation - North 1
1/8" = 1'-0"




2 Enlarged Building Elevation - North 2
1/8" = 1'-0"




Typical Wall Detail at Elec. Gear Locations
1" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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ARCHITECTS & BUILDERS
BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 2

Kuepers Inc.
52 Unit

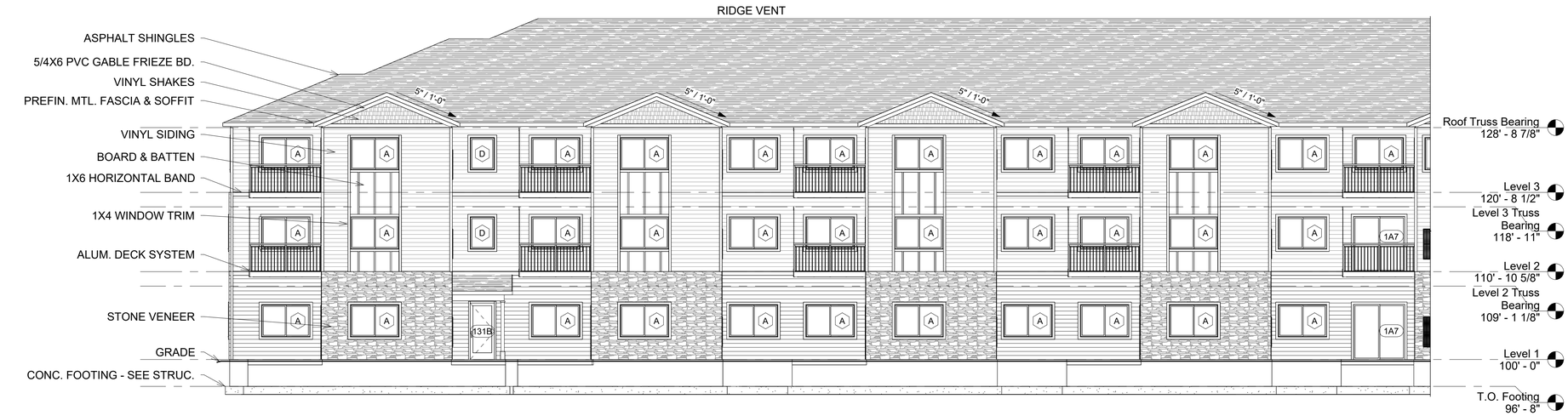
| Project number | 01-25-1112 | Date | xx-xx-xxxx |
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| Drawn by | RET | Checked by | CJR/ZAR |

# A3.2
## Enlarged Elevations

Scale As indicated

PRELIMINARY NFC

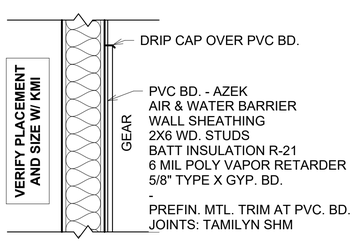
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1 Enlarged Building Elevation - South 1
1/8" = 1'-0"




2 Enlarged Building Elevation - South 2
1/8" = 1'-0"




Typical Wall Detail at Elec. Gear Locations
1" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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52 Unit

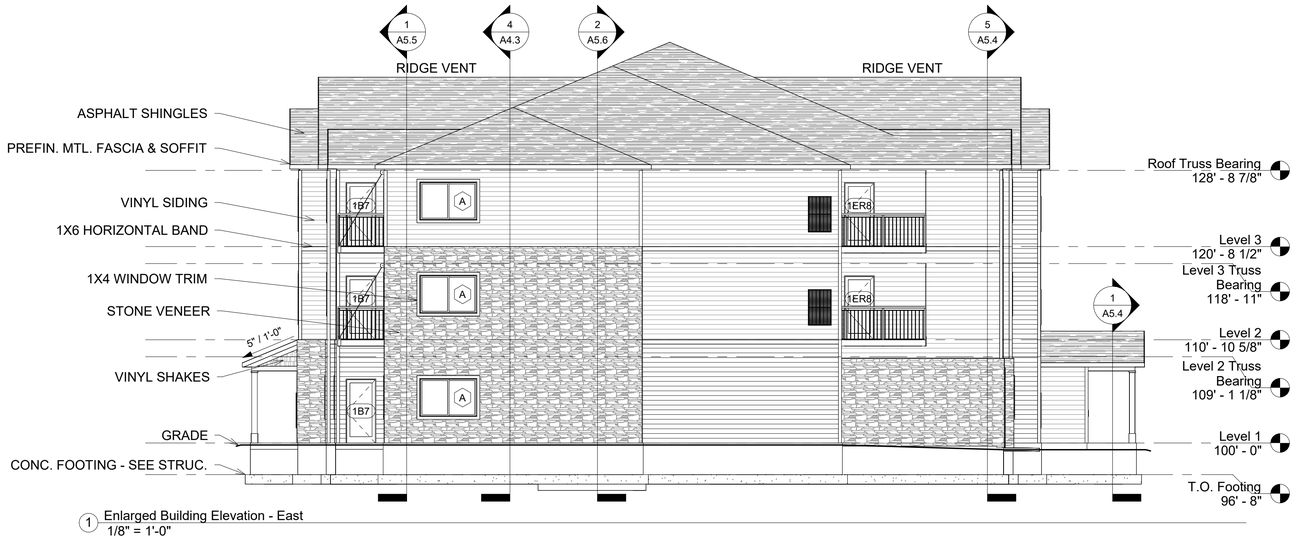
| Project number | 01-25-1112 | Date | xx-xx-xxxx |
|---|---|---|---|
| Drawn by | RET | Checked by | CJR/ZAR |

# A3.3
## Enlarged Elevations

Scale As indicated

PRELIMINARY NFC

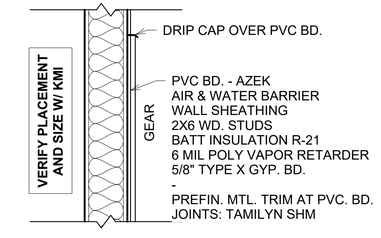
8/18/2025 8:52:08 AM




1 Enlarged Building Elevation - East
1/8" = 1'-0"




2 Enlarged Building Elevation - West
1/8" = 1'-0"




Typical Wall Detail at Elec. Gear Locations
1" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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Signed:

Date: 4-13-2020 License #: 46319

KUEPERS INC
ARCHITECTS & BUILDERS
BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 2

Kuepers Inc.

52 Unit

| Project number | 01-25-1112 | Date | xx-xx-xxxx |
|---|---|---|---|
| Drawn by | RET | Checked by | CJR/ZAR |

# A3.4
## Enlarged Elevations

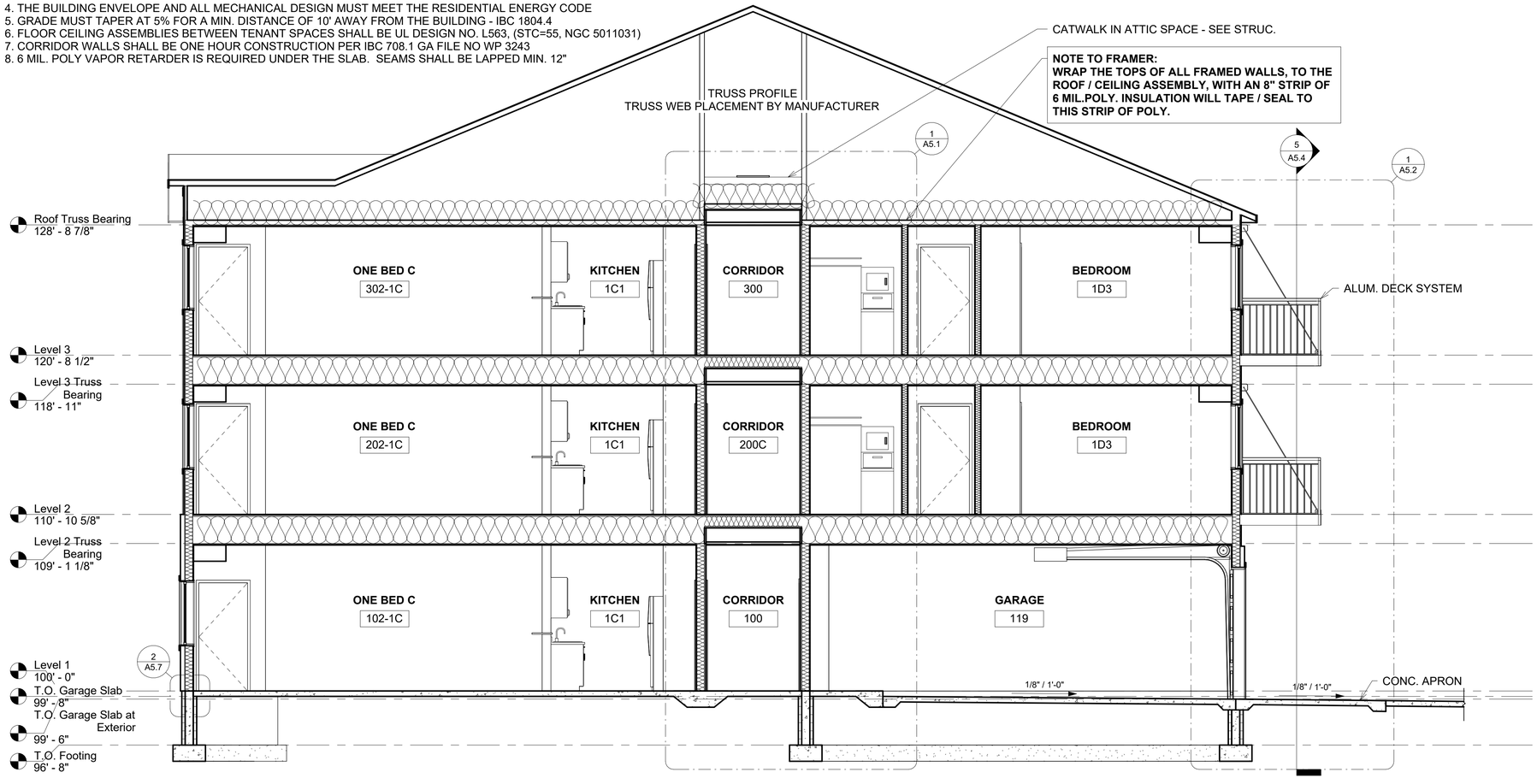
Scale As indicated

PRELIMINARY NFC

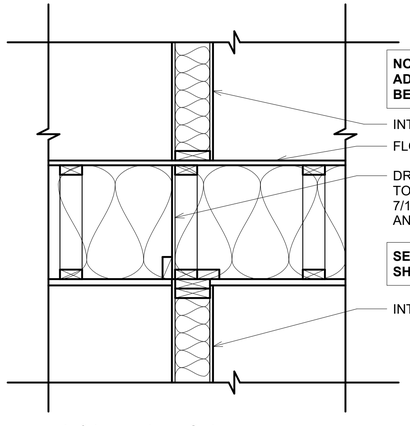
8/18/2025 5:52:22 AM

NOTES:

1. EXTERIOR SIDING/SHEATHING SHALL NOT BE LESS THAN 6" FROM GROUND - IBC 2304.12.1.5
2. WOOD SUPPORTED BY EXTERIOR FOUNDATION WALLS SHALL BE 8" FROM GRADE UNLESS TREATED - IBC 2304.12.1.2
3. ALL FASTENING MUST MEET THE FASTENING SCHEDULE PER IBC 2304.10.1 OR ENGINEERED DESIGN
4. THE BUILDING ENVELOPE AND ALL MECHANICAL DESIGN MUST MEET THE RESIDENTIAL ENERGY CODE
5. GRADE MUST TAPER AT 5% FOR A MIN. DISTANCE OF 10' AWAY FROM THE BUILDING - IBC 1804.4
6. FLOOR CEILING ASSEMBLIES BETWEEN TENANT SPACES SHALL BE UL DESIGN NO. L563, (STC=55, NGC 5011031)
7. CORRIDOR WALLS SHALL BE ONE HOUR CONSTRUCTION PER IBC 708.1 GA FILE NO WP 3243
8. 6 MIL. POLY VAPOR RETARDER IS REQUIRED UNDER THE SLAB. SEAMS SHALL BE LAPPED MIN. 12"




1 Building Section - Main
1/4" = 1'-0"



NOTE: THIS TYPICAL DRAFT STOPPING DETAIL ADDRESSES THE CONDITION AT THE FLOOR SYSTEM BETWEEN SEPARATE DWELLING UNITS

INTERIOR PARTITION WALL

FLOOR SHEATHING

DRAFT STOP (ALSO SHEAR WALL SHEATHING) TO EXTEND TO FLOOR SHEATHING:
7/16" OSB SHEATHING NAILED TO TRUSS WEBS AND TOP AND BOTTOM CHORDS WITH 8d NAILS AT 6" O.C.

SEE STRUCTURAL FOR ADDITIONAL SHEARWALL REQUIREMENTS

INTERIOR PARTITION WALL

Typical Draftstopping at Floor System
1" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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KUEPERS INC
ARCHITECTS & BUILDERS
BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 2

Kuepers Inc.
52 Unit

| Project number | 01-25-1112 | Date | xx-xx-xxxx |
|---|---|---|---|
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PRELIMINARY NFC

# A4.1
## Building Sections

Scale As indicated

8/18/2025 8:52:58 AM

# VICTORY RIDGE APARTMENTS

## BUILDING 1
## MANKATO, MN



## DESIGN TEAM

**OWNER:**

VICTORY RIDGE APARTMENTS OF MANKATO, LLLP.
17018 COMMERCIAL PARK ROAD
BRAINERD, MN 56401
PHONE: 218-829-0707

**GENERAL CONTRACTOR / ARCHITECT:**

KUEPERS INC.
17018 COMMERCIAL PARK ROAD
BRAINERD, MN 56401
PHONE: 218-829-0707

**CIVIL ENGINEER:**

BOLTON & MENK, INC.
MANKATO, MN 56001
PHONE: 507-508-9106

**ELECTRICAL:**

KMI MECHANICAL
BRAINERD, MN
PHONE: 218-454-0829

**MECHANICAL ENGINEER:**

KMI MECHANICAL
BRAINERD, MN
PHONE: 218-454-0829

**STRUCTURAL ENGINEER:**

SANDMAN STRUCTURAL ENGINEERS
BRAINERD, MN
PHONE: 218-227-0022

## CODE NOTES

**APPLICABLE CODES:**

2018 INTERNATIONAL BUILDING CODE
MINNESOTA STATE BUILDING CODE (MSBC) - 2020
MINNESOTA ENERGY CODE - 2024
MINNESOTA ACCESSIBILITY CODE - 2020
MINNESOTA PLUMBING CODE - 2020
MINNESOTA MECHANICAL & FUEL GAS CODE - 2020
MINNESOTA FIRE CODE - 2020
MINNESOTA ELECTRICAL CODE - 2023

**OCCUPANCY REQUIREMENTS:**

BUILDING OCCUPANCY: R-2
CONSTRUCTION TYPE: V-B
FIRE SUPPRESSION: SPRINKLED PER NFPA 13

**ALLOWABLE AREA (PER FLOOR):**

BASIC ALLOWABLE AREA PER IBC TABLE 506.2: R2,VA = 21,000 SQ.FT.
SPRINKLED PER NFPA 13

ALLOWABLE AREA PER FLOOR = 21,000 SQ.FT.

**ACTUAL AREA PER FLOOR:**
LEVEL 1 = 13,732 SQ.FT.
LEVEL 2 = 13,623 SQ.FT.
LEVEL 3 = 13,623 SQ.FT.

**MAXIMUM HEIGHT:**

ALLOWABLE NUMBER OF STORIES = 3
ACTUAL NUMBER OF STORIES = 3

**STRUCTURAL DATA:**

SOIL BEARING CAPACITY = 1,500 PSF (PRESUMED)
ROOF LOAD = 46 PSF (SNOW LOAD)
FLOOR LOAD = 40 PSF AT UNITS
= 100 PSF AT CORRIDOR AND COMMON AREAS
= 125 PSF AT STORAGE AREA
WIND LOAD = 115 MPH

**SITE DATA:**

SEE CIVIL DRAWINGS

## DESCRIPTION

**BUILDING TYPE:**

APARTMENT BUILDING - 38 TOTAL DWELLING UNITS
DETACHED GARAGES - 2 BUILDINGS - 20 GARAGE STALLS

**BUILDING/SITE AMENITIES:**

IN-UNIT HVAC SYSTEMS
DECKS/PATIOS
COMMUNITY ROOM
FITNESS CENTER
IN-UNIT WASHER / DRYER
ELEVATOR

**BUILDING SIZE:**

LEVEL 1 AREA - 13,652 SQ.FT. GROSS
LEVEL 2 AREA - 13,543 SQ.FT. GROSS
LEVEL 3 AREA - 13,543 SQ.FT. GROSS
STUDIO A UNIT AREA - 479 SQ.FT.
STUDIO B UNIT AREA - 526 SQ.FT.
1 BED A AREA - 719 SQ.FT.
1 BED B UNIT AREA - 763 SQ.FT.
2 BED A AREA - 957 SQ.FT.
2 BED B UNIT AREA - 970 SQ.FT.
2 BED C UNIT AREA - 970 SQ.FT.
2 BED D TYPE 'A' UNIT AREA - 970 SQ.FT.

**UNIT MIX:**

LEVEL 1:
1 BED A UNITS - 2
1 BED B UNITS - 2
2 BED A UNITS - 4
2 BED B UNITS - 1
2 BED C UNITS - 1
2 BED D TYPE 'A' UNITS - 1

LEVEL 2:
STUDIO A UNITS - 1
1 BED A UNITS - 2
1 BED B UNITS - 2
2 BED A UNITS - 4
2 BED B UNITS - 2
2 BED C UNITS - 2

LEVEL 3:
STUDIO A UNITS - 1
STUDIO B UNITS - 1
1 BED A UNITS - 2
1 BED B UNITS - 2
2 BED A UNITS - 4
2 BED B UNITS - 2
2 BED C UNITS - 2

TOTAL UNIT MIX:
STUDIO A UNITS - 2
STUDIO B UNITS - 1
1 BED A UNITS - 6
1 BED B UNITS - 6
2 BED A UNITS - 12
2 BED B UNITS - 5
2 BED C UNITS - 5
2 BED D TYPE 'A' UNITS - 1

| Sheet List | |
|---|---|
| Sheet Number | Sheet Name |
| T.1 | Title Sheet |
| CR1.1 | Code Review |
| CR1.2 | Code Review |
| CR1.3 | Code Review |
| CR1.4 | Code Review |
| CR1.5 | Signage Plans |
| CR1.6 | Signage Plans |
| A1.1 | Overall Floor Plan |
| A1.2 | Overall Floor Plan |
| A1.3 | Floor Plan - Level 1 |
| A1.4 | Floor Plan - Level 1 |
| A1.5 | Floor Plan - Level 2 |
| A1.6 | Floor Plan - Level 2 |
| A1.7 | Floor Plan - Level 3 |
| A1.8 | Floor Plan - Level 3 |
| A1.9 | Garage Floor Plan |
| A2.1 | Schedules |
| A2.2 | Schedules |
| A2.3 | Schedules |
| A2.4 | Schedules |
| A2.5 | Schedules |
| A2.6 | Schedules |
| A3.1 | Building Elevations |
| A3.2 | Garage Elevations |
| A3.3 | Garage Elevations |
| A4.1 | Building Sections |

| Sheet List | |
|---|---|
| Sheet Number | Sheet Name |
| A4.2 | Building Sections |
| A4.3 | Stair Sections |
| A4.4 | Stair Sections |
| A4.5 | Garage Bldg. Sections |
| A5.1 | Wall Sections |
| A5.2 | Wall Sections |
| A5.3 | Wall Sections |
| A5.4 | Wall Sections |
| A5.5 | Elevator Sections |
| A5.6 | Details |
| A5.7 | Details |
| A5.8 | Details |
| A6.1 | Roof Plan |
| A7.1 | Reflected Ceiling Plan |
| A7.2 | Reflected Ceiling Plan |
| A8.1 | Dwelling Unit Plan |
| A8.2 | Dwelling Unit Plan |
| A8.3 | Dwelling Unit Plan |
| A8.4 | Dwelling Unit Plan |
| A8.5 | Dwelling Unit Plan |
| A8.6 | Dwelling Unit Plan |
| A9.1 | Enlarged Floor Plans |
| A9.2 | Enlarged Floor Plans |
| A10.1 | Mounting Heights |
| A10.2 | Unit Clearances |

| No. | Description | Date |
|---|---|---|
| | | |

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Signed:

Date: 4-13-2020 License #: 46319

KUEPERS INC
ARCHITECTS & BUILDERS
BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 1

Kuepers Inc.

38 Unit

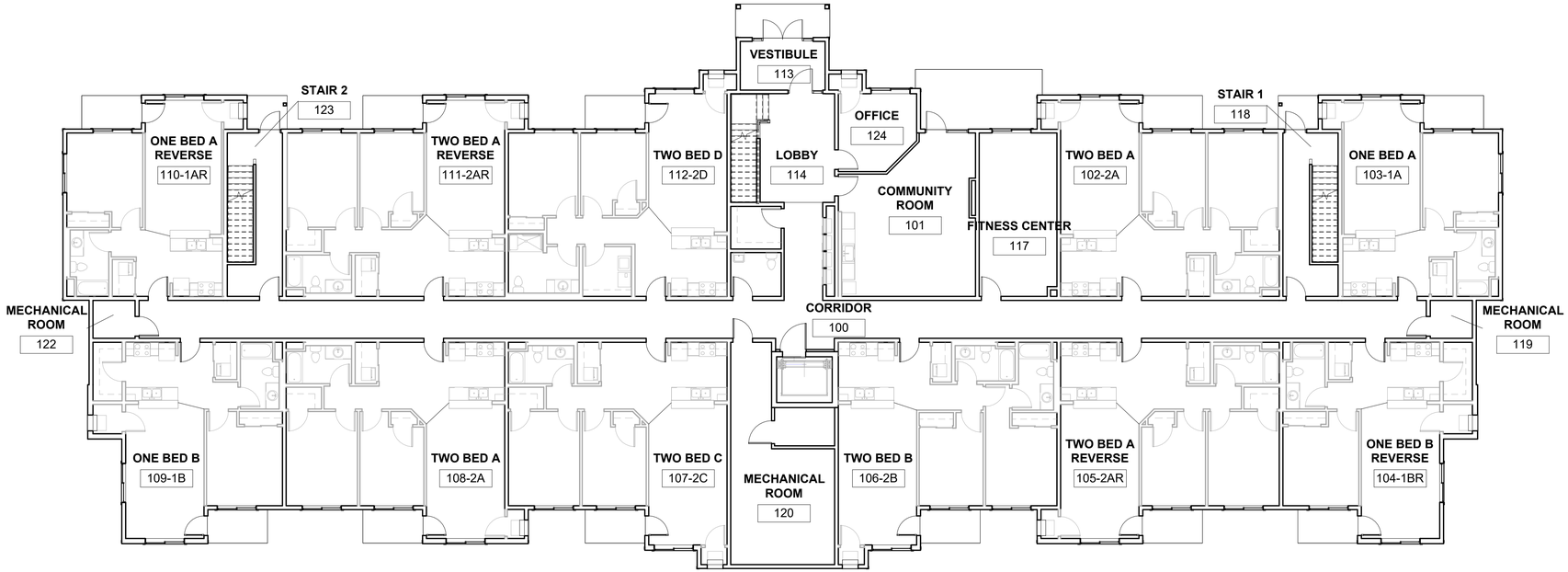
| Project number | 01-25-1111 | Date | xx-xx-xxxx |
|---|---|---|---|
| Drawn by | RET | Checked by | CJR/ZAR |

T.1
Title Sheet

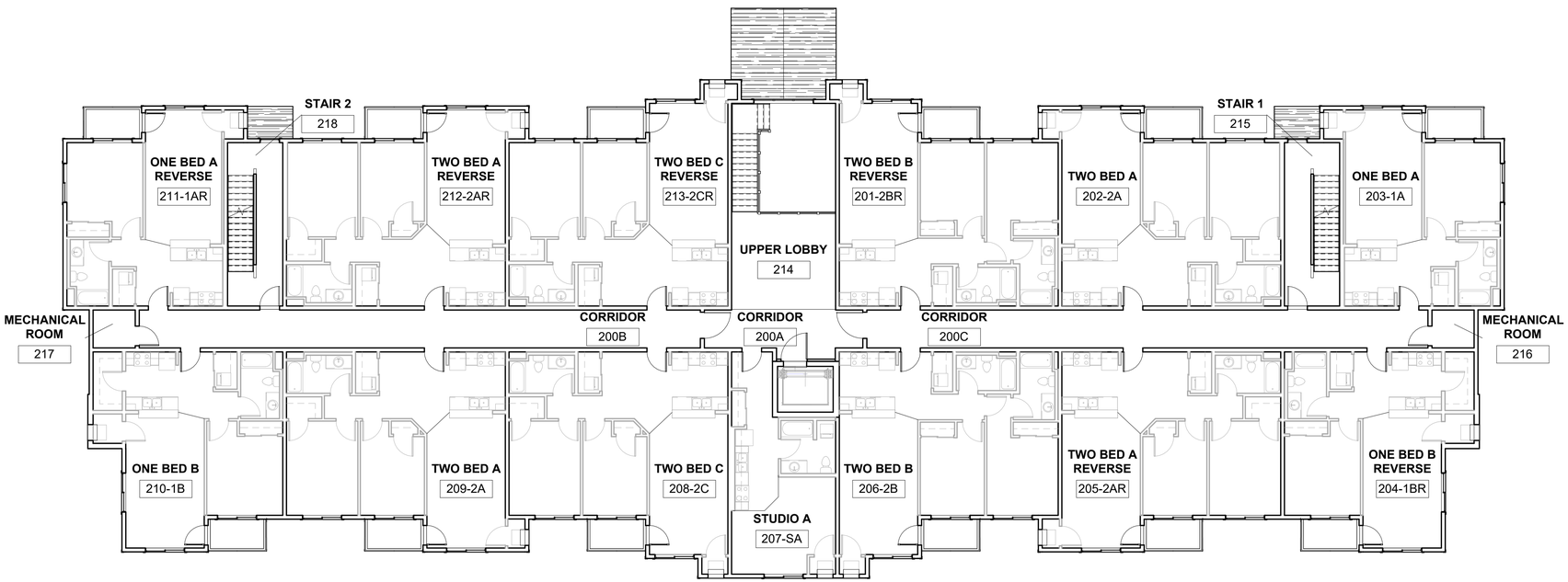
Scale 3/32" = 1'-0"

PRELIMINARY NFC

8/18/2025 8:49:10 AM




1 Overall Floor Plan - Level 1
3/32" = 1'-0"




2 Overall Floor Plan - Level 2
3/32" = 1'-0"

| No. | Description | Date |
|---|---|---|
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Victory Ridge Apartments - Building 1

Kuepers Inc.

38 Unit

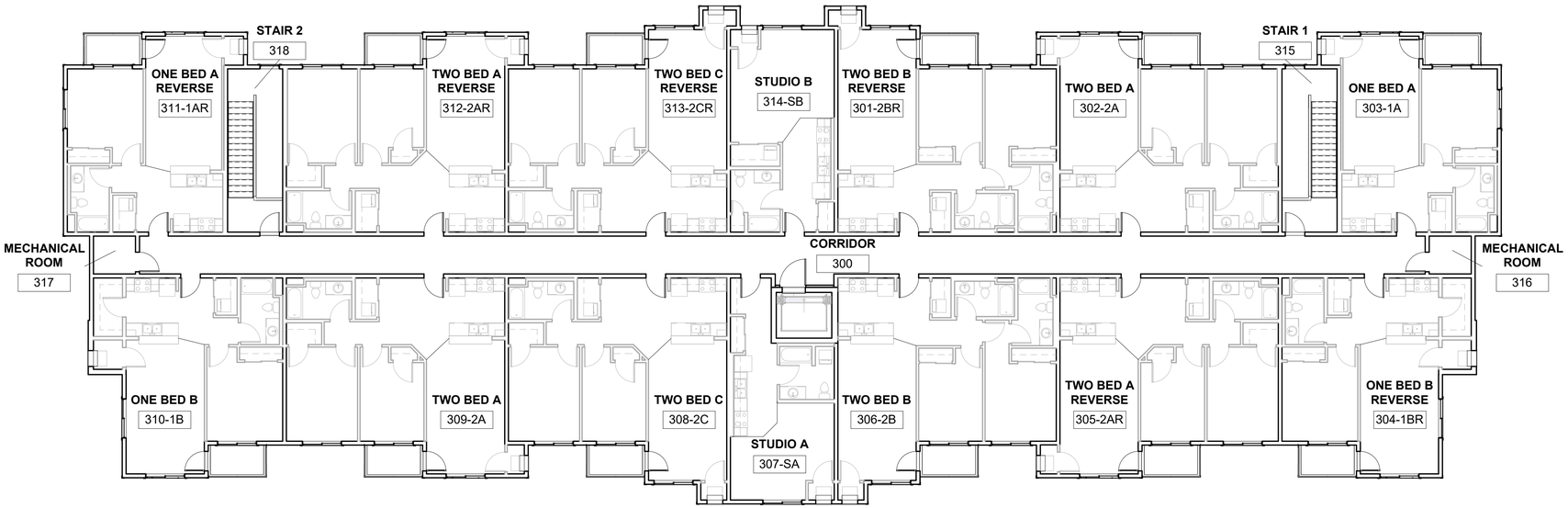
| Project number | 01-25-1111 | Date | xx-xx-xxxx |
|---|---|---|---|
| Drawn by | RET | Checked by | CJR/ZAR |

# A1.1
## Overall Floor Plan

Scale 3/32" = 1'-0"

PRELIMINARY NFC

8/19/2025 1:24:06 PM




1 Overall Floor Plan - Level 3
3/32" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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Victory Ridge Apartments - Building 1

Kuepers Inc.

38 Unit

| Project number | 01-25-1111 | Date | xx-xx-xxxx |
|---|---|---|---|
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# A1.2
## Overall Floor Plan

Scale 3/32" = 1'-0"

PRELIMINARY NFC

8/19/2025 1:24:07 PM




1 Level 1 - Floor Plan East
3/16" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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Victory Ridge Apartments - Building 1

Kuepers Inc.
38 Unit

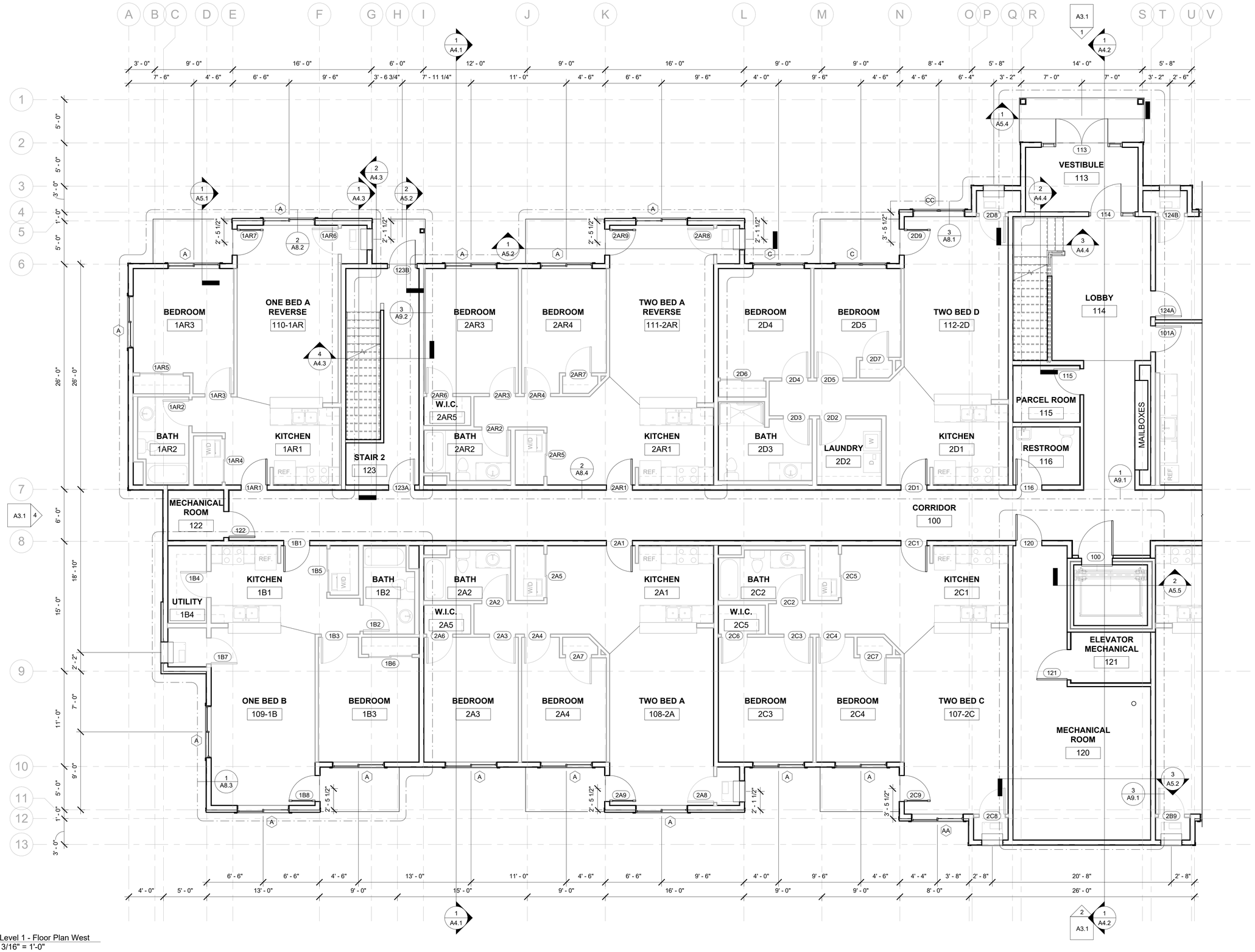
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|---|---|
| Project number 01-25-1111 | Date XX-XX-XXXX |
| Drawn by RET | Checked by CJR/ZAR |

# A1.3
## Floor Plan - Level 1

Scale 3/16" = 1'-0"

PRELIMINARY NFC

8/19/2025 1:24:09 PM




1 Level 1 - Floor Plan West
3/16" = 1'-0"

| No. | Description | Date |
|---|---|---|

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Victory Ridge Apartments - Building 1

Kuepers Inc.
38 Unit

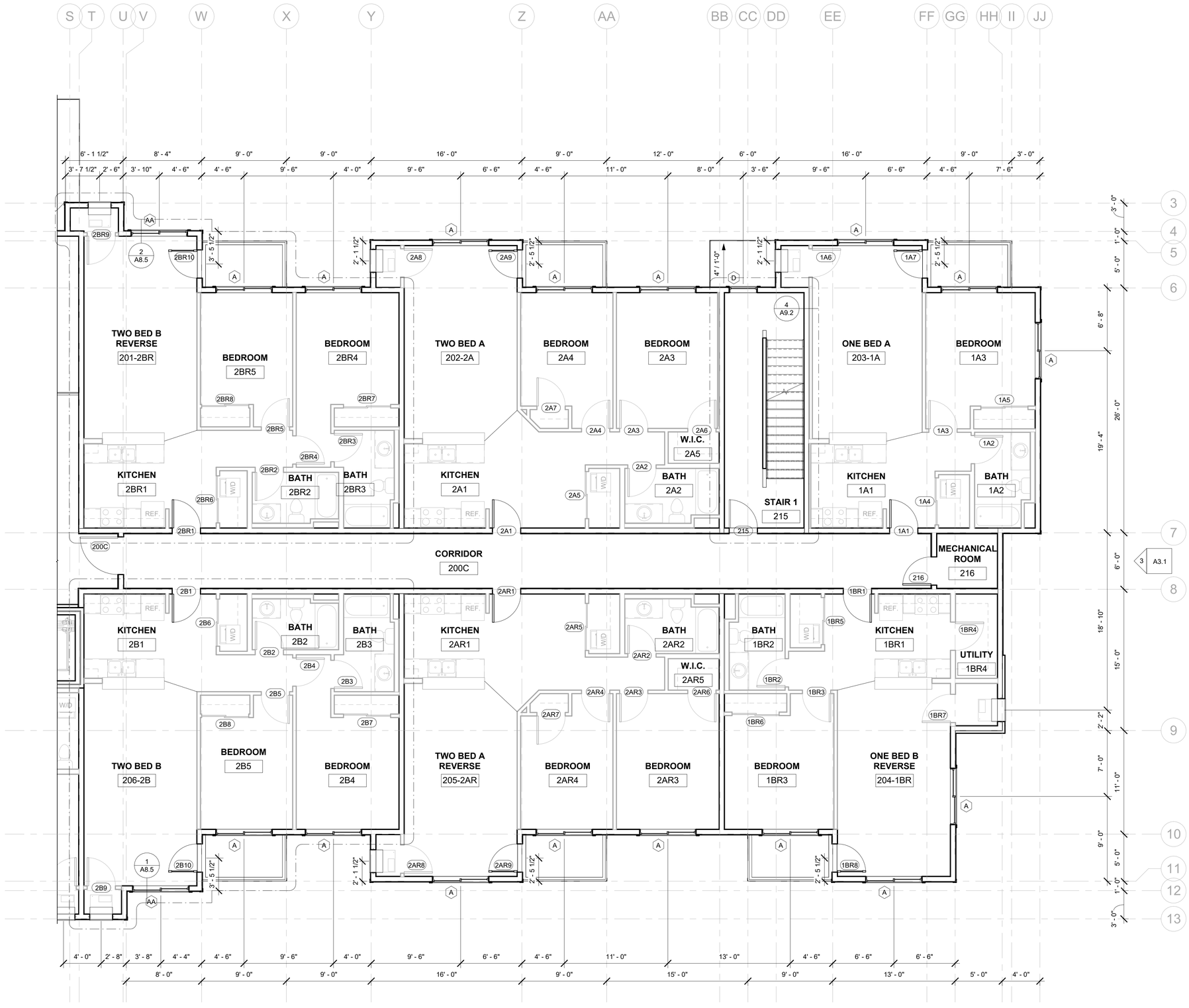
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|---|---|---|---|
| Drawn by | RET | Checked by | CJR/ZAR |

# A1.4
## Floor Plan - Level 1

Scale 3/16" = 1'-0"

PRELIMINARY NFC

8/19/2025 1:24:11 PM




1 Level 2 - Floor Plan East
3/16" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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Victory Ridge Apartments - Building 1

Kuepers Inc.
38 Unit

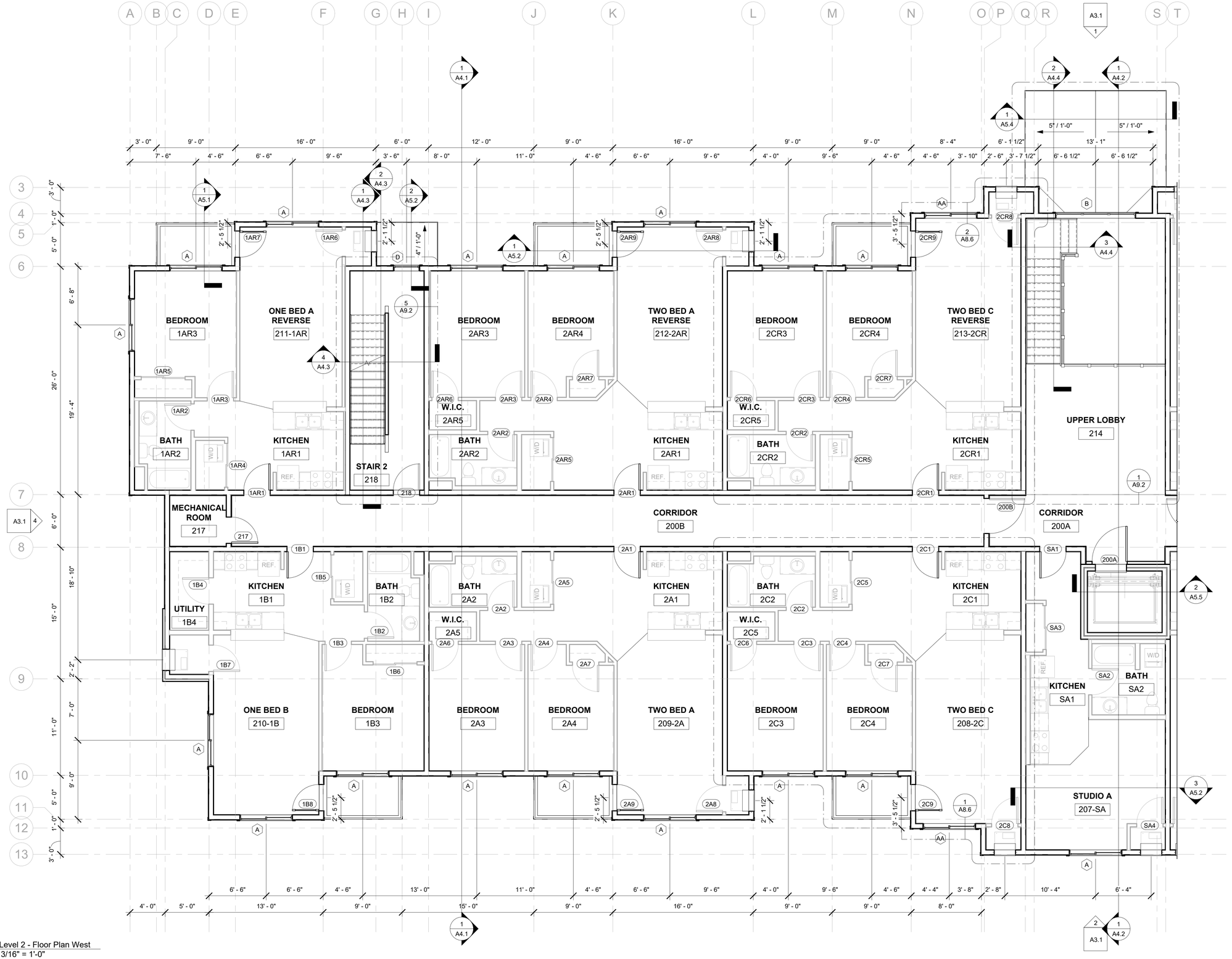
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|---|---|
| Drawn by RET | Checked by CJR/ZAR |

# A1.5
## Floor Plan - Level 2

Scale 3/16" = 1'-0"

PRELIMINARY NFC

8/19/2025 1:24:12 PM




1 Level 2 - Floor Plan West
3/16" = 1'-0"

| No. | Description | Date |
|---|---|---|

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Victory Ridge Apartments - Building 1

Kuepers Inc.
38 Unit

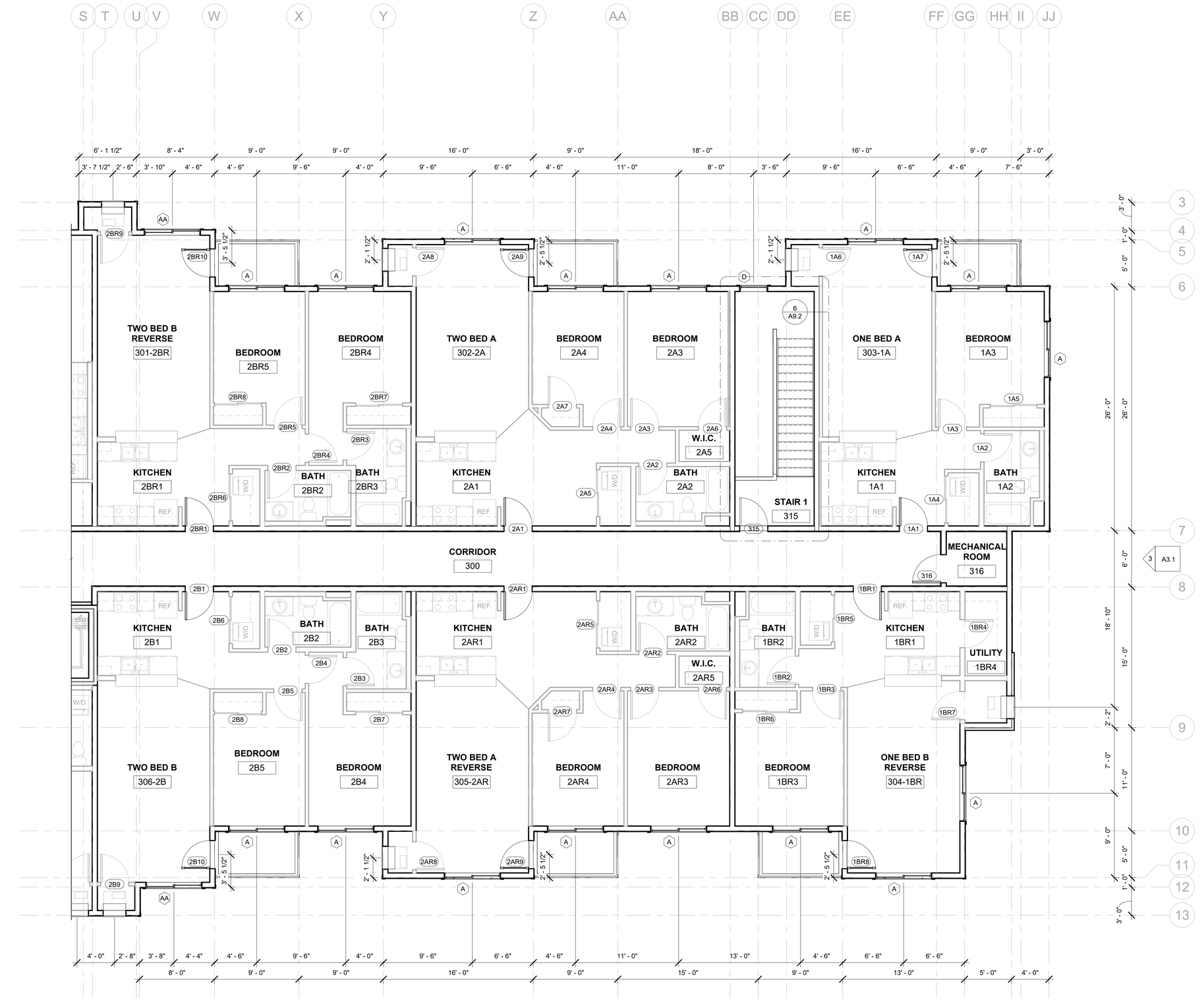
| Project number | 01-25-1111 | Date | XX-XX-XXXX |
|---|---|---|---|
| Drawn by | RET | Checked by | CJR/ZAR |

# A1.6
## Floor Plan - Level 2

Scale 3/16" = 1'-0"

PRELIMINARY NFC

8/19/2025 1:24:14 PM




1 Level 3 - Floor Plan East
3/16" = 1'-0"

| No. | Description | Date |
|---|---|---|

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Victory Ridge Apartments - Building 1

Kuepers Inc.
38 Unit

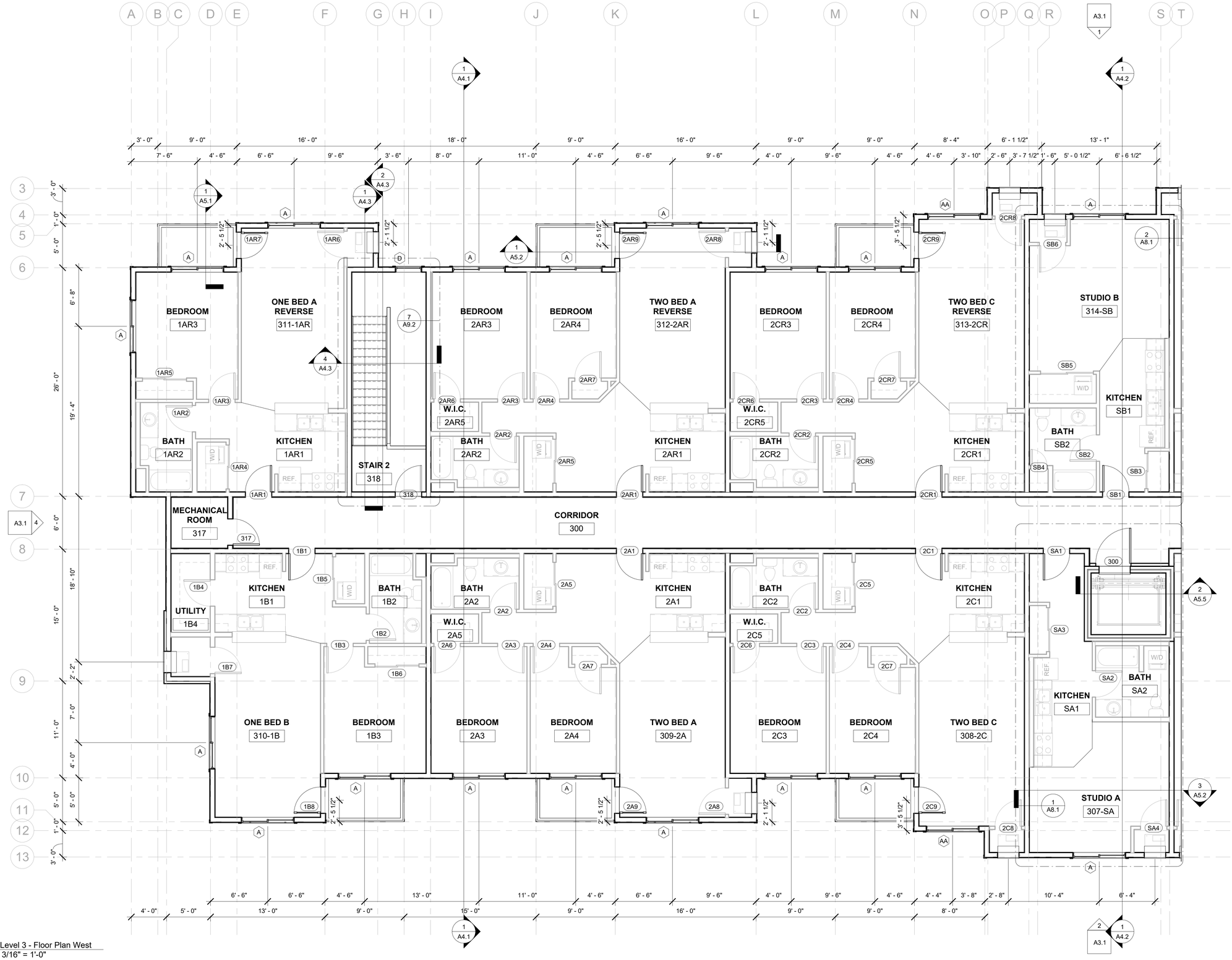
| | |
|---|---|
| Project number 01-25-1111 | Date XX-XX-XXXX |
| Drawn by RET | Checked by CJR/ZAR |

# A1.7
## Floor Plan - Level 3

Scale 3/16" = 1'-0"

PRELIMINARY NFC

8/19/2025 1:24:16 PM




1 Level 3 - Floor Plan West
3/16" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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Victory Ridge Apartments - Building 1

PRELIMINARY NFC

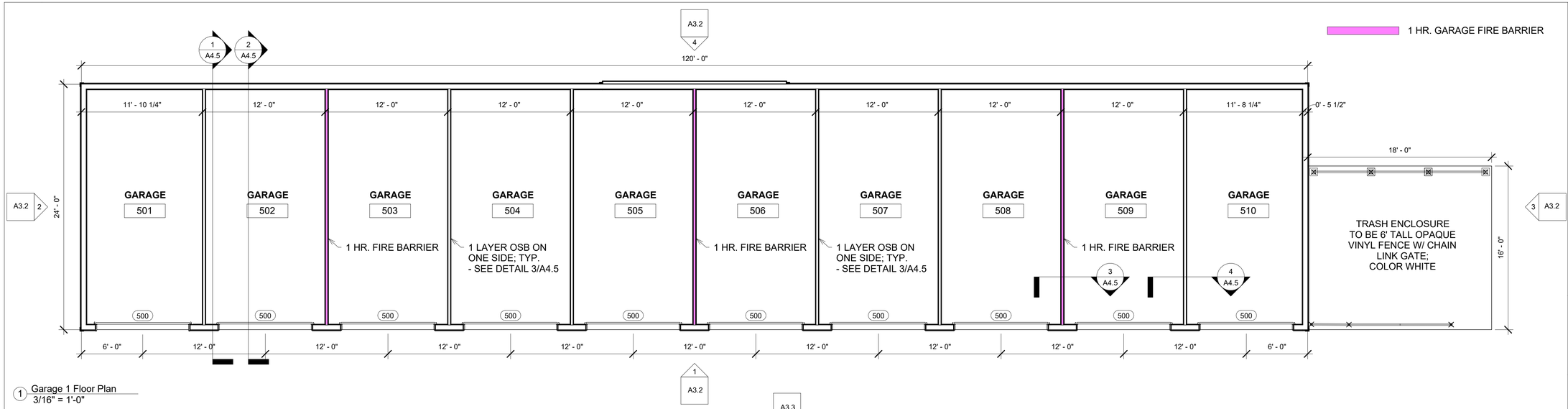
Kuepers Inc.
38 Unit

| | | | |
|---|---|---|---|
| Project number | 01-25-1111 | Date | XX-XX-XXXX |
| Drawn by | RET | Checked by | CJR/ZAR |

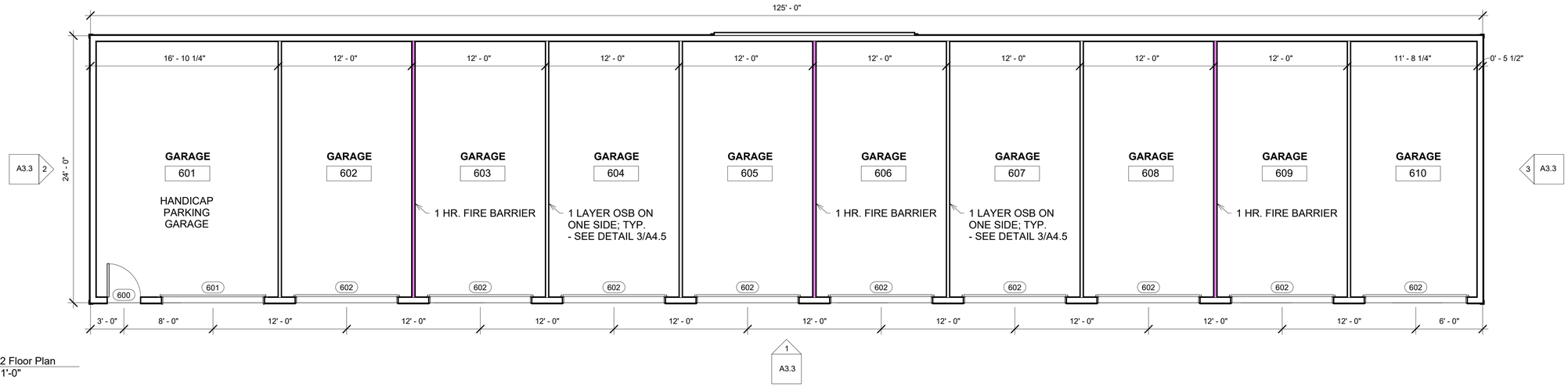
# A1.8
## Floor Plan - Level 3

Scale 3/16" = 1'-0"

8/19/2025 1:24:18 PM




1 Garage 1 Floor Plan
3/16" = 1'-0"




2 Garage 2 Floor Plan
3/16" = 1'-0"

DOOR ABBREVIATIONS:

| | |
|---|---|
| R.H. | = RIGHT HAND |
| L.H. | = LEFT HAND |
| O.H. | = OVERHEAD |
| DBL. | = DOUBLE DOOR |
| BI-P. | = BI-PASS DOOR |
| H.M. | = HOLLOW METAL |
| MTL. | = METAL |
| STL. | = STEEL |
| INSUL. | = INSULATED |
| F.G. | = FIBERGLASS |
| ALUM. | = ALUMINUM |
| R.F. | = REDI-FRAME |

COMMENTS:

1. PANIC HARDWARE
2. KEYED LOCKSET
3. PASSAGE LOCKSET
4. PRIVACY LOCKSET
5. SELF CLOSING HINGES
6. ARM DOOR CLOSER
7. KICK PLATE - PUSH SIDE
8. BUZZER ENTRY
9. SMOKE RESISTANT SEALS
10. WOOD CASING
11. ELECTROMAGNETIC DOOR HOLDER
12. PEEP HOLE
13. LOCKABLE GARAGE DOOR HANDLE
14. BAR PULL
15. AUTOMATIC GARAGE DOOR OPENER
16. DEADBOLT LOCK

GENERAL NOTES:

1. P.M. TO VERIFY ALL ROUGH OPENINGS
2. P.M. TO VERIFY ALL JAMB DEPTHS
3. FLASHING TO BE PLACED OVER ALL EXTERIOR DOORS
4. ADD 3/4" IN HEIGHT TO PATIO DOOR ROUGH OPENINGS AT GYPCRETE CONDITIONS

Door Schedule - Garage

| Mark | Count | Location | Width | Height | Door Type | Fire Rating | Finish | Frame Material | Rough Width | Rough Height | Swing | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 500 | 10 | GARAGE | 9' - 0" | 8' - 0" | D-11 | - | MTL. | WD. | 0' - 0" | 0' - 0" | O.H. | 13 |
| 600 | 1 | GARAGE | 3' - 0" | 6' - 8" | D-1 | | MTL. | WD. | | | L.H. | 3, 16 |
| 601 | 1 | GARAGE | 9' - 0" | 8' - 3" | D-12 | - | MTL. | WD. | 0' - 0" | 0' - 0" | O.H. | 13, 15 |
| 602 | 9 | GARAGE | 9' - 0" | 8' - 0" | D-11 | - | MTL. | WD. | 0' - 0" | 0' - 0" | O.H. | 13 |

| No. | Description | Date |
|---|---|---|
| | | |

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Name: Christopher J. Raimann, AIA
Signed:

Date: 4-13-2020 License #: 46319

KUEPERS INC
ARCHITECTS & BUILDERS
BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 1

Kuepers Inc.

38 Unit

| | |
|---|---|
| Project number 01-25-1111 | Date XX-XX-XXXX |
| Drawn by RET | Checked by CJR/ZAR |

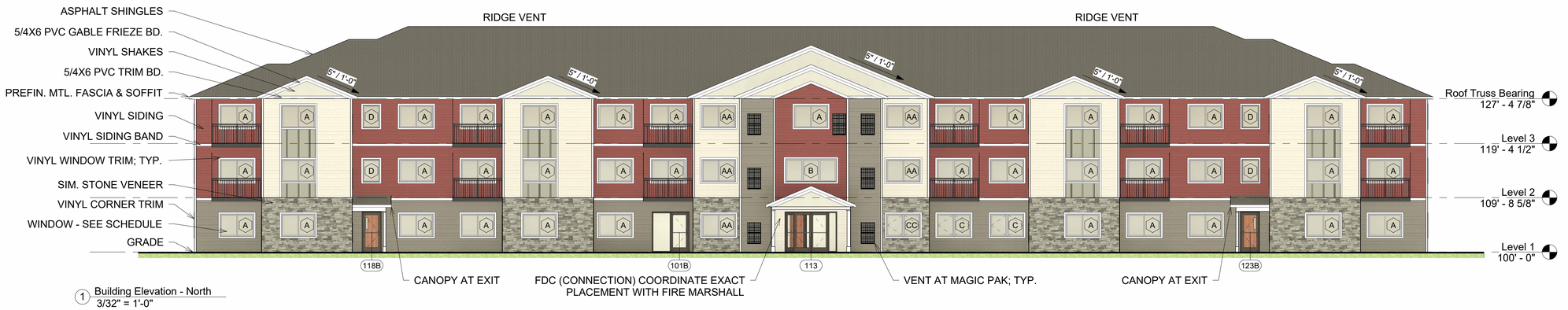
# A1.9

## Garage Floor Plan

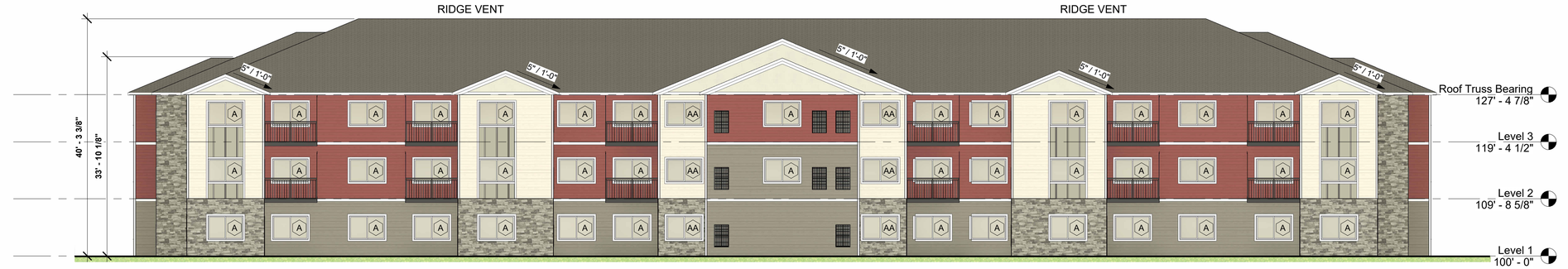
Scale As indicated

PRELIMINARY NFC

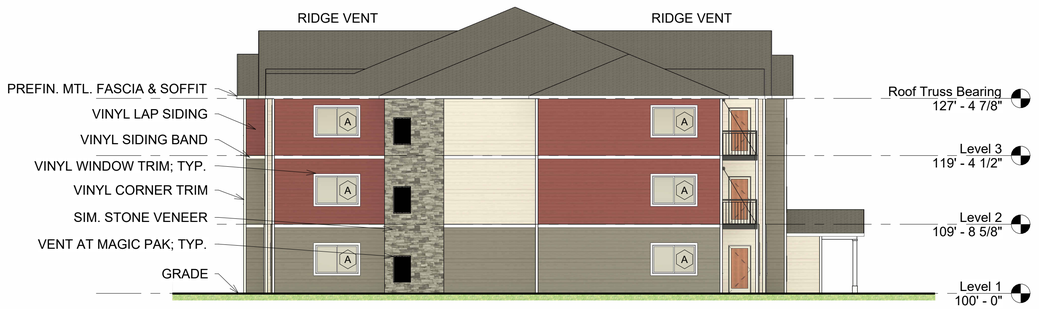
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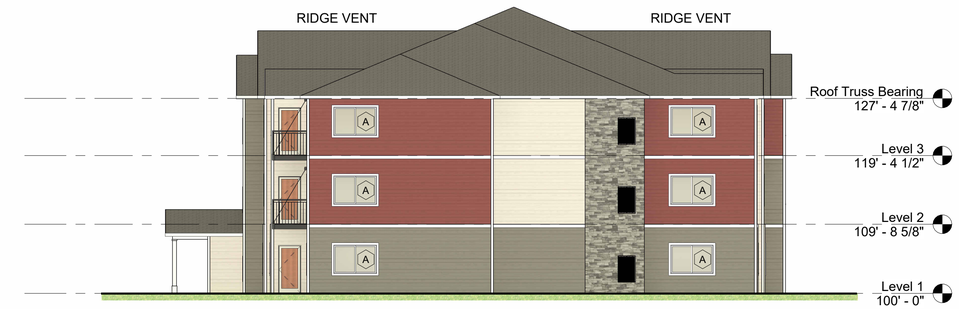

1 Building Elevation - North
3/32" = 1'-0"



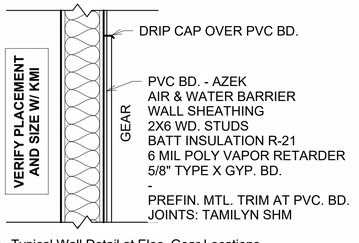

2 Building Elevation - South
3/32" = 1'-0"




3 Building Elevation - East
3/32" = 1'-0"




4 Building Elevation - West
3/32" = 1'-0"




Typical Wall Detail at Elec. Gear Locations
1" = 1'-0"

GENERAL NOTES:

1. ALL PLUMBING PENETRATIONS MUST TERMINATE AT A MIN. OF 12" ABOVE THE ROOF SURFACE LINE.

2. ADDRESS NUMBERS SHALL BE INSTALLED IN A VISIBLE LOCATION PER IBC 501.2.

3. FDC (CONNECTION) MUST BE LOCATED AT THE ADDRESS SIDE OF THE BLDG. OR AT AN APPROVED LOCATION.

4. WATER FLOW ALARMS MUST BE INSTALLED ON THE EXTERIOR PER IBC 903.4.2.

5. ALL EXIT DISCHARGE SHALL BE ILLUMINATED PER IBC 1006.1

6. ALL GLAZING WITHIN 24" OF THE ARC OF A DOOR SHALL BE SAFETY GLAZING PER IBC 2406.3.

| No. | Description | Date |
|---|---|---|
| | | |

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BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 1

Kuepers Inc.

38 Unit

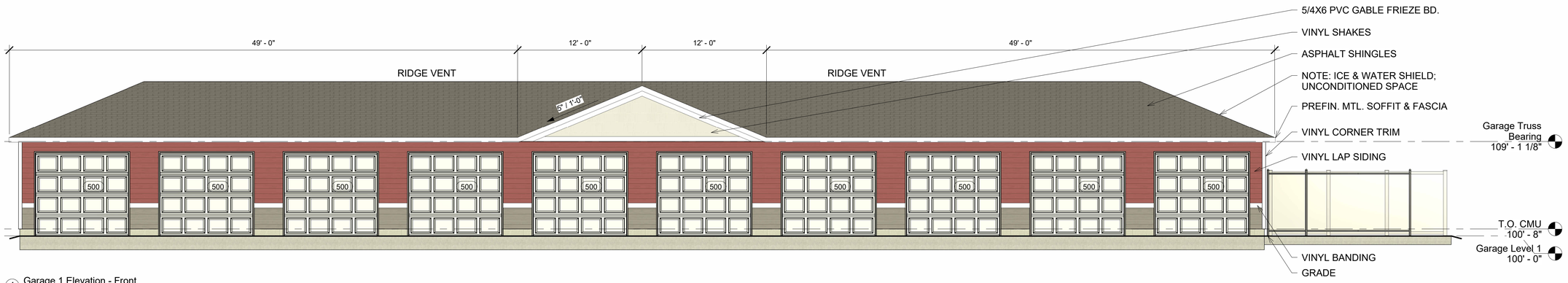
| Project number | 01-25-1111 | Date | xx-xx-xxxx |
|---|---|---|---|
| Drawn by | RET | Checked by | CJR/ZAR |

# A3.1
## Building Elevations

Scale: As indicated

PRELIMINARY NFC

8/18/2025 8:47:03 AM

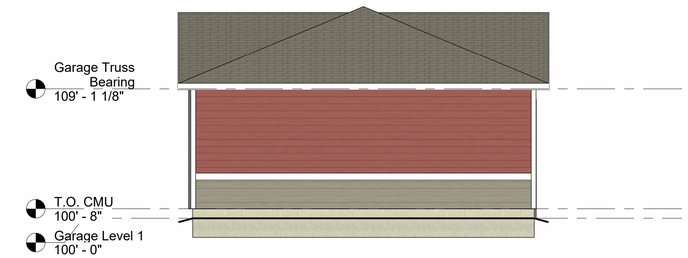



1 Garage 1 Elevation - Front
3/16" = 1'-0"

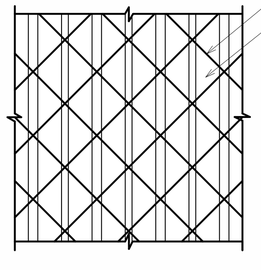
GENERAL NOTES:

1. GARAGE OCCUPANCY GROUP: U OCCUPANCY

2. GARAGE CONSTRUCTION TYPE: VB




2 Garage 1 Elevation - Side 1
3/16" = 1'-0"




THIS DETAIL ILLUSTRATES A TYPICAL 1' X 1' SECTION OF THE CHAIN LINK FENCE AREA AT THE FRONT (GATE) SIDE OF THE REFUSE ENCLOSURE.

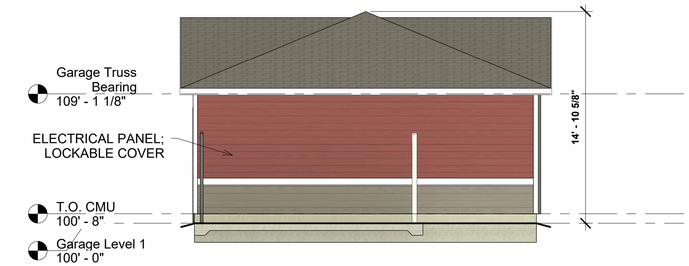
GALVANIZED METAL CHAIN LINK FENCE TO HAVE 2-3/8" MESH SIZE.

1-1/4" WIDE VINYL SLATS INSTALLED AT APPROX. 1-3/4" O.C.

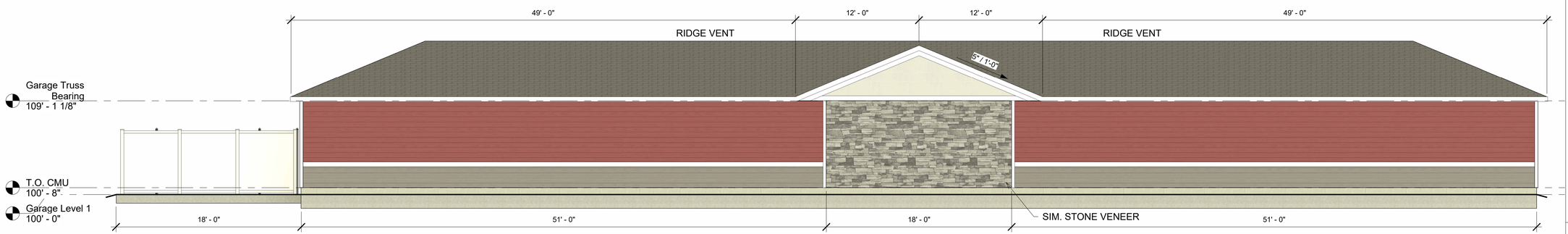
VINYL SLATS PROVIVE 107 INCHES OF OPACITY PER 144 SQUARE INCHES OF AREA = 74% OPACITY

CALCULATION DOES NOT FACTOR IN THE CHAIN LINK GAUGE SIZE OR SUPPORT STRUCTURE.

Trash Enclosure Detail
3" = 1'-0"




3 Garage 1 Elevation - Side 2
3/16" = 1'-0"




4 Garage 1 Elevation - Rear
3/16" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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Signed:

Date: 4-13-2020 License #: 46319

KUEPERS INC
ARCHITECTS & BUILDERS
BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 1

PRELIMINARY NFC

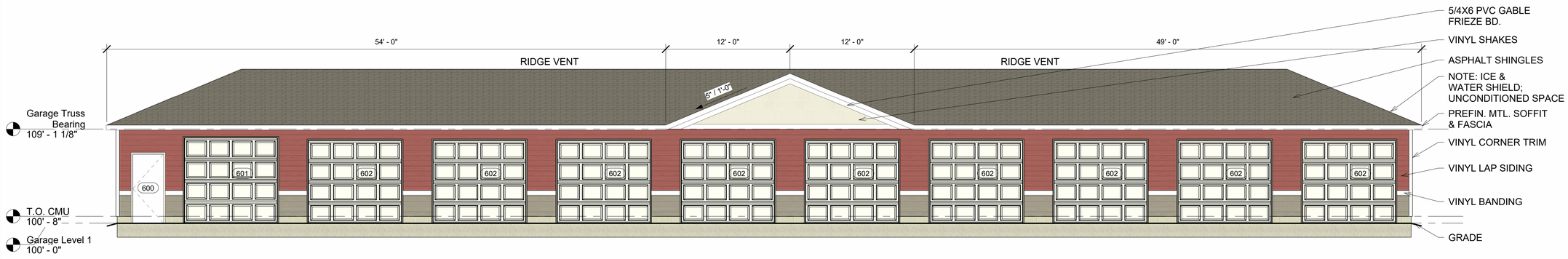
Kuepers Inc.
38 Unit

| Project number | 01-25-1111 | Date | xx-xx-xxxx |
|---|---|---|---|
| Drawn by | RET | Checked by | CJR/ZAR |

# A3.2
## Garage Elevations

Scale As indicated

8/18/2025 8:47:14 AM




1 Garage 2 Elevation - Front
3/16" = 1'-0"

GENERAL NOTES:

1. GARAGE OCCUPANCY GROUP: U OCCUPANCY

2. GARAGE CONSTRUCTION TYPE: VB




2 Garage 2 Elevation - Side 1
3/16" = 1'-0"




THIS DETAIL ILLUSTRATES A TYPICAL 1' X 1' SECTION OF THE CHAIN LINK FENCE AREA AT THE FRONT (GATE) SIDE OF THE REFUSE ENCLOSURE.

GALVANIZED METAL CHAIN LINK FENCE TO HAVE 2-3/8" MESH SIZE.

1-1/4" WIDE VINYL SLATS INSTALLED AT APPROX. 1-3/4" O.C.

VINYL SLATS PROVIVE 107 INCHES OF OPACITY PER 144 SQUARE INCHES OF AREA = 74% OPACITY

CALCULATION DOES NOT FACTOR IN THE CHAIN LINK GAUGE SIZE OR SUPPORT STRUCTURE.

Trash Enclosure Detail
3" = 1'-0"




3 Garage 2 Elevation - Side 2
3/16" = 1'-0"




4 Garage 2 Elevation - Rear
3/16" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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Name: Christopher J. Raimann, AIA
Signed:

Date: 4-13-2020 License #: 46319

KUEPERS INC
ARCHITECTS & BUILDERS
BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 1

Kuepers Inc.

38 Unit

| Project number | 01-25-1111 | Date | XX-XX-XXXX |
|---|---|---|---|
| Drawn by | RET | Checked by | CJR/ZAR |

# A3.3
## Garage Elevations

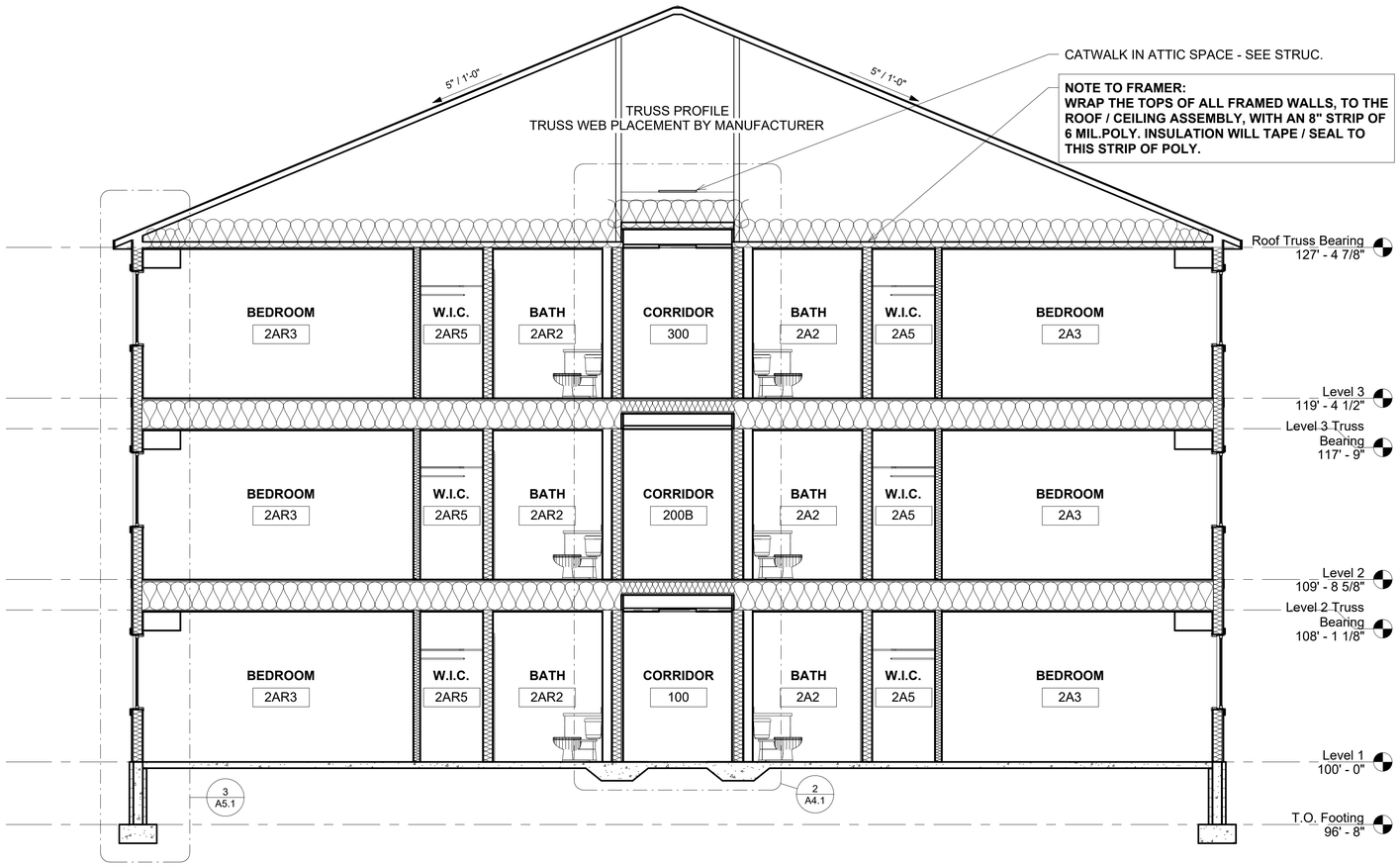
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PRELIMINARY NFC

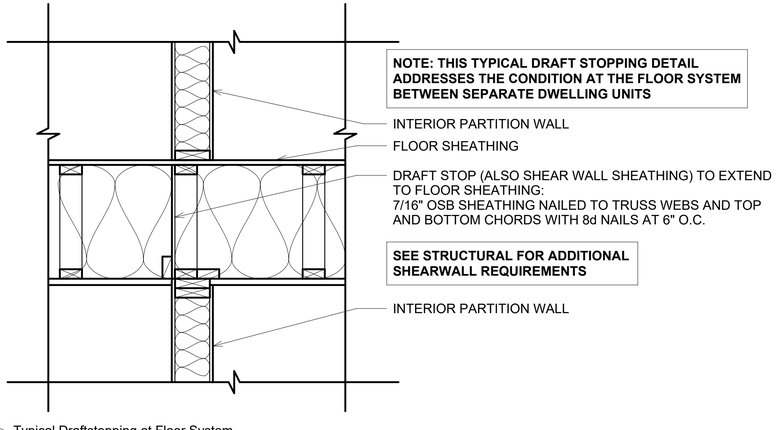
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NOTES:

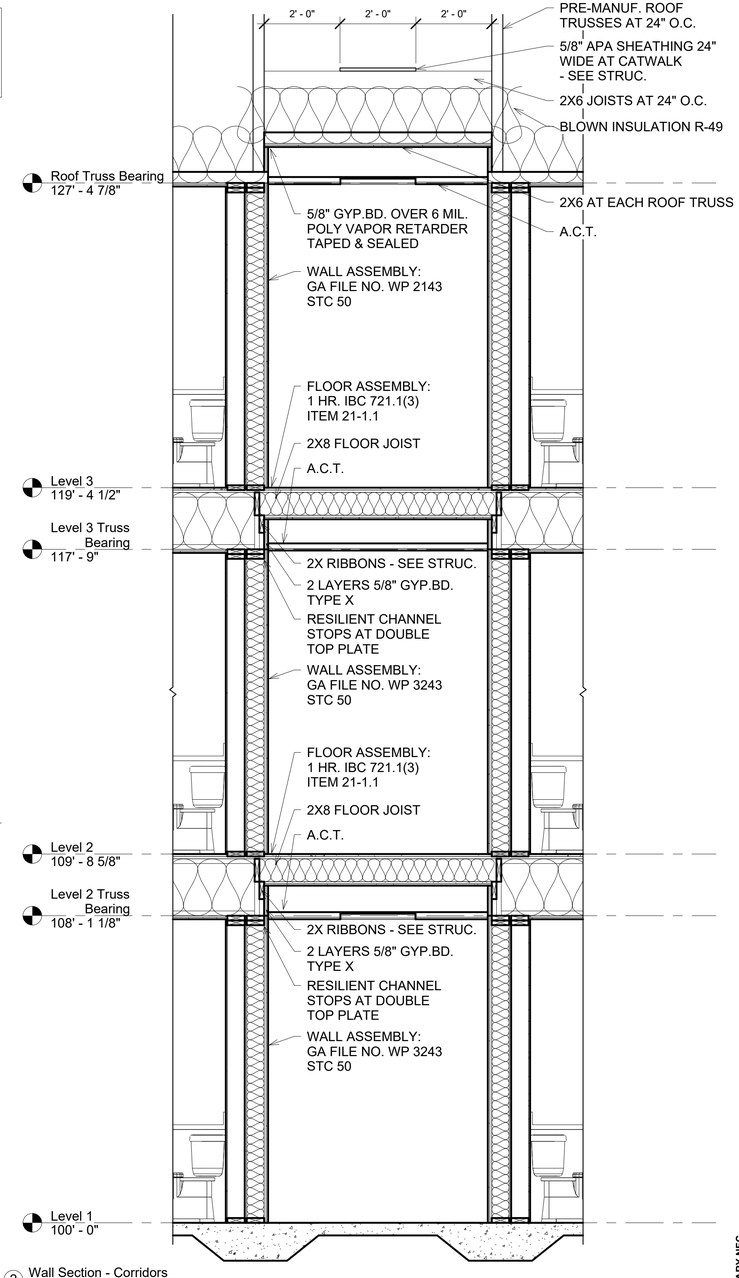
1. EXTERIOR SIDING/SHEATHING SHALL NOT BE LESS THAN 6" FROM GROUND - IBC 2304.11.2.6
2. WOOD SUPPORTED BY EXTERIOR FOUNDATION WALLS SHALL BE 8" FROM GRADE UNLESS TREATED - IBC 2304.11.2.2
3. ALL FASTENING MUST MEET THE FASTENING SCHEDULE PER IBC 2304.9.1 OR ENGINEERED DESIGN
4. THE BUILDING ENVELOPE AND ALL MECHANICAL DESIGN MUST MEET THE RESIDENTIAL ENERGY CODE
5. GRADE MUST TAPER AT 5% FOR A MIN. DISTANCE OF 10' AWAY FROM THE BUILDING - IBC 1804.3
6. FLOOR CEILING ASSEMBLIES BETWEEN TENANT SPACES SHALL BE UL DESIGN NO. L563
7. CORRIDOR WALLS SHALL BE ONE HOUR CONSTRUCTION PER IBC 708.1 GA FILE NO WP 3243
8. 6 MIL. POLY VAPOR RETARDER IS REQUIRED UNDER THE SLAB. SEAMS SHALL BE LAPPED MIN. 12"




1 Building Section - Main
1/4" = 1'-0"




Typical Draftstopping at Floor System
1" = 1'-0"




2 Wall Section - Corridors
1/2" = 1'-0"

| No. | Description | Date |
|---|---|---|
| | | |

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KUEPERS INC
ARCHITECTS & BUILDERS
BRAINERD/BAXTER, MN 218-829-0707

Victory Ridge Apartments - Building 1

Kuepers Inc.
38 Unit

| Project number | 01-25-1111 | Date | XX-XX-XXXX |
|---|---|---|---|
| Drawn by | RET | Checked by | CJR/ZAR |

# A4.1
## Building Sections

Scale As indicated

PRELIMINARY NFC

8/18/2025 8:48:08 AM

**Meeting Date:** 09/24/2025

**Title**

CY 50-25

**Request of American Builders and Contractors, Supply Co Inc, with permission of the property owner, for a conditional use permit to allow unenclosed storage of materials, products and equipment including wholesale building materials in the PI, Planned Industrial, zoning district. The subject properties are described as Lots 1 thru 8, Block 21 and Lots 12-16, 9-11, Block 12, and vacated alleys and streets and Lot 2, Block 1, Vogel Addition. (2205 7th Avenue; PID R010906182007 and R010906183004).**

*The anticipated date of City Council action is October 14, 2025.*

**Applicant**

The applicant is American Builders and Contractors, Supply Co Inc, with permission of the property owner.

**Request**

The applicant is requesting a conditional use permit to allow unenclosed storage of materials, products and equipment including wholesale building materials in the PI, Planned Industrial, zoning district.

**Location**

The subject properties are described as Lots 1 thru 8, Block 21 and Lots 12-16, 9-11, Block 12, and vacated alleys and streets and Lot 2, Block 1, Vogel Addition. (2205 7th Avenue; PID R010906182007 and R010906183004).

**Existing Land Use**

The property was most recently used for industrial purposes.

**Zoning**

The property is zoned PI, Planned Industrial.

**Environmentally Sensitive Areas**

The subject properties at 2205 7th Ave & 2204 6th Ave are shown by the National Wetlands Inventory to include areas of wetland. The wetland data is based on image interpretation of 2011 color infrared aerial photographs. Significant site disturbance and modification has occurred since 2011, with much of the site developed as hard surfacing and a pond being erected in the NE corner of the site.
No wetland delineation is known to have occurred on the subject property.

**Public Utilities**

The site is connected to city utilities.

**City Code**

Mankato City Code Chapter 10. Article VII. Division 2. Provides standards for the PI Planned Industrial District. Linked Here:
https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=CH10LAUSDE_ARTVIIINDI_DIV2PIPLINDI

Mankato City Code Chapter 10. Article X. Division 2. Section 10-1497. Provides standards for Outside storage of materials in commercial, and industrial districts. Linked Here: https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=PTIICOOR_CH10LAUSDE_ARTXSTGEAP_DIV2SPPRAPSPPECOUS_S10-1497OUSTMACOINDI

**Site Plan Review Comments**

The Site Plan and Traffic Committee reviewed the request at their September 9th, 2025 meeting and the following comments were provided. The applicant subsequently replied, as shown in the italics:

a. The proposed gate along Cleveland Street should be required to remain at an open position during business hours, and when deliveries/pick-ups are planned to occur. *"Understood."*
b. The applicant shall clarify where retail order pick-ups and parking will occur on site. *"Not sure where the retail comment comes from. Wholesale distribution. Our customer pick-up area and parking are clearly marked on the attached (C100).*
c. The applicant shall provide screening of 90% opacity or greater for the proposed exterior storage in accordance with Mankato City Code. *"Upon review, screening around the entire premise would not be needed. Please confirm if this is a condition of the CUP?"*
d. The applicant should be aware that all signage must be reviewed and permitted prior to installation. *"Understood."*
e. The applicant should be aware that the existing fence near their northerly property line is fencing for the US 14 eastbound right-of-way. The applicant shall obtain a survey prior to any fence installation to ensure it does not encroach state highway right-of-way. Additionally, the new fencing should not be attached to the MNDOT fence. *"Understood."*
f. If traffic associated with the usage of the property causes undue traffic concerns on Cleveland Street or 7th Avenue, the applicant shall be required to complete a traffic study and make the recommended modifications needed to mitigate these conditions. *"Understood."*
g. The applicant should be aware that outdoor storage is limited to operable equipment only. Inoperable or unlicensed equipment will not be permitted. Wrecked, dismantled, partially dismantled, inoperative, or abandoned vehicles or machinery shall be prohibited. *"Understood."*
h. A snow storage plan shall be submitted and approved. Snow storage shall be in conformance with an approved plan. *"No formal plan is being conducted, snow will be pushed to the area marked "future storage area in the SE corner" of this site plan."*
i. If it is not already complete, applicant shall log in to the online portal and make notification fee payment. *"Paid Additional Notice fee $56."*

**Review**

American Builders and Contractors, Supply Co Inc, with permission of the property owner, is requesting a conditional use permit to allow unenclosed storage of materials, products and equipment including wholesale building materials in the PI, Planned Industrial, zoning district. The subject properties are described as Lots 1 thru 8, Block 21 and Lots 12-16, 9-11, 12, and vacated alleys and streets and Lot 2, Block 1, Vogel Addition. (2205 7 th Avenue).

The applicant is proposing to use the property as a construction material supply business, which is proposed to have an outside storage area for materials. The proposal depicts the outside storage of materials to the east of the building. Overstock items will be stored adjacent to the building. Shingles will be on the eastern side of the parking lot.

The Mankato City Code allows unenclosed storage of materials, products, and equipment in the PI, Planned Industrial Zoning District through the issuance of a Conditional Use Permit, provided the use conforms to Chapter 10, Article X, Division 2 of the Mankato City Code.

The site plan shows few modifications to the existing site. Exterior modifications that will occur on site include a new forklift loading ramp, two new areas of fencing and gates, and a new overhead door.

The existing southern access onto Cleveland Street and the existing western access onto 7th Ave will be maintained as is, with the addition of a gate system to limit after-hours access to the site. A condition that requires the proposed gate along Cleveland Street to remain in an open position during business hours, and when deliveries/pick-ups are planned to occur, has been included.

The site plan shows no modification to the number of off-street parking stalls provided on site. 27 standard off-street parking stalls, 2 accessible parking stalls, and 28 truck parking stalls are provided on site. Warehousing and wholesale businesses are required to provide three off-street parking spaces, plus one space per employee on the largest shift. With a total of 57 off-street parking stalls provided on site, business operations would be limited to 54 employees on the largest shift.

If not already provided on site, the site must provide three bicycle parking spaces based on the standard that: nonresidential and multiple-family dwelling uses having an off-street parking requirement of 40 or more automobile spaces shall provide off-street bicycle parking spaces equal to five percent of the total number of automobile off-street parking spaces provided. With 57 automobile spaces provided, a minium of 3 bicycle parking spaces are required.

The outdoor area proposed for the storage of materials, products and equipment, including wholesale building materials, is shown to be paved primarily with bituminous material, with a concrete apron surrounding the

building. This area will be fully enclosed by a chain-link fence with privacy slats and two gates. The existing six-foot chain link fence located along the eastern property line will be maintained, but must be modified to provide 90% screening opacity. The existing 6-foot-tall chain-link fence along the northern property line has been identified as belonging to MnDOT and therefore cannot be attached to or modified unless prior approval is received from MnDOT. MnDOT provided comments concerning this fence following notification of Site Plan review. A new 6' chain-link fence with a swinging gate will be installed along the northeast entrance to the site, this fence shall also provide 90% screening opacity. Lastly, an 8-foot-tall chain-link with privacy slats and a sliding gate shall be installed along the southern property line. The proposed fence does not meet the minimum 90% opacity screening requirement for outside storage areas as required by the City Code, but shall be required to be modified in order to meet or exceed this requirement.

A trash enclosure is not shown on the provided site plan. Interior trash storage is not shown on the provided floor plans. Trash/refuse shall be stored either entirely within an enclosed structure or within a code-compliant exterior enclosure that meets Sec. 10-1743.

No changes to the exterior elevations of the building are proposed. No changes to exterior lighting have been proposed. If modifications to exterior lighting are proposed to occur, a photometric plan and lighting cut sheets must be provided and approved. All lighting must conform to the Mankato City Code, including full cut, fully shielded fixtures.

No modifications to exterior landscaping have been proposed. Landscaping must conform to the requirements of Chapter 10, Article X, Division 8 of the City Code. Snow storage is proposed to occur within the existing grassy area tabled as "Future Storage Area" on Doc# C100. If snow storage at this location impacts drainage on public ROW or adjacent properties, an alternative snow storage plan must be adopted.

Provided plans do not show the instillation of signage. If business signage is to be installed, sign permits must be applied for and approved for each sign instillation. No temporary or permanent signage shall be installed prior to issuance of a sign permit.

The existing building is divided into a two-level building. The proposed floor plans include two warehouse areas, an office area and a showroom space. Warehouse area one is largely a two-story open space with a radiant hanging heater, trench drain, and multiple loading docks. Warehouse area two is largely a two-story open space with two radiant hanging heaters, loading docks, and an overhead door providing access from the new fork lift loading ramp. The office & showroom area is shown as split between the first and second floors, the second story of which is exclusively office space. This mixed-use space is shown to contain multiple office spaces, restrooms, break and conference room spaces, and a sales counter.

The applicant, ABC Supply Co. Inc. states that they are a large wholesale distributor of roofing supplies. They also state that they supply siding, windows, and other select exterior and interior building products, tools, and related supplies. Exterior storage materials will primarily include asphalt shingles, roofing insulation and accessories, solar panels, siding, stucco, windows and doors, rain gutters, and decking and railing.

MnDOT provided the following comment in response to the Site Plan notification: "*The applicant should be aware that the existing fence near their northerly property line is fencing for the US 14 eastbound right-of-way. We would ask that prior to any fence installation on the subject property, the applicant obtain a survey to ensure the new fencing does not encroach state highway right-of-way. Additionally, the new fencing should not be attached to the MnDOT fence".*

**Findings**

Staff respectfully submits the following findings of fact for the Conditional Use Permit:

1. The proposed unenclosed storage of material, products and equipment is considered a Conditional Use in the PI, Planned Industrial Zoning District.
2. The proposed outdoor storage, when implemented with the recommendations and in conformance with Mankato City Code, is in keeping with the comprehensive planning policies of the City. The underlying land use plan identifies this parcel as "Light Industrial".
3. The proposal does not interfere with or diminish the use of property in the immediate vicinity.
4. The proposal does not cause undue traffic congestion. Access will not be modified as part of the proposed project.
5. To the extent known, the development conforms with all other applicable regulations of the district, and other applicable ordinances.
6. There are no known historical or architectural resources on the site.
7. There are no known significant natural or environmental features on the property.
8. It will not cause a negative cumulative effect and effect on the City as a whole.
9. The proposal will not jeopardize the public's health, safety, or general welfare.
10. The existing fence near the northern property line is fencing for the U.S. Hwy 14 Right-of-Way.

**Recommendation**

Staff recommends approval of the Conditional Use Permit to allow unenclosed storage of materials, products and equipment including wholesale building materials in the PI, Planned Industrial Zoning District with the following conditions:

1. Outdoor storage is limited to operable equipment only. Inoperable or unlicensed equipment will not be permitted. Wrecked, dismantled, partially dismantled, inoperative, or abandoned vehicles or machinery shall be prohibited.
2. The outdoor storage of any refuse or waste material must conform to section 11-32 and section 10-1743, including full enclosure of any refuse containers.
3. Signage for the development shall conform to Mankato City Code standards and a sign permit shall be obtained for any proposed signage prior to fabrication and installation.
4. The applicant shall obtain an industrial stormwater permit prior to future expansion of the area labeled "future storage area" on Doc. #C100.
5. The applicant shall provide screening of 90% opacity or greater for the proposed exterior storage in accordance with Mankato City Code.
6. On-site lighting shall conform to the lighting standards in the Mankato City Code, including but not limited to full-cut, fully shielded fixtures. Conformance shall include, but not limited to, all signage, building, and parking lot lighting.
7. Landscaping shall be installed in conformance with the Mankato City Code and in accordance with an approved landscaping plan prior to issuance of a certificate of occupancy.
8. The proposed gate located along Cleveland Street shall be required to remain in an open position during business hours, and when deliveries/pick-ups are planned to occur.
9. If traffic associated with the usage of the property causes undue traffic concerns on Cleveland Street or 7th Avenue, the applicant shall be required to complete a traffic study and make the recommended modifications needed to mitigate these conditions.
10. The applicant shall obtain a survey prior to any fence installation to ensure it does not encroach into state highway right-of-way. Additionally, proposed fencing shall not attach to the existing MnDOT fence located along the northerly property line unless prior approval is obtained from MnDOT.
11. If drainage associated with snow storage within the existing grassy area impacts adjacent properties or public ROW, an alternative snow storage/removal plan shall be provided and approved.
12. Noise levels shall conform to Minnesota Administrative Rules Chapter 7030, Noise Pollution Control, and all other applicable noise regulations.
13. A minimum of three off-street bicycle parking spaces shall be provided on site.

---

**Attachments**

General Location Map

Aerial Map

Site Plan

Fence Cut Sheet

Existing Conditions

Floor Plans - Proposed

Floor Plans - Demo

Floor Plans - Existing

Plan Details - Misc

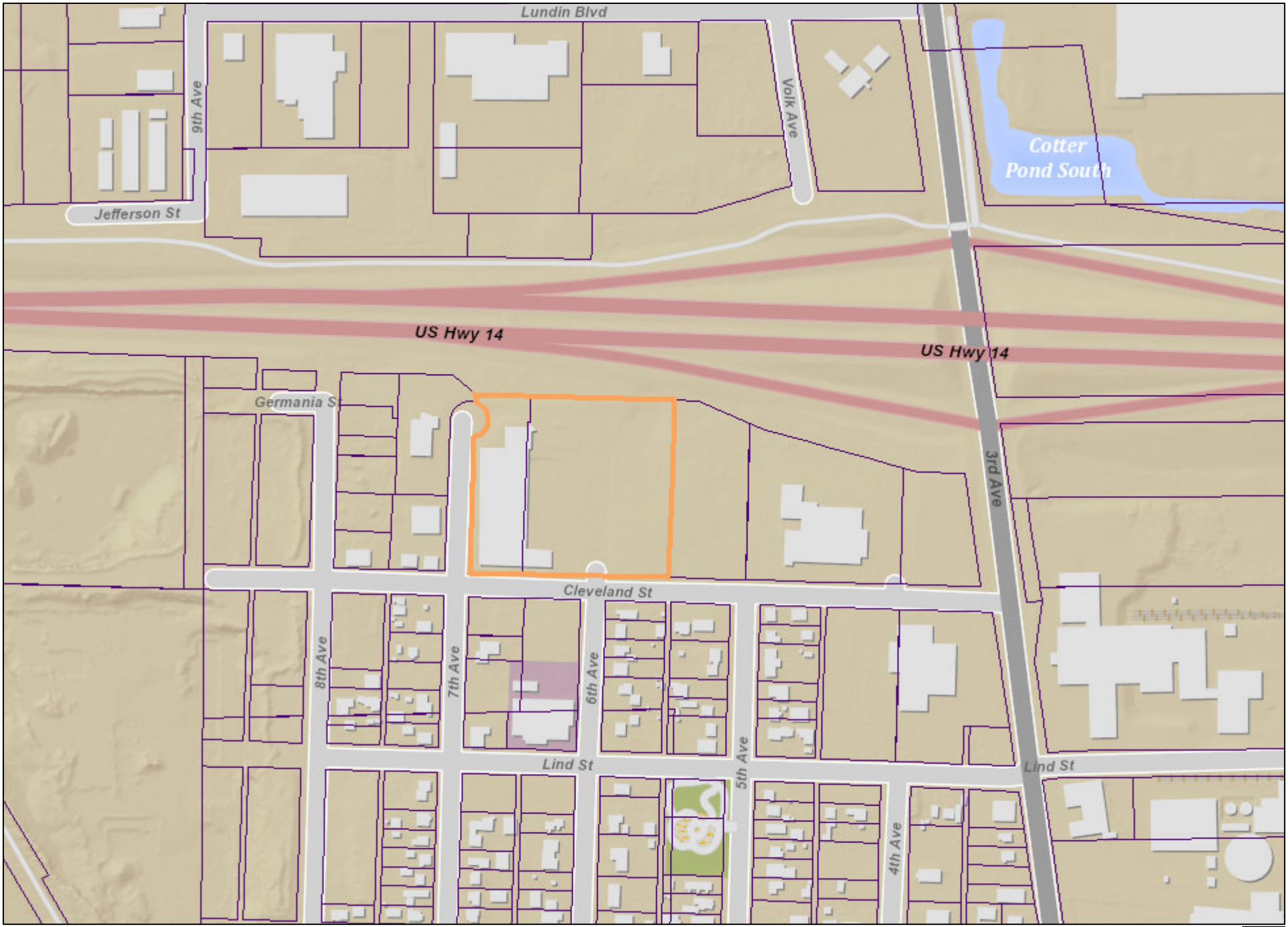
Narrative

Site Plan Comments Response

MnDOT Comments

---

# General Location Map




**Date: September 2025**

**Author:**

This information is to be used for reference purposes only. The City of Mankato does not guarantee accuracy of the material contained herein and is not responsible for misuse or misinterpretation.

N

# Aerial

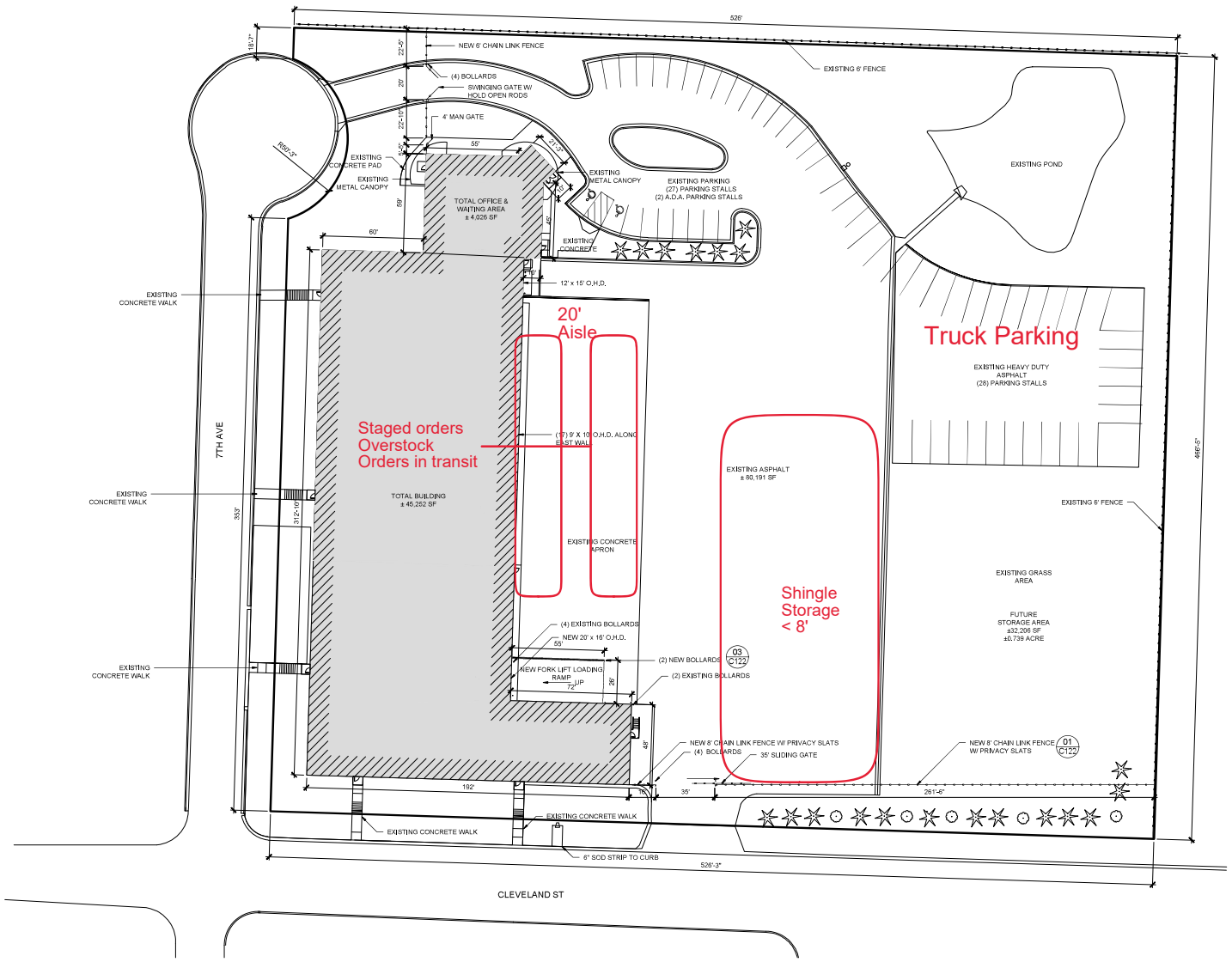



**Date: September 2025**

**Author:**

This information is to be used for reference purposes only. The City of Mankato does not guarantee accuracy of the material contained herein and is not responsible for misuse or misinterpretation.

N




NORTH

## PROPOSED SITE PLAN

Scale: 1" = 30'

0 15' 30'

DISCLAIMER:
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ABC Supply Co. Inc.

# ABC SUPPLY CO. #590 RELOCATION

2205 7TH AVENUE
MANKATO, MINNESOTA

REVISIONS:
REVISION 1- 5/20/2025
REVISION 2- 7/2/2025

REGIONAL APPROVAL DATE:
4/17/2025
6/19/2025

ISSUE DATE:
3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
PROPOSED SITE PLAN
C100

CHAINLINK FENCE SPECIFICATION:

FABRIC: 72" OR 96" 9 GA. GAW (2" MESH) KT CHAINLINK FABRIC.

TOP RAIL: 1⅝" O.D. SCHEDULE 40 PIPE, 2.27 LBS/FT. TOP RAIL TO BE 21' IN LENGTH, JOINED W/ 1⅝", 6' LONG SLEEVE.

LINE POST: 2½" O.D. SCHEDULE 40 PIPE, 3.66 LBS/FT. LINE POSTS SET 10' O.C. MAXIMUM SPACING. CONCRETE FOOTING TO BE 10" DIAMETER, 36" DEPTH.

TERMINAL POST: 3" O.D. SCHEDULE 40 PIPE, 5.80 LBS/FT. CONCRETE FOOTING TO BE 10" DIAMETER, 36" DEPTH.

GATES: FRAMEWORK OF 1⅝" SCHEDULE 40 PIPE, 2.27 LBS/FT. GATES BRACED & TRUSSED AS NECESSARY. MATCH FENCE FABRIC & BARBED WIRE. GATE TYPE AS NOTED ON PLAN.

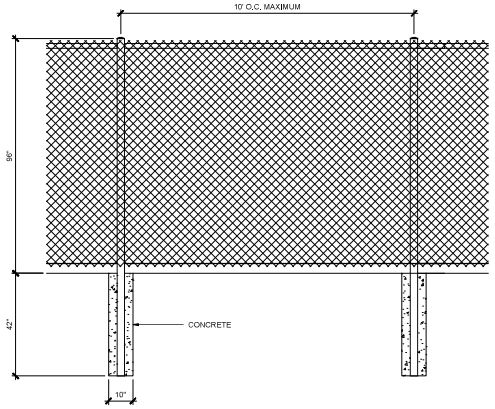
GATE POST: 3" O.D. SCHEDULE 40 PIPE, 5.80 LBS/FT. CONCRETE FOOTING TO BE 10" DIAMETER, 36" DEPTH.

BARBED WIRE: 3-STRANDS OF 12½ GA. 2 PT. GALVANIZED BARBED WIRE ON 45° BARB ARM.

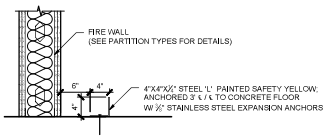
FITTINGS: BEVELED BRACE BAND & CARRIAGE BOLT, PRESSED STEEL RAIL, 3-WIRE 45° BARB ARM ANGLED OUT, PRESSED STEEL DOME CAP, ⅜"ø x ¾" STEEL TENSION BAR, BEVELED TENSION BAND & CARRIAGE BOLT.

TIE WIRE: 9½ GA. ALUMINUM 6 GA. TIE WIRE & 6½ GA. ALUMINUM 6 GA. TIE WIRE SPACED 15" O.C. FOR LINE POSTS & 24" O.C. FOR RAILS.

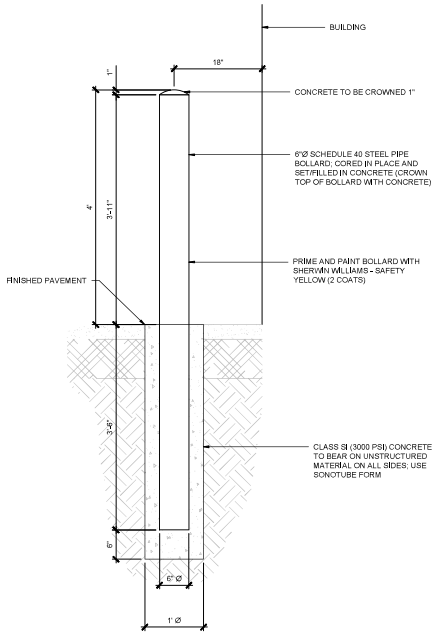
POST FOOTINGS: HAND MIX CONCRETE



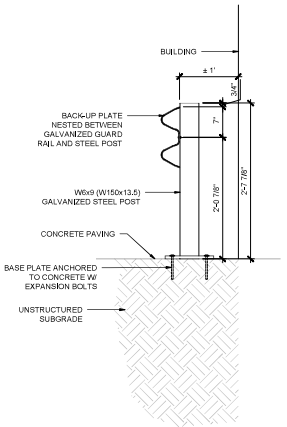

01 C122 FENCE DETAIL
1/2" = 1'-0"




02 C122 STEEL "L" DETAIL
1" = 1'-0"




03 C122 BOLLARD DETAIL
1" = 1'-0"




04 C122 GUARD RAIL DETAIL - SURFACE MOUNT
1" = 1'-0"

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ABC Supply Co. Inc.

# ABC SUPPLY CO. #590 RELOCATION

2205 7TH AVENUE
MANKATO, MINNESOTA

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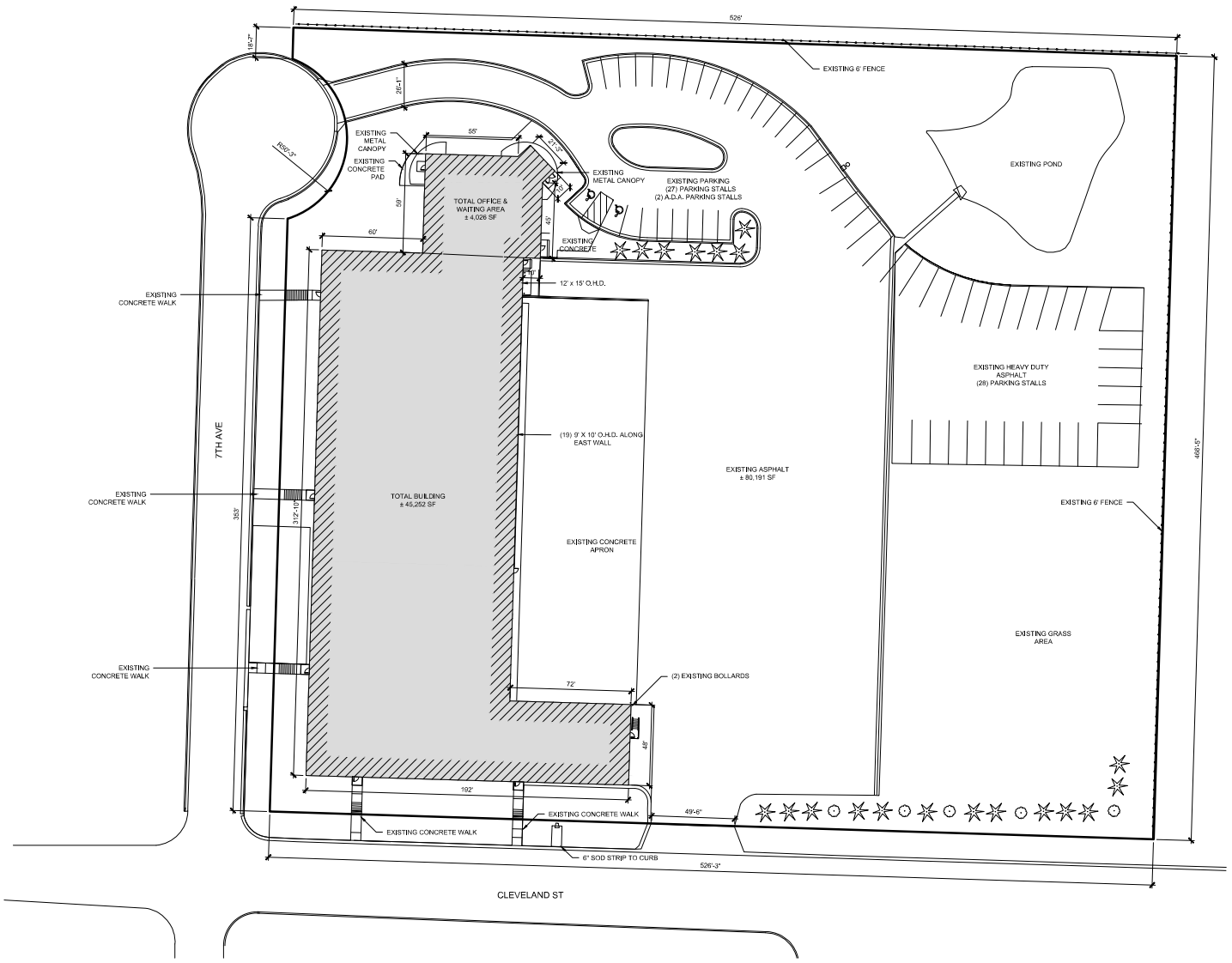
REGIONAL APPROVAL DATE:
4/17/2025
6/19/2025

ISSUE DATE:
3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
SITE DETAILS

C122




NORTH

## EXISTING SITE PLAN

Scale: 1" = 30'

0 15' 30'

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# ABC SUPPLY CO. #590 RELOCATION

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MANKATO, MINNESOTA

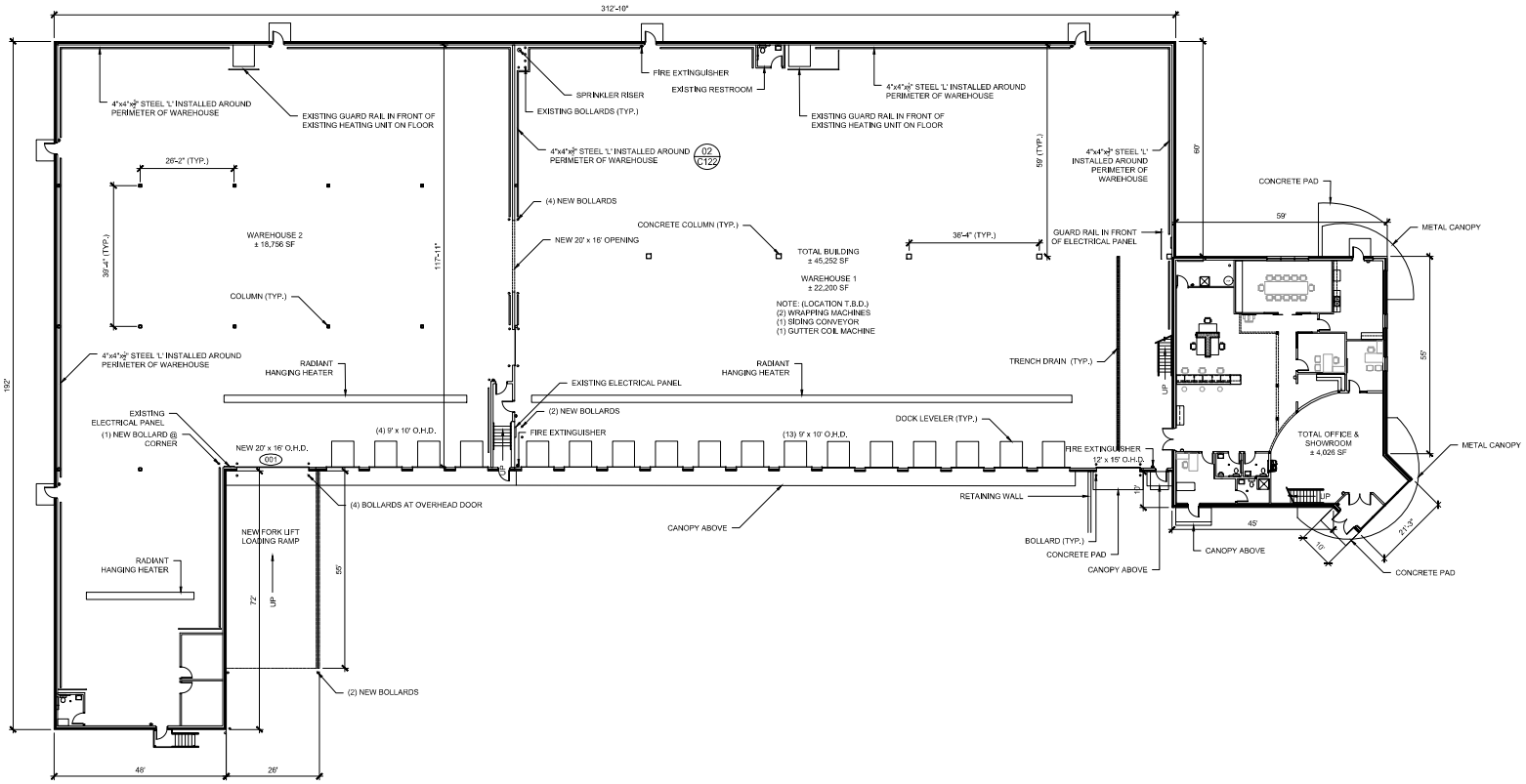
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ISSUE DATE:
3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
EXISTING SITE PLAN
C000




NORTH

## PROPOSED FIRST FLOOR BUILDING PLAN

Scale: 1/16" = 1'-0"

0 8' 16'

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# ABC SUPPLY CO. #590 RELOCATION

2205 7TH AVENUE
MANKATO, MINNESOTA

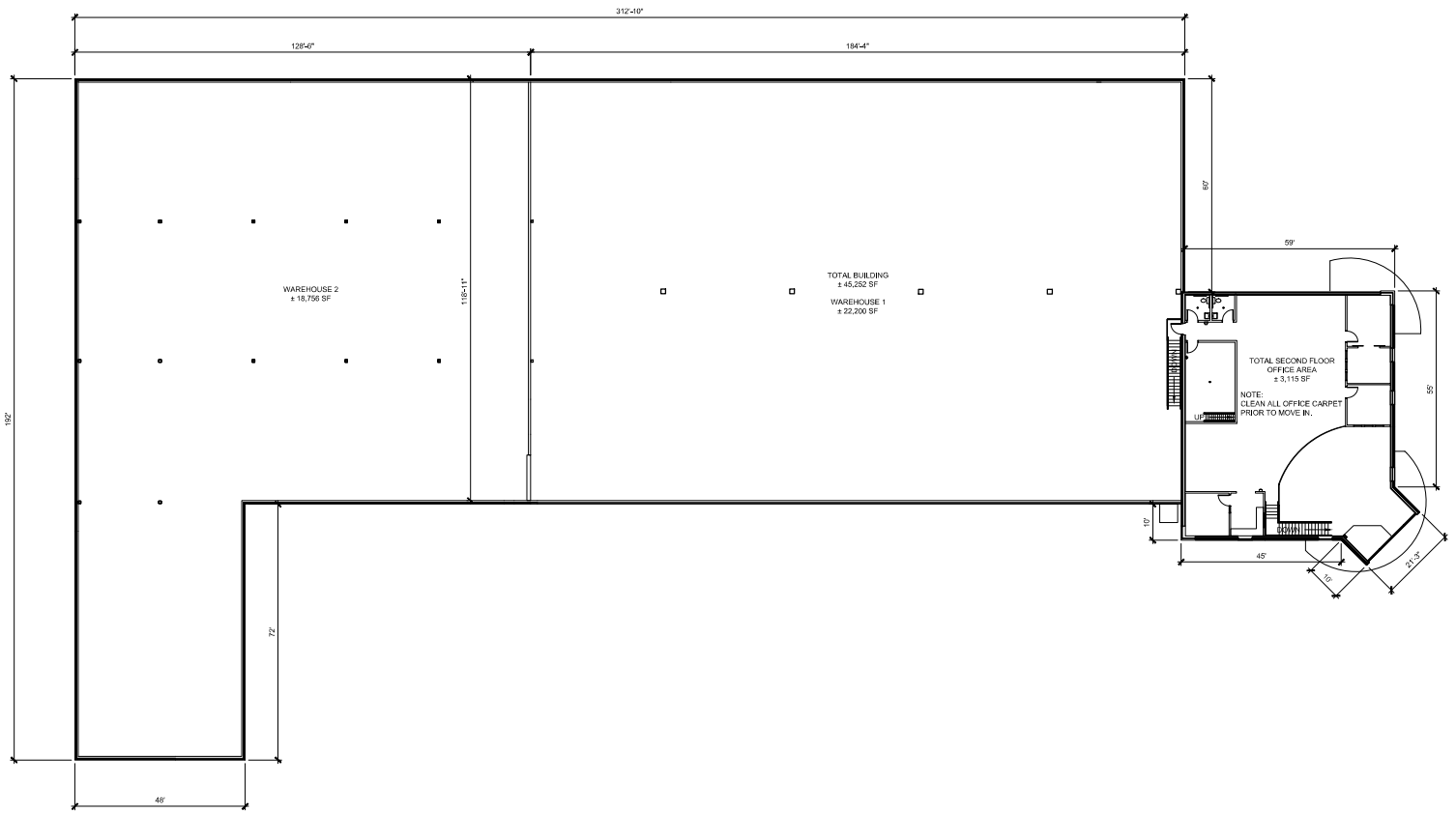
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ISSUE DATE:
3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
PROPOSED FIRST FLOOR BUILDING PLAN
A100




NORTH

## PROPOSED SECOND FLOOR BUILDING PLAN

Scale: 1/16" = 1'-0"

0 8' 16'

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ABC Supply Co. Inc.

# ABC SUPPLY CO. #590 RELOCATION

2205 7TH AVENUE
MANKATO, MINNESOTA

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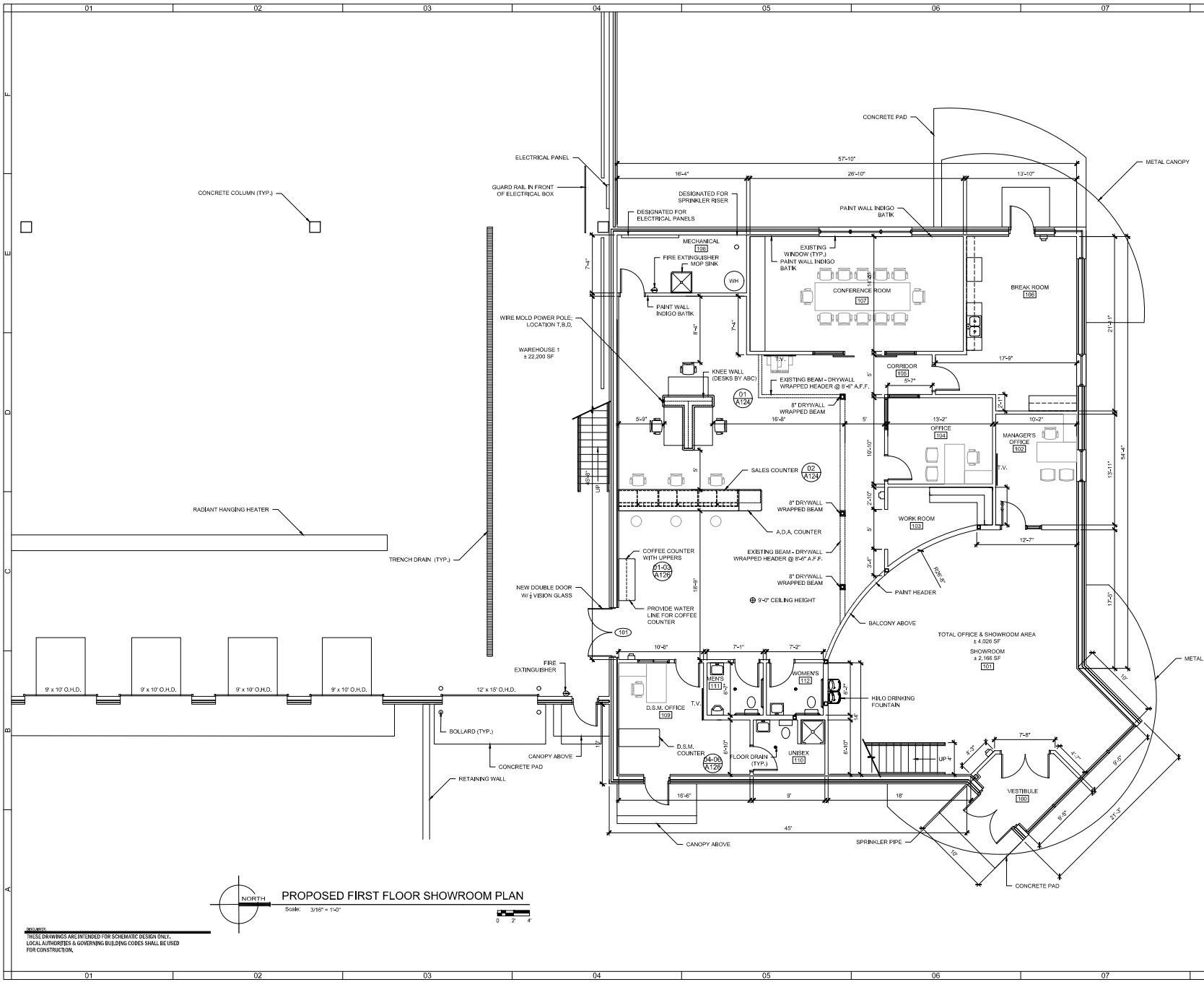
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6/19/2025

ISSUE DATE:
3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
PROPOSED SECOND FLOOR BUILDING PLAN

A100.1




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ABC Supply Co. Inc.

# ABC SUPPLY CO. #590 RELOCATION

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MANKATO, MINNESOTA

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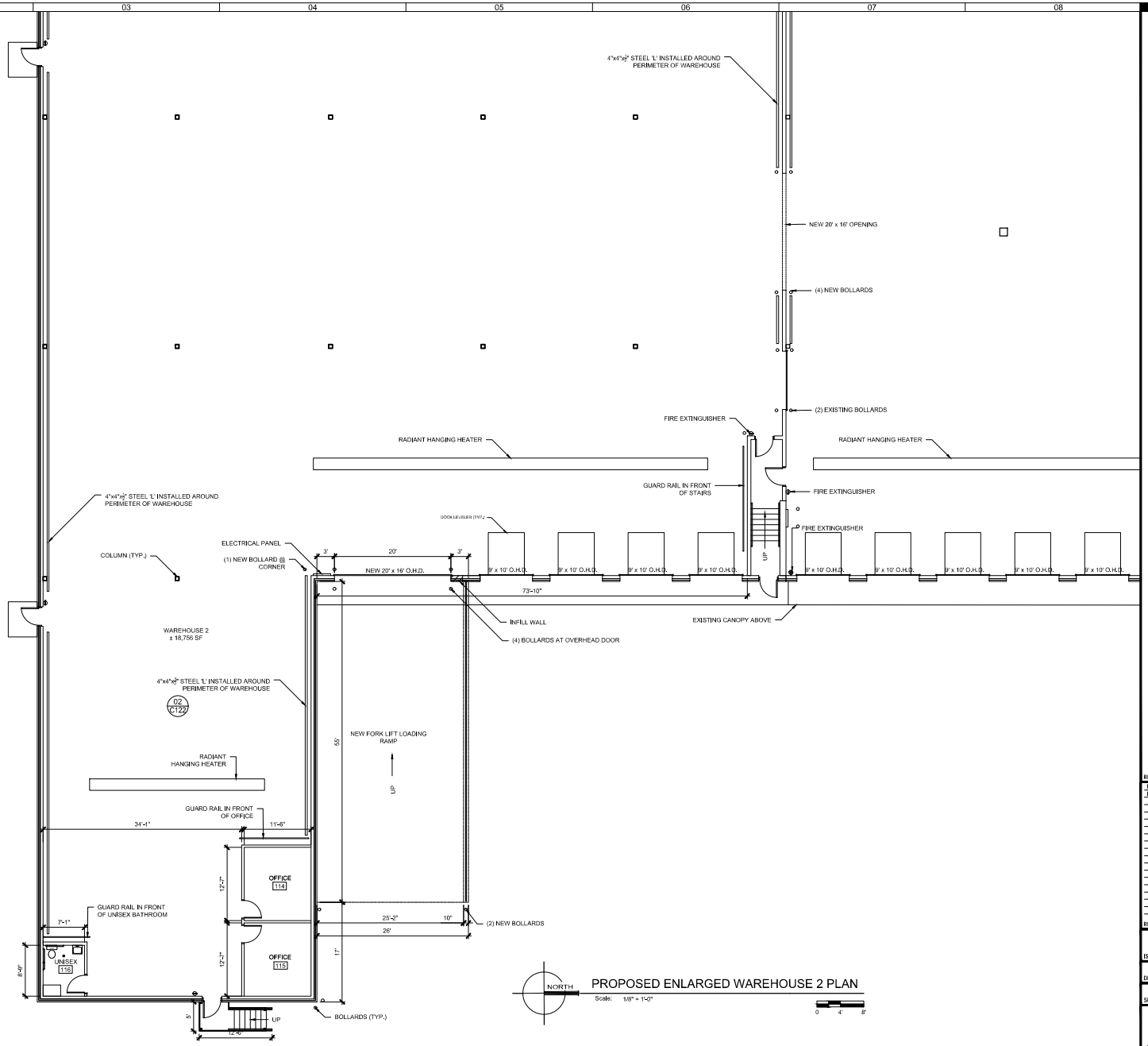
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3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
PROPOSED FIRST FLOOR SHOWROOM PLAN

A101




## PROPOSED ENLARGED WAREHOUSE 2 PLAN

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# ABC SUPPLY CO. #590 RELOCATION

2205 7TH AVENUE
MANKATO, MINNESOTA

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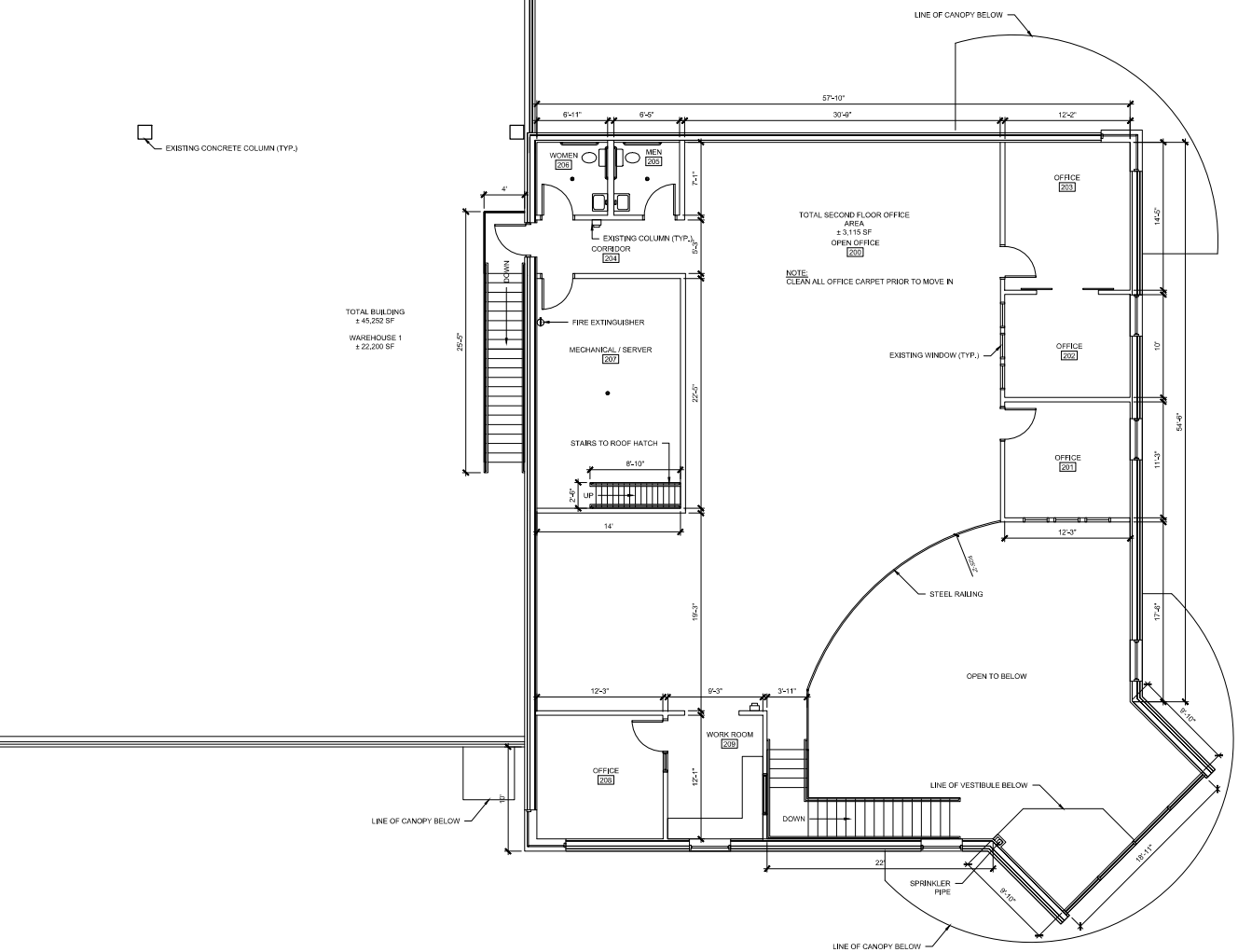
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6/19/2025

ISSUE DATE:
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DRAWN BY:
SPENCER BEYTIEN

SHEET:
PROPOSED ENLARGED WAREHOUSE 2 PLAN

A101.1




NORTH

## PROPOSED SECOND FLOOR OFFICE PLAN

Scale: 3/16" = 1'-0"

0 2' 4'

DISCLAIMER:
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# ABC SUPPLY CO. #590 RELOCATION

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MANKATO, MINNESOTA

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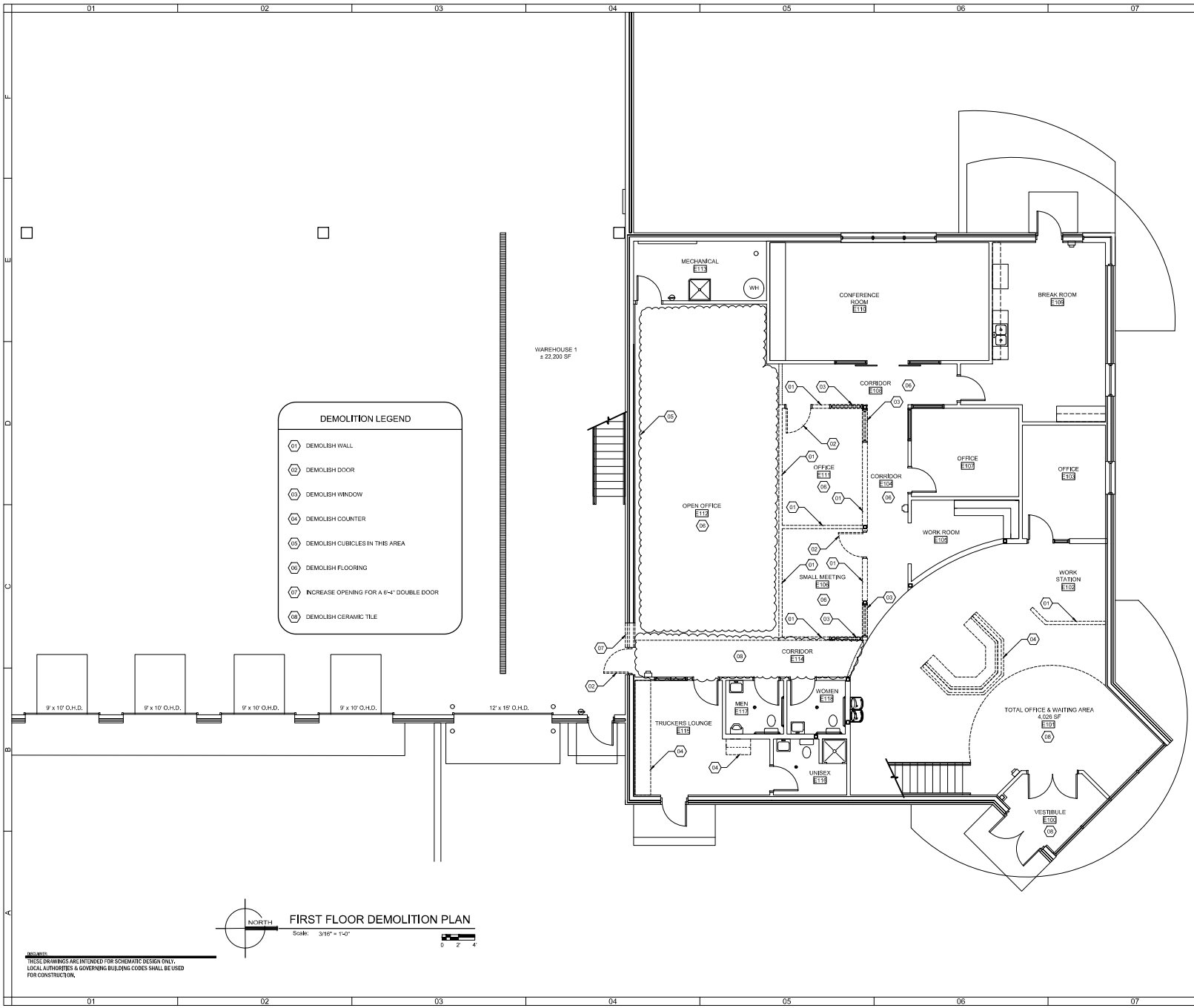
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6/19/2025

ISSUE DATE:
3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
PROPOSED SECOND FLOOR OFFICE PLAN

A101.2




FIRST FLOOR DEMOLITION PLAN

Scale: 3/16" = 1'-0"

0 2 4

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ABC Supply Co. Inc.

# ABC SUPPLY CO. #590 RELOCATION

2205 7TH AVENUE
MANKATO, MINNESOTA

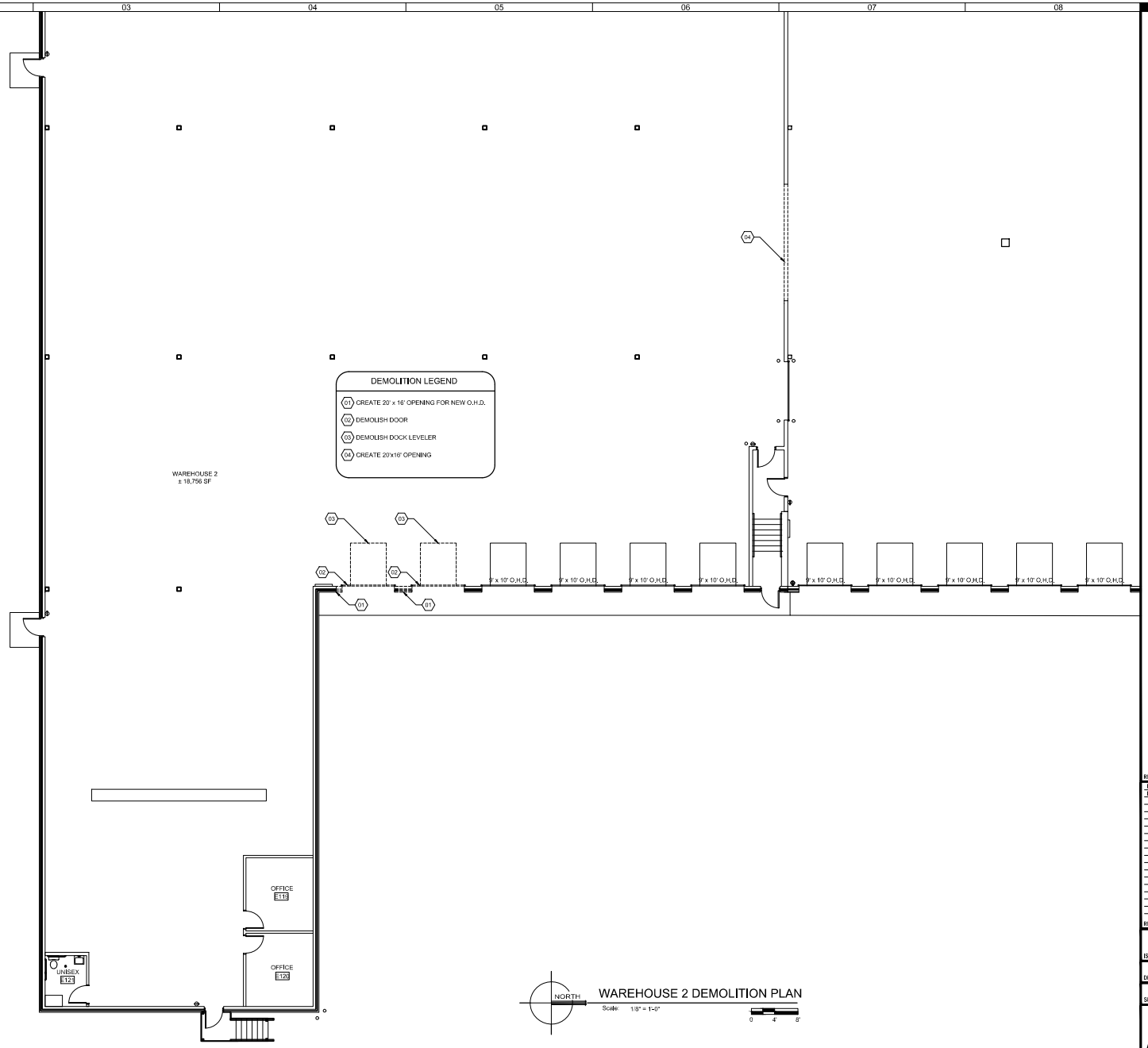
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REGIONAL APPROVAL DATE:
4/17/2025
6/19/2025

ISSUE DATE:
3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
FIRST FLOOR DEMOLITION PLAN
A001




WAREHOUSE 2 DEMOLITION PLAN

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2205 7TH AVENUE
MANKATO, MINNESOTA

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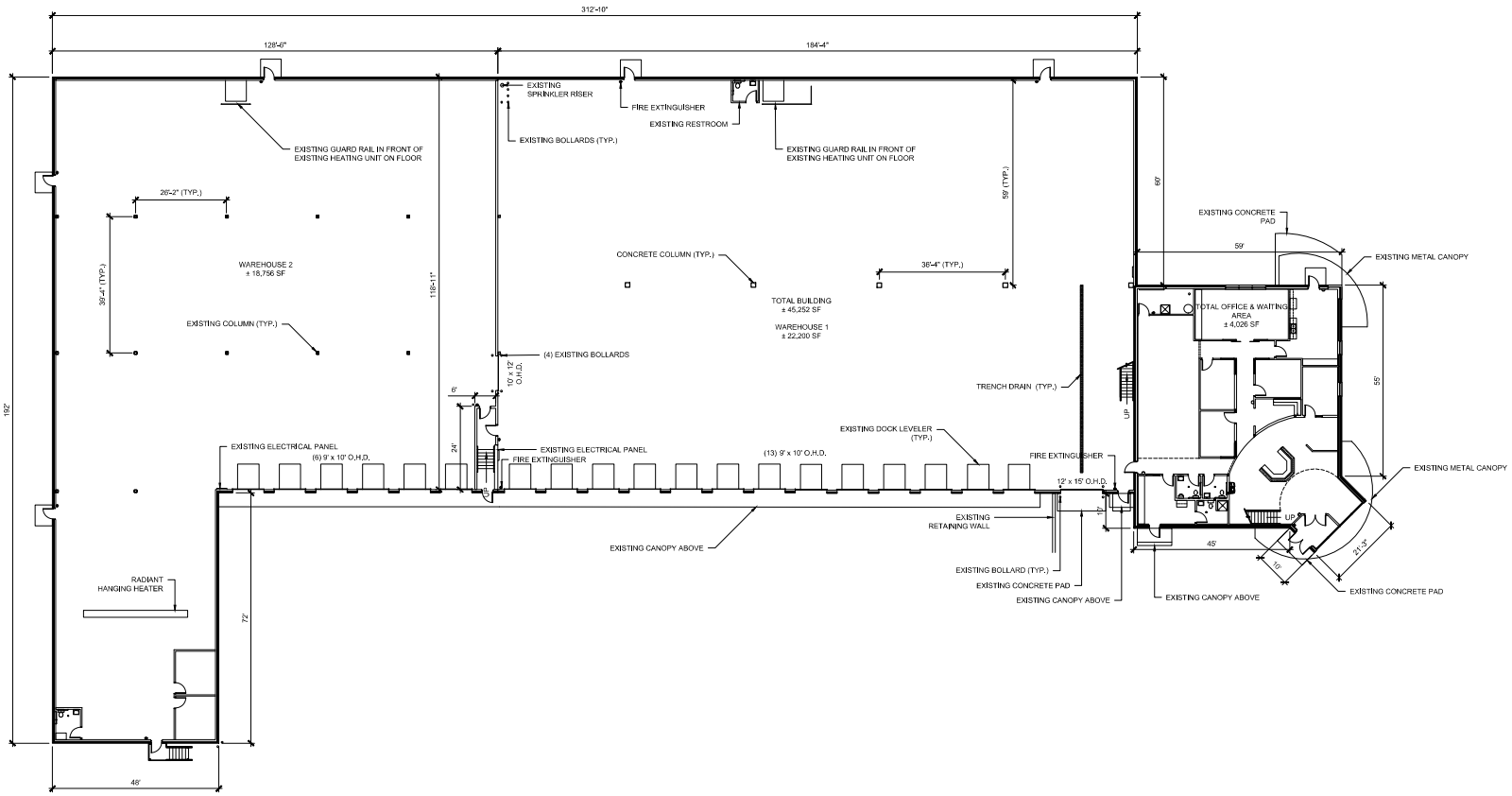
REGIONAL APPROVAL DATE:
4/17/2025
6/19/2025

ISSUE DATE:
3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
WAREHOUSE 2
DEMOLITION PLAN

A001.1




NORTH

## EXISTING FIRST FLOOR BUILDING PLAN

Scale: 1/16" = 1'-0"

0 8' 16'

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# ABC SUPPLY CO. #590 RELOCATION

2205 7TH AVENUE
MANKATO, MINNESOTA

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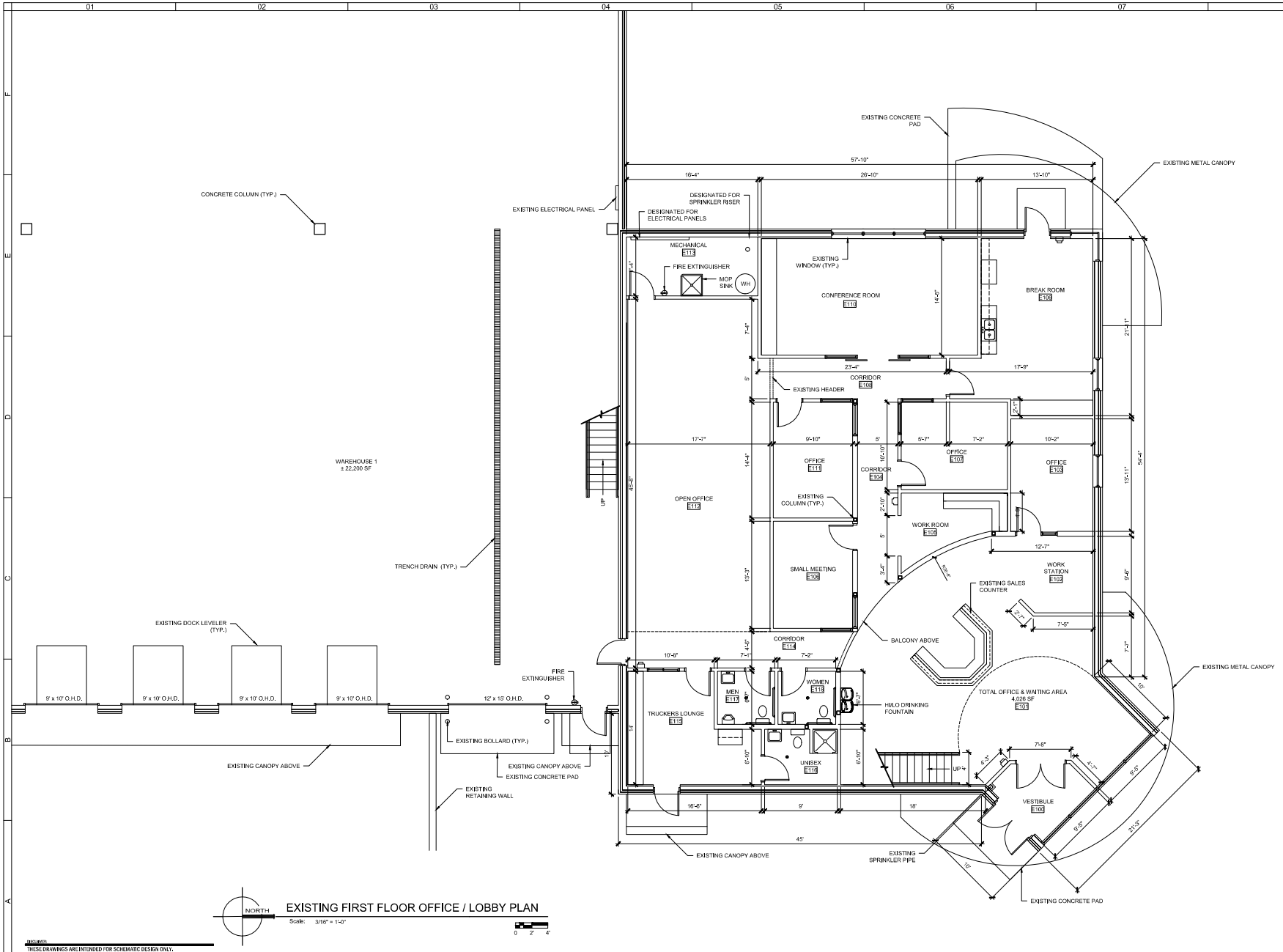
REGIONAL APPROVAL DATE:
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6/19/2025

ISSUE DATE:
3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
EXISTING FIRST FLOOR BUILDING PLAN

A000




## EXISTING FIRST FLOOR OFFICE / LOBBY PLAN

Scale: 3/16" = 1'-0"

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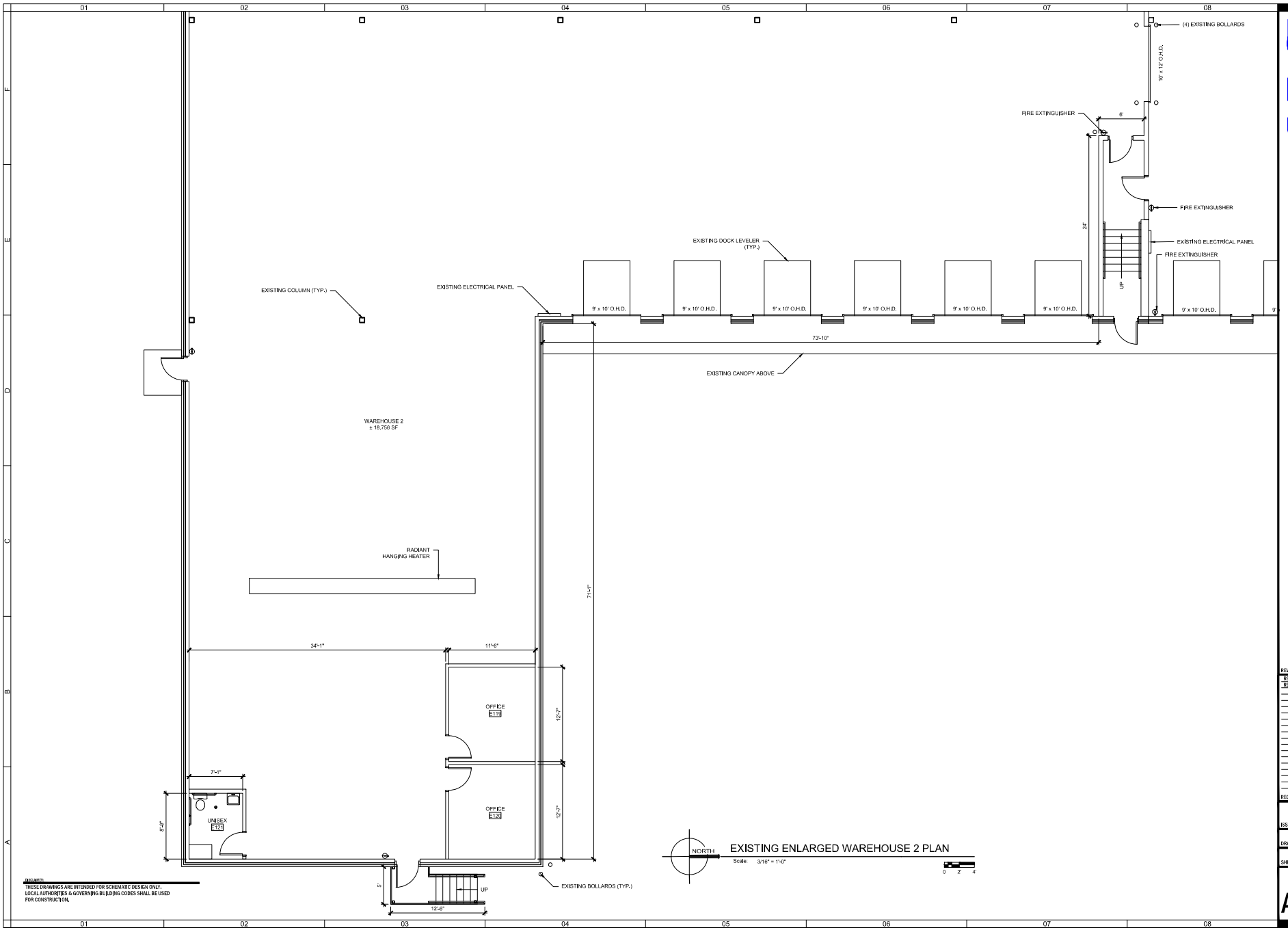
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SPENCER BEYTIEN

SHEET:
EXISTING FIRST FLOOR OFFICE/LOBBY PLAN

A000.1




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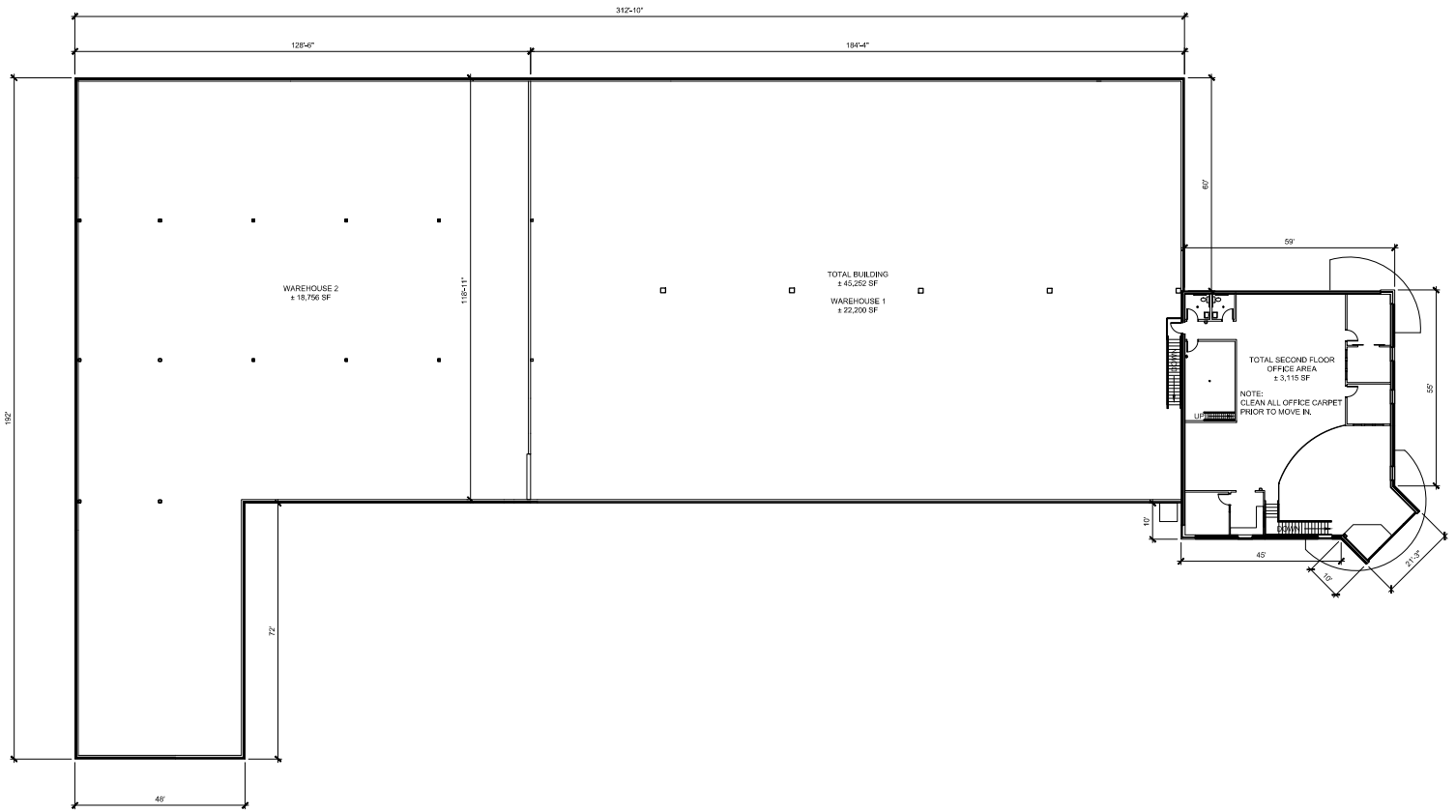
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DRAWN BY:
SPENCER BEYTIEN

SHEET:
EXISTING ENLARGED WAREHOUSE 2 PLAN

**A000.2**




NORTH

## EXISTING SECOND FLOOR BUILDING PLAN

Scale: 1/16" = 1'-0"

0 8' 16'

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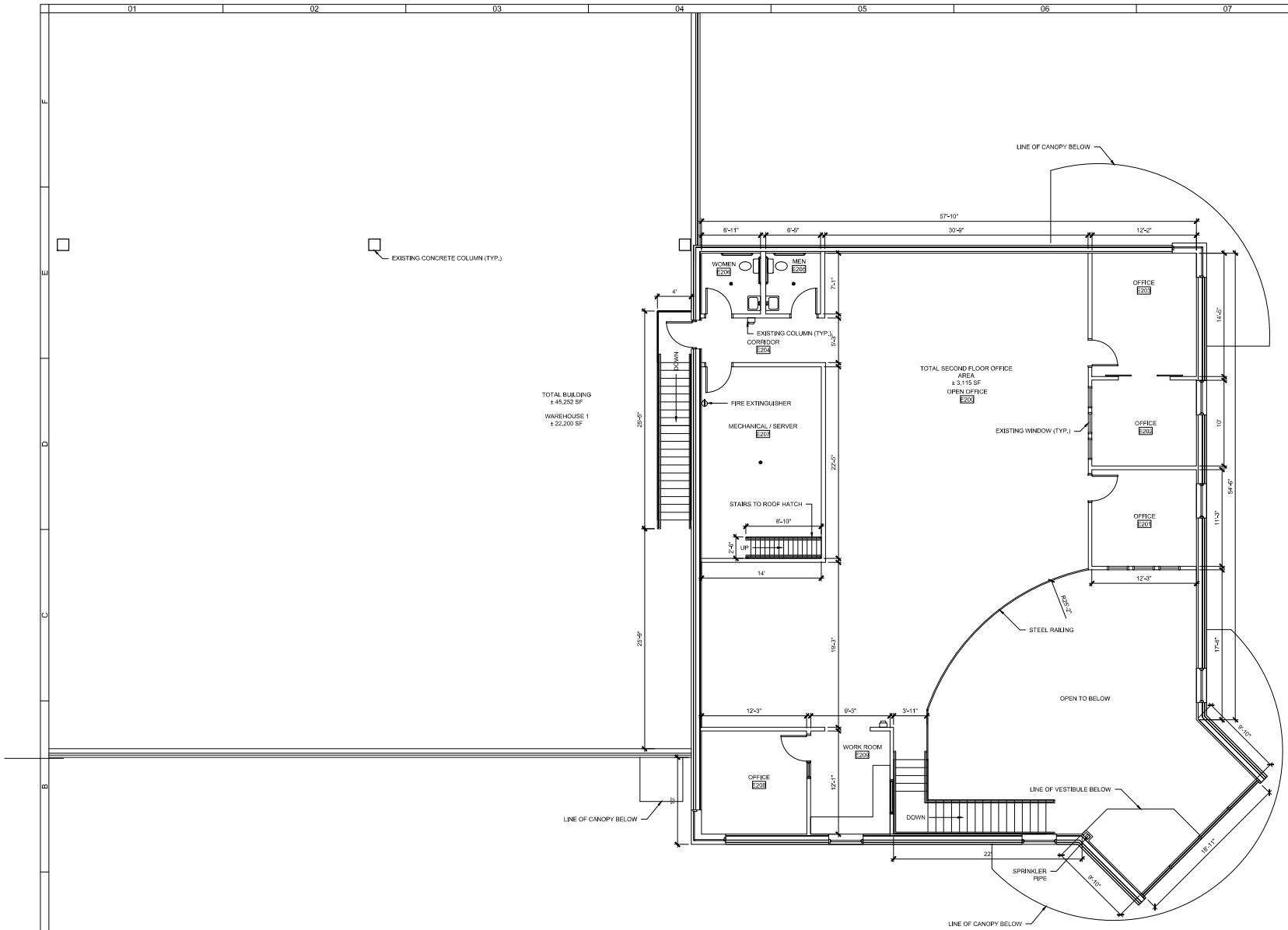
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DRAWN BY:
SPENCER BEYTIEN

SHEET:
EXISTING SECOND FLOOR BUILDING PLAN

A000.3




NORTH

EXISTING SECOND FLOOR OFFICE PLAN

Scale: 3/16" = 1'-0"

0 2' 4'

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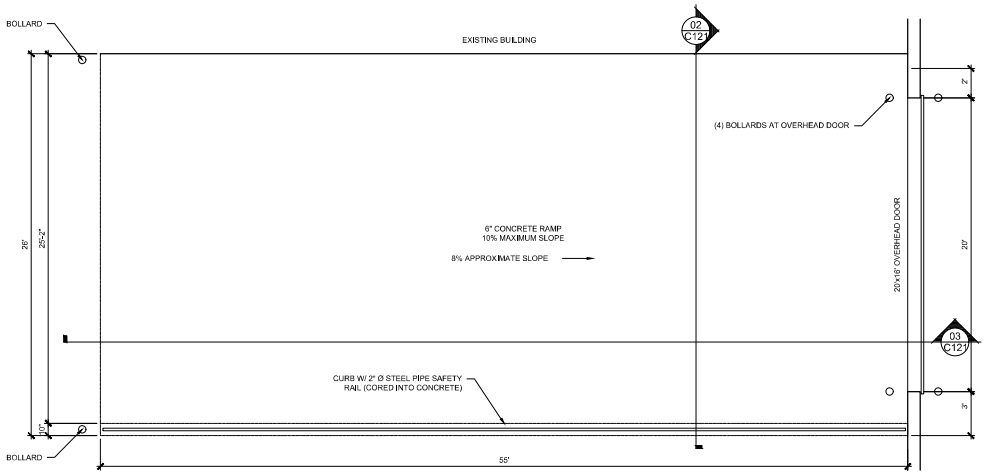
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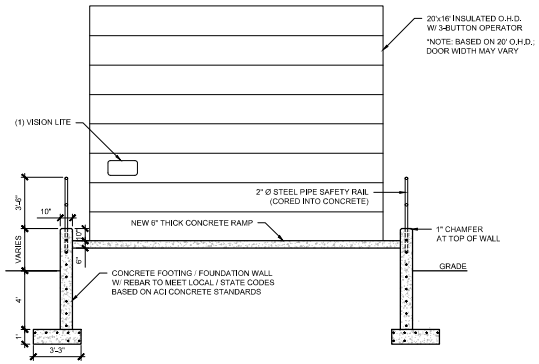
DRAWN BY:
SPENCER BEYTIEN

SHEET:
EXISTING SECOND FLOOR OFFICE PLAN

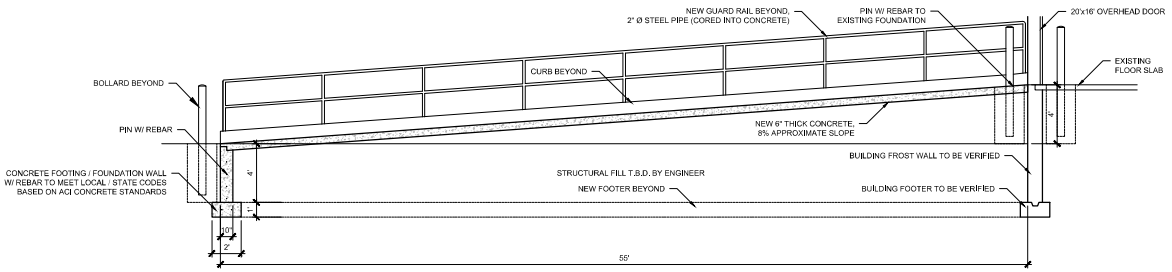
A000.4




01 C121 FORKLIFT RAMP PLAN
1/4" = 1'-0"




02 C121 STEEL OVERHEAD DOOR DETAIL
1/4" = 1'-0"




*NOTE: FINAL PERMIT DESIGN BY ENGINEER AND WILL VARY BY REGION

03 C121 FORKLIFT RAMP SECTION
1/4" = 1'-0"

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ABC Supply Co. Inc.

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SPENCER BEYTIEN

SHEET:
FORKLIFT RAMP DETAILS
C121

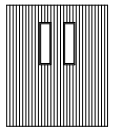
## ABC EXTERIOR DOOR SCHEDULE

| DOOR NO. | DOOR SIZE | DOOR TYPE | REMARKS |
|---|---|---|---|
| 001 | 20'-0"x16'-0" | SECTIONAL INSULATED O.H.D. | FINISH - MFG STANDARD WHITE (CM TO PICK FROM STANDARD MFG COLOR CHART) |

## DOOR & FRAME SCHEDULE

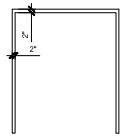
| DOOR NO. | DOOR SIZE | DOOR | | | HARDWARE | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DOOR TYPE | FRAME TYPE | FIRE LABEL | CLOSURE | HINGE | LOCK SET | STOP | KICK PLATE | THRESHOLD | WEATHER-STRIP | | |
| 101 | 6'-0"x7'-0" | D | D | * | A | A | A | | A | A | B | | * FIRE LABEL PER LOCAL CODE IF APPLICABLE |

## DOOR TYPE



D
INSULATED STEEL W/ 1/4 LITE

## FRAME TYPE




D
HOLLOW METAL

## HARDWARE LEGEND

1. DOOR CLOSURES: (ALL DOOR CLOSURE COVERS SHALL BE METAL)
   - A 105° HOLD OPEN CLOSER, PUSH SIDE W/ 105° HOLD OPEN ARM; MODEL: 4040XP FINISH: ALUM: MANF: LCN OR EQUAL
2. HINGES:
   - A 1 1/2 PR. FULL MORTISE 450TBB 4.5"X4.5" US26D MANF: STANLEY OR HAGER
3. LOCK SETS:
   - A ACTIVE LEAF: (1) OFFICE LEVER LOCK SET W/ 7 PIN REMOVABLE CORE CYL AND THUMB TURN INT SIDE MODEL: SERIES 4000 AL53PD X SAT X 626 MANF: SCHLAGE (OR EQUIV.) INACTIVE LEAF: (1) SET TOP / BOTTOM MORTISE FLUSH BOLTS
4. KICK PLATES:
   - A (1) 16GA. KICK PLATE 10"X34" FINISH US26D MANF: BROOKLINE OR EQUAL
   - B NEW KICK PLATES RESTROOM DOORS, D.S.M. (3 DOORS), MECHANICAL
5. THRESHOLDS:
   - A S406A AND NYLON BRUSH WEATHER-STRIPPING 129CP MANF: REESE, ZERO OR EQUAL
6. WEATHER-STRIPING:
   - A DOOR HEAD & JAMB WEATHER-STRIPPING 129CP
   - B DOOR MANUFACTURES STANDARD SILL

## ROOM FINISH SCHEDULE

| ROOM NO. | ROOM NAME | FLOORING | | | | BASE | | | | WALLS | | | | CEILING | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | POLISHED CONCRETE | CARPET TILE | SEALED CONCRETE | EXISTING TO REMAIN | VINYL BASE | CERAMIC TILE | NONE | EXISTING TO REMAIN | GYP. BRD. PAINTED | CERAMIC TILE | SUBWAY TILE | EXISTING TO REMAIN | EXISTING TO BE PAINTED | GYP. BRD. PAINTED | EXISTING TO BE PAINTED | ACOUSTICAL TILE | VINYL COATED TILE | EXPOSED | EXISTING TO REMAIN | CEILING HEIGHT | |
| 100 | VESTIBULE | ● | | | | ● | | | | | | | | ● | | | | | | ● | | |
| 101 | SHOWROOM | ● | | | | ● | | | | | | | | ● | | | | | | ● | | |
| 102 | MANAGER'S OFFICE | | | ● | | ● | | | | | | | | ● | | | | | | ● | | |
| 103 | WORK ROOM | | | ● | | ● | | | | | | | | ● | | | | | | ● | | |
| 104 | OFFICE | | | ● | | ● | | | | | | | | ● | | | | | | ● | | |
| 105 | CORRIDOR | ● | | | | ● | | | | | | | | ● | | | | | | ● | | |
| 106 | BREAK ROOM | | | ● | | ● | | | | | | | | ● | | | | | | ● | | |
| 107 | CONFERENCE ROOM | | | ● | | ● | | | | | | | | ● | | | | | | ● | | WEST WALL TO BE PAINTED INDIGO BATIK |
| 108 | MECHANICAL / DATA | | | ● | | | | | ● | | | | ● | | | | | | | ● | | |
| 109 | D.S.M. OFFICE | | | ● | | ● | | | | ◕ | | | | ● | | | | | | ● | | |
| 110 | UNISEX | | | ● | | | | | ● | | | | | ● | | | | | | ● | | |
| 111 | MEN'S | | | ● | | | | | ● | | | | | ● | | | | | | ● | | |
| 112 | WOMEN'S | | | ● | | | | | ● | | | | | ● | | | | | | ● | | |
| 113 | UNISEX | | | ● | | | | | ● | | | | ● | | | | | | | ● | | |
| 114 | OFFICE | | | ● | | | | | ● | | | | ● | | | | | | | ● | | |
| 115 | OFFICE | | | ● | | | | | ● | | | | ● | | | | | | | ● | | |
| 116 | UNISEX | | | ● | | | | | ● | | | | ● | | | | | | | ● | | |

KEY: ● ENTIRE ROOM ◕ PORTION OF ROOM ◕ REMAINDER OF ROOM

## ABC INTERIOR FINISHES LEGEND
(SEE ROOM FINISH SCHEDULE FOR SPECIFIC LOCATIONS)

1. FLOORING:
   - POLISH CONCRETE FLOOR WITH NATURAL CONCRETE COLOR FOR SALT & PEPPER EFFECT WITH AGGREGATE. PREP FLOOR, DIAMOND GRID 50 THRU 200; EPOXY JOINTS & VOIDS; DIAMOND GRIND 400-800 (GOAL OF 600-800); APPLY COAT OF MFG POLISH SEALER; BURNISH WITH HIGH SPEED BURNISHER.
   - CARPET TILE (OFFICES): SHAW (PHILADELPHIA), 22OZ, STYLE #J0108, NO LIMITS. COLOR #69502, WILD CARD. 24"x24" WITH 1/4" TURN PATTERN.
2. VINYL COVE BASE:
   - 4" .080 JOHNSONITE TA4 GATEWAY OR EQUAL.
3. INTERIOR WALLS: (1ST FLOOR ONLY)
   - SHERWIN WILLIAMS INTERIOR LATEX PRIMER PROMAR 400. FINISH COAT WITH SHERWIN WILLIAMS INTERIOR LATEX EGGSHELL PROMAR 200. SW 7672 KNITTING NEEDLES.
   - ACCENT WALL: SHERWIN WILLIAMS INTERIOR LATEX PRIMER PROMAR 400. FINISH COAT WITH SHERWIN WILLIAMS INTERIOR LATEX EGGSHELL PROMAR 200. SW7602 INDIGO BATIC.
4. INTERIORS:
   a. DOORS:
   - EXISTING WOOD VARNISHED DOORS TO REMAIN

   b. FRAMES:
   - EXISTING FRAME TO REMAIN AND PAINT

   c. HM DOORS / HM FRAMES:
   - HOLLOW METAL DOORS AND HM FRAMES LEADING FROM OCCUPIED SPACES (OFFICES/ SHOWROOM/ BREAK ROOM) TO WAREHOUSE - PAINTED FINISH COAT WITH SHERWIN WILLIAMS INTERIOR LATEX SATIN, SW 7672 KNITTING NEEDLES.
5. SERVICE COUNTER
   - CASEWORK: FORMICA 5793 BUFF ELM WITH MATCHING 1MM PVC EDGE
   - COUNTERTOP: WILSONART 4843-60 MISTED ZEPHYR WITH MATCHING 2MM PVC EDGE
6. CEILINGS
   - (TIE IN AFTER DEMO - MATCH EXISTING)
7. RESTROOMS
   - CLEAN
   - EXISTING FIXTURES OPERATIONAL
   - EXISTING TILE TO REMAIN (WALL/FLOOR)
   - PRINT ALL DRY WALL ABC COLOR

DISCLAIMER:
THESE DRAWINGS ARE INTENDED FOR SCHEMATIC DESIGN ONLY.
LOCAL AUTHORITIES & GOVERNING BUILDING CODES SHALL BE USED FOR CONSTRUCTION.

ABC Supply Co. Inc.

# ABC SUPPLY CO. #590 RELOCATION

2205 7TH AVENUE
MANKATO, MINNESOTA

REVISIONS:
REVISION 1 - 5/20/2025
REVISION 2 - 7/2/2025

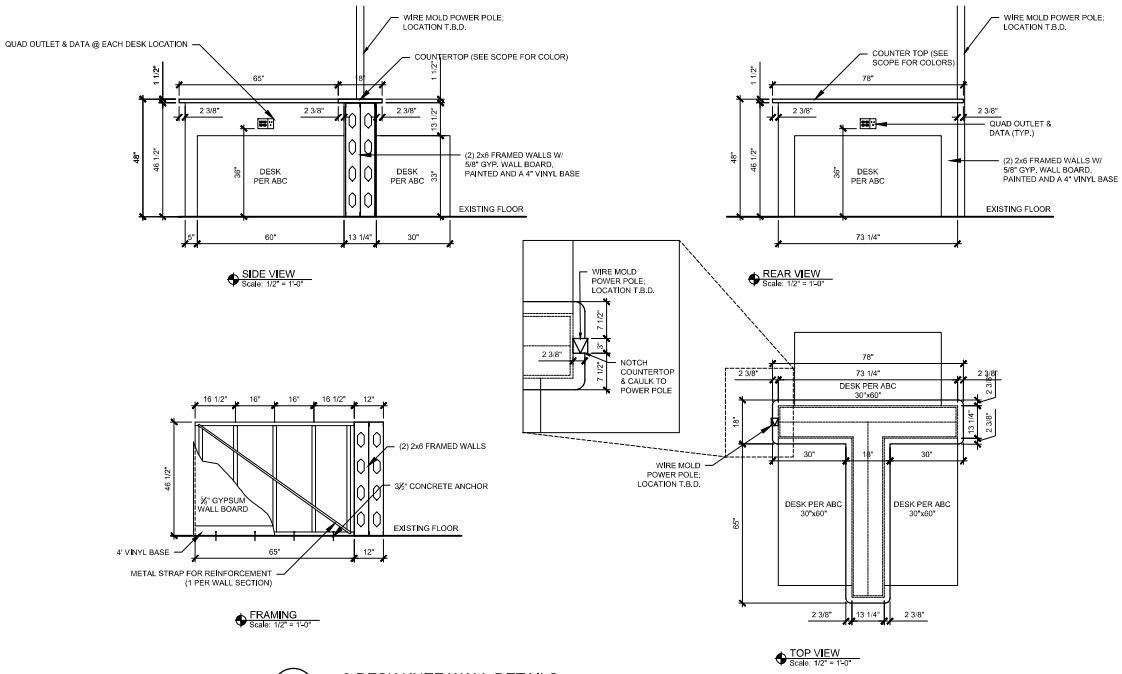
REGIONAL APPROVAL DATE:
4/17/2025
6/19/2025

ISSUE DATE:
3/28/2025

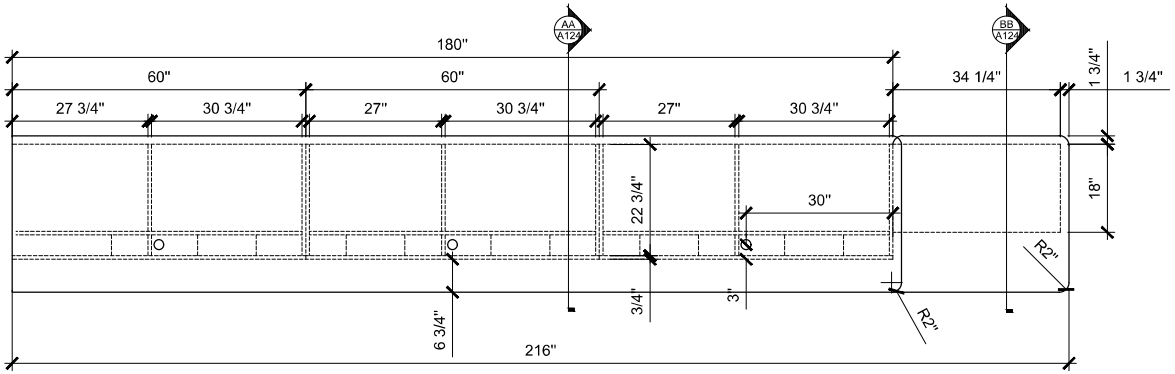
DRAWN BY:
SPENCER BEYTIEN

SHEET:
DOOR/FRAME & ROOM FINISH SCHEDULE

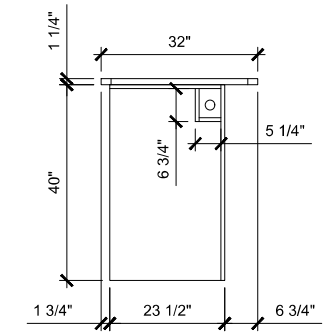
A120



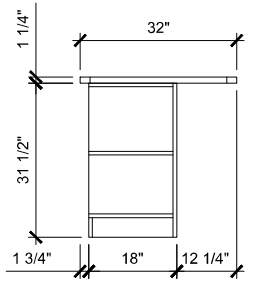

01 A124 **3-DESK KNEE WALL DETAILS**
1/2" = 1'-0"




02 A124 **SALES COUNTER PLAN**
1" = 1'-0"




AA A124 **SALES COUNTER SECTION**
1" = 1'-0"




BB A124 **A.D.A. SALES COUNTER SECTION**
1" = 1'-0"

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# ABC SUPPLY CO. #590 RELOCATION

2205 7TH AVENUE
MANKATO, MINNESOTA

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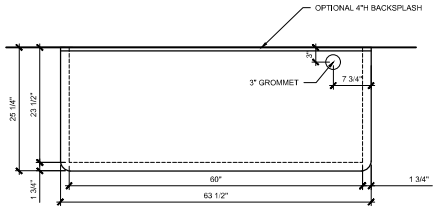
REGIONAL APPROVAL DATE:
4/17/2025
6/19/2025

ISSUE DATE:
3/28/2025

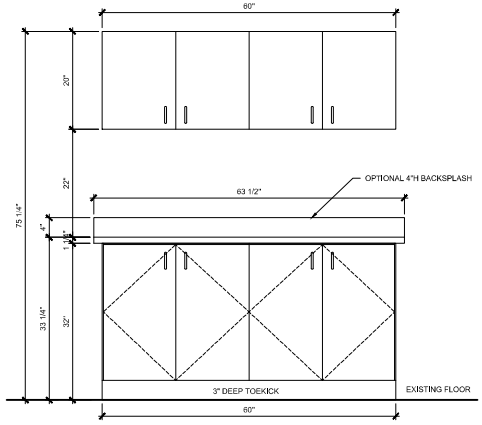
DRAWN BY:
SPENCER BEYTIEN

SHEET:
SALES COUNTER & DESK DETAILS

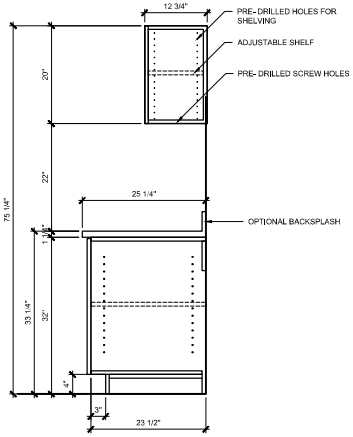
**A124**



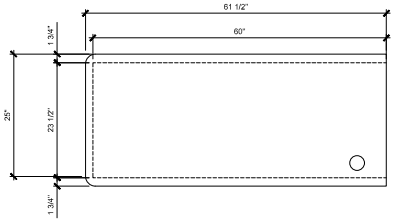

01 A126 COFFEE COUNTER PLAN
1" = 1'-0"



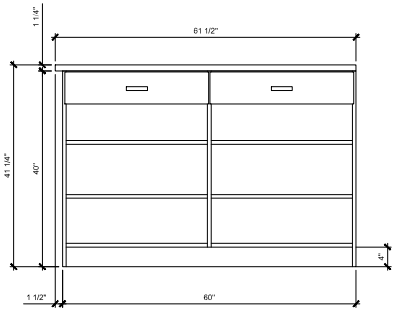

02 A126 COFFEE COUNTER ELEVATION
1" = 1'-0"



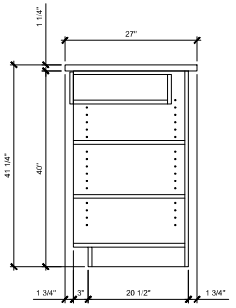

03 A126 COFFEE COUNTER SECTION
1" = 1'-0"




04 A126 D.S.M. COUNTER PLAN
1" = 1'-0"




05 A126 D.S.M. COUNTER ELEVATION
1" = 1'-0"




06 A126 D.S.M. COUNTER SECTION
1" = 1'-0"

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ABC Supply Co. Inc.

# ABC SUPPLY CO. #590 RELOCATION

2205 7TH AVENUE
MANKATO, MINNESOTA

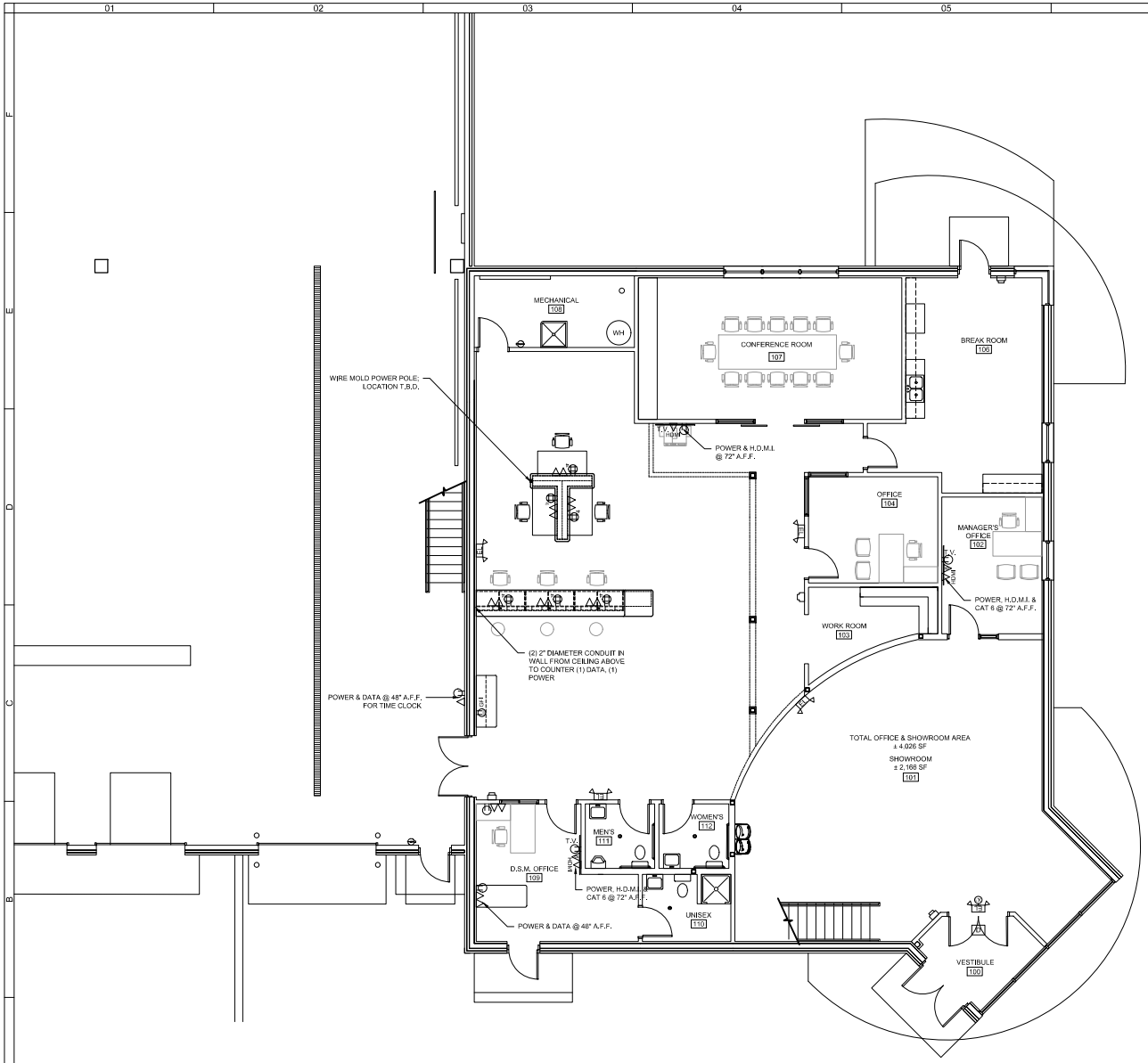
REVISIONS:
REVISION 1 - 5/20/2025
REVISION 2 - 7/2/2025

REGIONAL APPROVAL DATE:
4/17/2025
6/19/2025

ISSUE DATE:
3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
COUNTER DETAILS
A126




## ELECTRICAL LEGEND

- WALL PACK FIXTURE TYPE 'D'
- FLOOD LIGHT FIXTURE, TYPE 'E'
- WALL MOUNTED OR RECESSED L.E.D. "EXIT" SIGN TYPE "X1"
- CEILING MOUNTED L.E.D. "EXIT" SIGN TYPE "X2"
- EXHAUST FAN
- WALL MOUNTED EMERGENCY LIGHT BATTERY PACK TYPE "E" MOUNTED PER CODE
- SINGLE POLE LIGHT SWITCH MOUNTED 44" AFF TO THE BOTTOM OF THE ELECTRICAL BOX
- OCCUPANCY SENSOR LIGHT SWITCH MOUNTED 44" AFF TO THE BOTTOM OF THE ELECTRICAL BOX W/ ADJ. LEVELS
- DUPLEX RECEPTACLE MOUNTING VERTICALLY PER CODE (TYPICAL UNLESS NOTED OTHERWISE) PER CODE
- QUAD RECEPTACLE MOUNTING VERTICALLY PER CODE (TYPICAL UNLESS NOTED OTHERWISE)
- GFI — DUPLEX RECEPTACLE MOUNTED VERTICALLY PER CODE (UNLESS NOTED OTHERWISE)
- WP GFI — DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER AND WEATHERPROOF COVER PLATE, MOUNTED VERTICALLY PER CODE
- GROUND BAR #6
- DUPLEX DATA BOX
- CAT 6 CABLE
- PNLA — POWER PANEL "A"
- WALL MOUNTED TIME CLOCK MOUNTED AT 48" AFF TO THE BOTTOM OF CLOCK

NORTH

## ELECTRICAL PLAN

Scale: 3/16" = 1'-0"

0 2' 4'

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ABC Supply Co. Inc.

# ABC SUPPLY CO. #590 RELOCATION

2205 7TH AVENUE
MANKATO, MINNESOTA

REVISIONS:
REVISION 1 - 5/20/2025
REVISION 2 - 7/2/2025

REGIONAL APPROVAL DATE:
4/17/2025
6/19/2025

ISSUE DATE:
3/28/2025

DRAWN BY:
SPENCER BEYTIEN

SHEET:
ELECTRICAL PLAN

E101

Site Plan and Traffic Advisory Review Committee Application:

This is a request of American Builders and Contractors, Supply Co Inc, with permission of the property owner, for a conditional use permit to allow unenclosed storage for wholesale building materials in the PI, Planned Industrial, zoning district. The subject property was formally Volk Transportation, located at and address of 2205 7th Ave Mankato, Mn 56001

Applicant:

The applicant is ABC Supply Co. Inc

Request:

The applicant is requesting a conditional use permit.

Existing Land Use:

The subject property is currently being used by the building owner's business, Volk Transportation Services for truck trailer storage

Zoning:

The subject properties are zoned PI, Planned Industrial District.

Environmentally Sensitive Areas:

There are no known environmentally sensitive areas on the site.

Public Utilities:

Public utilities are available and will remain onsite in current condition

Review:

The applicant, ABC Supply Co Inc, is requesting a Conditional Use Permit to allow unenclosed storage of construction materials. Materials include, asphalt shingles, roofing insulation and accessories, solar panels, siding, stucco, windows and doors, rain gutters, decking and railing.

Conditional Use Permit:

Mankato City Code allows unenclosed storage of material, products and equipment in the PI, Planned Industrial Zoning District, through the issuance of a Conditional Use Permit, as long they conform to Chapter 10, article X, division 2 of the Mankato City Code.

About ABC- who are we?

Since 1982, we have become North America's largest wholesale distributor of roofing supplies. Plus, one of the largest distributors of siding, windows and other select exterior and interior building products, tools and related supplies.

Specifically, our stated mission is to be the biggest, best and easiest service company distributing select exterior and interior building products. We will be recognized as an employee-first company producing world-class associate engagement, customer engagement and financial results. We fulfill that mission by:

- Stocking the brands and products contractors want and need at a competitive price.
- Maintaining a state-of-the-art delivery system that ensures orders are delivered to the jobsite when and where they are needed.
- Actively listening to our customers to find out what they want and need, what we're doing well and how we can improve—and then implementing many of their suggestions.
- Providing ongoing training for every ABC Supply associate, ensuring they have the knowledge and expertise they need to provide world-class customer service.
- Training every ABC employee so they can provide contractors with the information and techniques they need to remain competitive.
- Challenging our associates to set goals for themselves and creating an environment that helps them realize those dreams.
- Judging our own success by the success of our customers. We know that we will only be successful when our customers are successful.

Staying true to this mission helps us realize our vision to be the supplier of choice for our contractor customers and be the greatest place to work. More than 1000 locations with over 20,000 associates and $20 billion in sales. The company earns its 17th consecutive Gallup Exceptional Workplace Award.

ABC has been serving the Mankato market for 20 years and is excited about the opportunity to relocate and grow our business in this community!

ABC Supply Co. inc.







## Hanson, Bennett

**From:** Emily Bickford <Emily.Bickford@abcsupply.com>
**Sent:** Wednesday, September 17, 2025 7:18 PM
**To:** Westman, Molly
**Cc:** Hanson, Bennett
**Subject:** RE: Site Plan comments - Action needed - ABC supply
**Attachments:** ABC MANKATO MN 2.0 #590 - REV2 Outside Storage.pdf

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

**Caution:** Think Security – This email originated from an external source. Be cautious with any links or attachments.

**This Message has originated outside your organization.**

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A. The proposed gate along Cleveland Street should be required to remain at an open position during business hours, and when deliveries/pick-ups are planned to occur. – understood
B. The applicant shall clarify where retail order pick-ups and parking will occur on site. Not sure where the retail comment comes from. Wholesale distribution. Our customer pick-up area and parking are clearly marked on the attached (C100)
C. The applicant shall provide screening of 90% opacity or greater for the proposed exterior storage in accordance with Mankato City Code. Upon review, screening around the entire premise would not be needed. Please confirm if this is a condition of the CUP?
D. The applicant should be aware that all signage must be reviewed and permitted prior to installation.- understood
E. The applicant should be aware that the existing fence near their northerly property line is fencing for the US 14 eastbound right-of-way. The applicant shall obtain a survey prior to any fence installation to ensure it does not encroach state highway right-of-way. Additionally, the new fencing should not be attached to the MNDOT fence. – understood
F. If traffic associated with the usage of the property causes undue traffic concerns on Cleveland Street or 7th Avenue, the applicant shall be required to complete a traffic study and make the recommended modifications needed to mitigate these conditions.- understood
G. The applicant should be aware that outdoor storage is limited to operable equipment only. Inoperable or unlicensed equipment will not be permitted. Wrecked, dismantled, partially dismantled, inoperative, or abandoned vehicles or machinery shall be prohibited.- understood
H. A snow storage plan shall be submitted and approved. Snow storage shall be in conformance with an approved plan. No formal plan is being conducted, snow will be pushed to the area marked “future storage area in the SE corner” of this site plan
I. If it is not already complete, applicant shall log in to the online portal and make notification fee payment.- Paid Additional Notice fee $56

Emily Bickford (Erickson)
Real Estate Asset Manager
ABC Supply Co. inc.
One ABC Parkway

**From:** Piltaver, Angela (She/Her/Hers) (DOT) <angela.piltaver@state.mn.us>
**Sent:** Tuesday, September 9, 2025 2:55 PM
**To:** Konz, Mark <mkonz@mankatomn.gov>
**Cc:** Westman, Molly <mwestman@mankatomn.gov>; Schoeb, Steve (DOT) <steve.schoeb@state.mn.us>; Thill, T.J. (DOT) <tj.thill@state.mn.us>
**Subject:** Re: Mankato Planning Commission and Variance Notices - September 2025

Mark,

Good afternoon. Thank you for the opportunity to comment on the items on the September Planning Commission agenda. It appears that only one item is adjacent to MnDOT right-of-way, which is Item CY-50, request of American Builders and Contractors, Supply Co. for a conditional use permit for outdoor storage at the former Volk site.

The applicant should be aware that the existing fence near their northerly property line is fencing for the US 14 eastbound right-of-way. We would ask that prior to any fence installation on the subject property, the applicant obtain a survey to ensure the new fencing does not encroach state highway right-of-way. Additionally, the new fencing should not be attached to the MnDOT fence.

Please let me know if you have any questions.

Best regards,

**Angela Piltaver, AICP, LEED AP** *(she/her/hers)*

Principal Planner | District 7 - Planning

**Minnesota Department of Transportation**

2151 Bassett Drive

Mankato, MN 56001

C: 507-508-3409

mndot.gov/

Good afternoon,

Attached are the Public Hearing notices for the City of Mankato Planning Commission and variance meetings. The items listed in the notices are included in the September Site Plan and Traffic Advisory Committee packet. The information can be found by clicking on September 9, 2025, at the link below:

https://www.mankatomn.gov/your-government/boards-commissions/site-plan-review-committee

Please submit comments by September 17, 2025, for inclusion in the Planning Commission packet. Comments received after that date will be accepted but not included in the packet.

Sincerely,

Mark Konz
Director of Community Development
City of Mankato
10 Civic Center Plaza
PO Box 3368
Mankato, MN 56002-3368
Phone: 507-387-8611
Fax: 507-388-7530

**Meeting Date:** 09/24/2025

**Title**

CY 51-25

**Request of Power Athletics, with permission of the property owner, for a conditional use permit to allow an athletic facility for sports instruction in the M-1, Light Industrial, zoning district. The subject property is described as part of Common Interest Community Number 122, APX Campus Park (1021 Elevate Lane; PID R0109034760020).**

*The anticipated date of City Council action is October 14, 2025.*

**Applicant**

The applicant is Power Athletics which is applying with permission of the property owner.

**Request**

The applicant is requesting a conditional use permit to allow an athletic facility for sports instruction in the M-1, Light Industrial, zoning district.

**Location**

The subject property is described as part of Common Interest Community Number 122, APX Campus Park (1021 Elevate Lane; PID R0109034760020).

**Existing Land Use**

An industrial building is located on the site. A contractor is currently using a portion of the building.

**Zoning**

The subject property is zoned M-1, Light Industrial.

**Environmentally Sensitive Areas**

There are no known environmentally sensitive areas on the subject property.

**Public Utilities**

The site connects to public utilities via a private connection through the site.

**City Code**

Mankato City Code related to the M-1, Light Industrial, zoning district can be found here: https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=PTIICOOR_CH10LAUSDE_ARTVIIINDI_DIV3LIINDI

Mankato City Code related to Conditional Use Permits can be found here: https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=PTIICOOR_CH10LAUSDE_ARTXIADEN_DIV3COUSPE

**Site Plan Review Comments**

The Site Plan and Traffic Advisory Committee reviewed the request at their September 9, 2025 meeting and provided the following comments.

CY51-25 Request of Power Athletics, with permission of the property owner, for a conditional use permit to allow an athletic facility for sports instruction in the M-1, Light Industrial, zoning district. The subject property is described as part of Common Interest Community Number 122, APX Campus Park (1021 Elevate Lane; PID R0109034760020).

A. The applicant shall provide a parking analysis for the entire development. The parking analysis should incorporate the existing businesses, their Code required parking, and this proposed business and it's code required parking, and the parking provided onsite. In the case of a recreational use, such as cheerleading, the standard is one space per four persons of the maximum occupancy load. Additionally, a place holder should be included in the parking analysis for the currently vacant spaces so that when they are occupied, there is parking for them, if applicable. An example parking analysis is provided, and you might consider working with the property owner on this information.
B. If not already complete, the applicant shall log into the online portal and make the necessary notification fee payments.

**Review**

The applicant is seeking a conditional use permit to allow a recreational cheerleading and tumbling training use in the M-1, Light Industrial, zoning district for the property located at 1021 Elevate Lane. The applicant's narrative states the application is being submitted because, "the proposed use is consistent with the intent of the M-1, Light Industrial, zoning district and is of the same general character as indoor recreational facilities, specifically the permitted use of indoor firing ranges."

According to the narrative and business plan provided by the applicant, the facility will provide recreational and competitive training for cheerleading and tumbling. The business concept is designed to provide training programs for youth through collegiate athletes and will be led by professional, certified coaches.

The business will operate on the following schedule:
- Summer: Monday through Thursday, 10:00am–8:00pm
- Fall/Winter/Spring: Sunday through Thursday, 4:00pm–9:00pm

The narrative states that classes will be scheduled in blocks, with groups of athletes arriving and departing in predictable patterns, at staggered schedules. The nature of the training ensures staggered traffic flow rather than continuous high-volume traffic. The business will not generate outdoor activity, excessive noise, emissions, or storage needs beyond the building footprint.

In addition to group classes for beginner, intermediate, and advanced levels, the business plan outlines that other service offerings will include competitive teams (formations of teams of various levels that perform and compete locally, regionally, and nationally), private lessons (personalized coaching for specific skill development with qualified coaches), specialty clinics (to develop areas such as stunts, tumbling, jumps, flexibility, or themed clinics to have fun - princess clinic, tie-dye and tumbling, Barbie, etc.), birthday parties (offering a space to celebrate away from home offering both time in the gym and time for cake/presents and specialty parties such as Nerf parties), and gym rental (other teams or groups can rent the gym for floor time whether it be for practices or private parties such as school teams).

The applicant intends to occupy a tenant space within an existing structure located in an M-1, Light Industrial, zoning district. According to the site plan, the building's existing tenants are Babe Plumbing, APX Storage, ECS Shop as well as a current vacant tenant space. The site plans provided do now show any exterior site modifications associated with the request. The submission of a refuse plan is included as a condition of approval. If exterior dumpsters are proposed, or utilized at the site, dumpster enclosures achieving Mankato City Code standards will be required. A recommended condition of approval is also included herein that requests a site signage plan for the entire development as well as a sign permit prior to the installation of any signage.

Parking provided on the site for the proposed use, as well as the other uses within the multi-use tenant building, meets the Mankato City Code off-street parking standards. The parking analysis provided outlines that for all uses on the site, 48 parking stalls are required, and the site provides 61 parking stalls. Suites 100-400 have a parking standard of three off-street parking spaces, plus one space per employee working on the largest shift, thus requiring a total of 18 parking stalls. The general recreational parking standard in Mankato City Code is one off-street parking space per four persons of the maximum occupancy load. The maximum occupancy load of the space is 118 for a total Code parking requirement of 30 parking stalls for the proposed recreational use. A recommended condition is included that requires that all parking stalls on the subject site are delineated with a 4" stripe as required by Code prior to operation. If not existing, bicycle parking achieving Mankato City Code standards will be required and is included as a recommended condition of approval.

Group classes are planned to be held two classes at a time, ranging from 9-20 persons in each class, for a total of approximately 40 athletes at one time. Staffing is estimated to be up to 8, with a minimum of 4 for each class. Class times will have staggered start times, with some athletes choosing to utilize carpooling. The applicant's narrative outlines staggered start times that balance traffic flow rather than a continuous, high-volume traffic flow to the site. The existing site parking and access infrastructure is proposed to accommodate the intended traffic and operational intensity. If traffic issues arise associated with the internal components of the site such as parking, internal site traffic circulation, or other, at the discretion of the City of Mankato Engineer, a recommended condition is included herein that the property owner will be responsible for privately managing the subject site and making modifications necessary to eliminate potential public transportation corridor concerns and/or conflicts. This may include, but is not limited to, parking lot expansion, dedicated drop off lanes, installation of the northerly site access lane, or other alternatives to eliminate potential public corridor concerns or conflicts.

Additionally, because of the mix of industrial uses and their potential operational components such as trucks, trailers, heavy equipment and this use, that potentially involves young children, the submission of a traffic management plan at the time of building permit submission is included as a recommended condition.

The floor plans within tenant Suite 500, located on the northern side of the existing building, show 2 tumbling floor areas, with one being a springboard floor, tumbling track, landing mats, a trampoline run, a new restroom, a "small office", and other support areas. Two entries to the building, a west entry and an east entry, are shown on the floor plan. Bleachers or spectator seating are not shown on the floor plans.

The applicant has indicated that the location will be used for training purposes only. Competitions, tournaments or other functions that involve spectators are not planned for the location. A recommended condition is included herein regarding the use for these purposes.

Mankato City Code section 10-0001 provides the permitted uses within the M-1, Light Industrial, zoning district. Included in these uses are, "indoor firing ranges, per the restrictions of article X, division 2, of this chapter."

Mankato City Code section 10-0002 outlines the allowable conditional uses in the M-1, Light Industrial, zoning District. The conditional uses are as follows:

*Except as specifically limited herein, the following uses may be allowed in the M-1 district:*
*(1) Uses listed as conditional uses in the PI district.*
*(2) Electricity generating facilities, when not determined to be objectionable due to noise, odor, or vibration.*
*(3) Professional service offices with a floor area greater than 10,000 square feet.*
*(4) Other wholesale, light manufacturing, construction, or service uses similar in character to those listed above.*

This proposal seeks consideration for a conditional use permit allowed by, "Other wholesale, light manufacturing, construction or service uses similar in character to those listed above" section of the Code.

The proposed user is comparable to other recreation uses allowed in the M-1, zoning district. The proposed cheerleading and tumbling recreational use involves structured, supervised activity led by trained professionals similar to possible uses offered at other recreational uses where classes or other supervised instruction may be provided.

Furthermore, the use of an industrial space provides the needed safe areas for this proposed recreational use, which may be similar to how other recreational uses have specific size needs for their specific type of operation. Industrial space with open floors and high ceilings is the ideal location for this proposed recreational operation. This proposed recreational use requires a clear, open space without structural columns in order to accommodate 2 full competition floors, each having an area of 54' X 42'. The tumbling tracks also require an area of 6' X 50' without columnar obstruction. In addition, a high ceiling height of at least 18' is required for technical moves such as basket tosses that involve tossing members into the air.

The requested conditional use permit is for a recreational use in the northerly suite, Suite 500, of the building. Future recreational uses, if desired, in this facility will be limited to this suite space and the same or similar operational components, and will be subject to the approving conditions of this conditional use permit. If additional recreational uses are desired within the building, in other suites, a future conditional use permit will be required.

**Findings**

Staff respectfully submits the following findings of fact with respect to the conditional use permit to allow a recreational use in Suite 500, the northern suite, of the existing building in the M-1, Light Industrial, district:

1. The proposed use, a cheerleading and tumbling recreational use, is of similar character to other uses listed in the M-1 district. Indoor firing ranges, which are also recreational in nature, are permitted uses within the M-1 zoning district, and thus this proposal is considered a conditional use.
2. The request is in keeping with the comprehensive planning policies of the City as the underlying land use plan identifies this parcel as "Light Industrial", and in that district this proposed use is identified in Code as a conditional use.
3. The proposal does not interfere with or diminish the use of property in the immediate vicinity.
4. The proposed development will be served by public utilities.
5. The proposal will not cause undue traffic congestion. Conditions are included herein that, in the event that traffic impacts on the public transportation corridors occur, the applicant and/or property owner will be required to implement mitigation strategies.
6. There are no known historical or architectural resources on the site.
7. There are no known environmentally sensitive areas on the site.
8. It will not cause a negative cumulative effect and effect on the City as a whole.
9. To the extent known, the development, when considered with the recommended conditions, conforms with all other applicable regulations of the district, and other applicable ordinances.
10. The proposal will not jeopardize the public's health, safety, or general welfare.

**Recommendation**

Staff recommends approval of the conditional use permit to allow the operation of a recreational cheerleading and tumbling operation in Suite 500 of the property zoned M-1, Light Industrial, with the following conditions:

1. Prior to the fabrication or installation of signage at the site, a City of Mankato Sign Permit shall be in place.
2. Prior to the issuance of a sign permit, a development sign plan shall be submitted for review and approval. The plan shall contemplate all possible site signage.
3. All parking stalls shown on the parking plan shall be designed in accordance with the City of Mankato Parking Plates prior to the subject use operating at this location.
4. The facility will be used for private recreational practices. Tournaments, meets, competitions or other events that involve spectators and additional occupants will require an amendment to the conditional use permit, which will allow a review of necessary additional parking or traffic operational requirements for additional occupants and operational components.
5. Bicycle parking in conformance with Mankato City Code shall be provided.
6. A site traffic management plan shall be provided at the time of building permit submission for occupancy of this space. The plan shall detail how traffic and uses associated with potential industrial components on the site will be coordinated and operated in tandem with the proposed recreational use.
7. If traffic issues arise associated with the internal components of the site such as parking, internal site traffic circulation, or other, at the discretion of the City of Mankato Engineering Department, the property owner will be responsible for privately managing the subject site and making modifications necessary to eliminate potential public transportation corridor concerns and conflicts.
8. Future recreational uses, if desired of this facility, will be limited to this suite space and the same or similar operational components, and will be subject to the approving conditions of this conditional use permit.
9. A refuse plan shall be submitted for review and approval. If exterior dumpsters are utilized or proposed on the subject site, they will be required to achieve the Mankato City Code standards.

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**Attachments**

General Location Map

Aerial Map

Site Plan

Exterior Rendering

Floor Plan

Business Plan

APX Tenant Letter

Narrative

Parking Analysis

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# General Location Map




**Date: September 2025**

**Author:**

This information is to be used for reference purposes only. The City of Mankato does not guarantee accuracy of the material contained herein and is not responsible for misuse or misinterpretation.

N

# Aerial




**Date: September 2025**

**Author:**

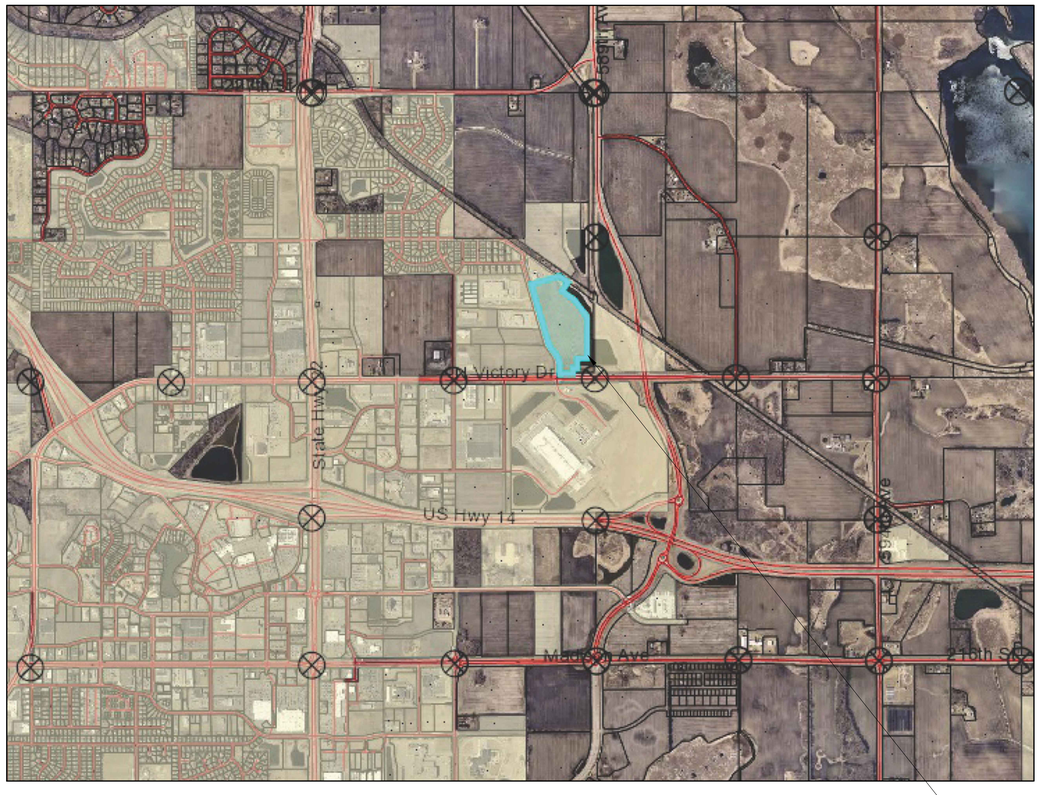
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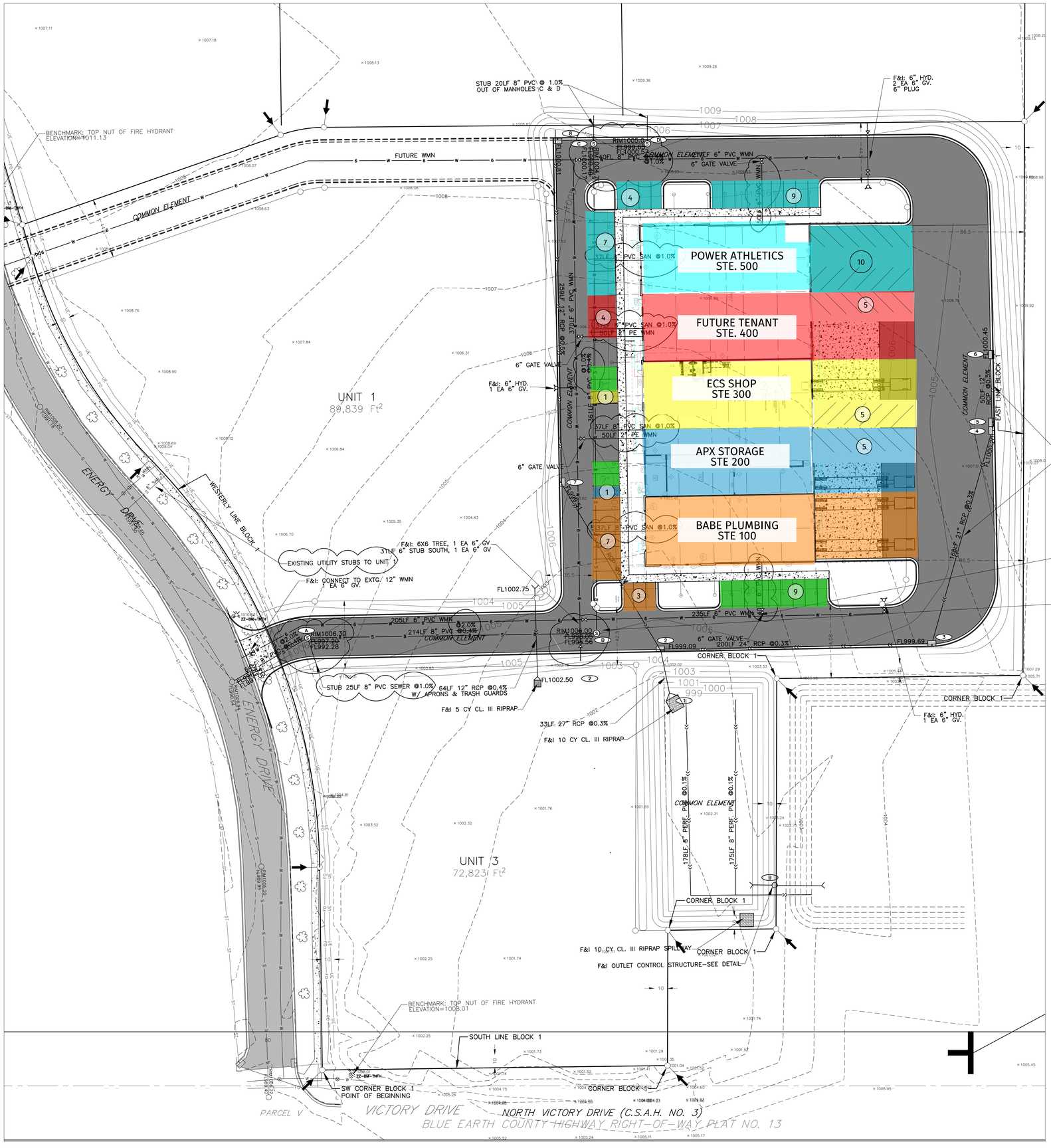
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NOTES PREPARED FOR
2025.09.18 APX CONSTRUCTION - JS

# POWER ATHLETICS
## PROPOSED STE. 400
## OF THIS BUILDING

# APX CAMPUS PARK
# LOT 2, BLOCK 1, EASTWOOD ENERGY CENTER NO. 4
# MANKATO, MN


Victory Dr
State Hwy 22
US Hwy 14
Stoltzman Rd
Eastwood Dr
Madison Ave
Adams St
Belgrade Ave
Lee Blvd
Range Ln
Riverfront Dr
Hoffman Rd
Lor
Ln
Ln
Ln




## STORM SEWER STRUCTURE SCHEDULE

| NO. | RIM EL. | INVERT EL. | HEIGHT | CASTING | DESIGN | REMARKS |
|---|---|---|---|---|---|---|
| 1 | – | 999.00 | – | – | – | 27" RCP APRON & TRASH GUARD, 10 CY CL. III RIPRAP |
| 2 | 1004.20 | 999.09 | 5.11 | R3067 | 4022-60 | |
| 3 | 1004.00 | 999.69 | 4.31 | R3067 | 4022-60 | F&I 1' SUMP AT ELEV.=1002.49 |
| 4 | 1003.50 | 1000.20 | 3.30 | R3067 | 4022-48 | |
| 5 | 1003.50 | 1000.20 | 3.30 | R3067 | 4022-48 | |
| 6 | 1004.00 | 1000.45 | 3.65 | R3067 | 2X3 | |
| 7 | 1004.80 | 999.51 | 5.29 | R3067 | 4022-48 | |
| 8 | 1004.25 | 1000.81 | 3.44 | R3067 | 2X3 | 12" RCP APRON & TRASH GUARD |
| 9 | 1003.00 | 999.00 | 4.00 | R1772 | – | SEE OUTLET STRUCTURE DETAIL |

ALL OUTLET APRONS TO HAVE CL. III RIPAP PER DETAIL INSTALLED WITHIN 24 HOURS OF CONNECTION

## SANITARY SEWER STRUCTURE SCHEDULE

| NO. | RIM EL. | INVERT EL. | HEIGHT | CASTING | DESIGN | REMARKS |
|---|---|---|---|---|---|---|
| A | 1006.30 | 997.20 | 9.10 | R1772 | 4007C | |
| B | 1005.00 | 998.05 | 6.95 | R1772 | 4007C | |
| C | 1004.70 | 999.49 | 5.21 | R1772 | 4007C | |
| D | 1005.00 | 999.65 | 5.34 | R1772 | 4007C | |

F&I STORM SEWER PIPING AND STRUCTURES SHOWN
SEE STRUCTURE SCHEDULE FOR MORE INFORMATION

F&I NEW WATER MAINS FROM ENERGY DRIVE AS SHOWN. REMOVE & REPLACE PAVEMENT AS REQUIRED. MATCH EXISTING STREET SECTION
SEE MECHANICAL PLAN FOR ROUTING TO BUILDING.

F&I NEW SEWER MAINS FROM EXISTING SEWER IN ENERGY DRIVE AS SHOWN. REMOVE & REPLACE PAVEMENT AS REQUIRED. MATCH EXISTING STREET SECTION
SEE MECHANICAL PLAN FOR ROUTING TO NEW BUILDING
SEE STRUCTURE SCHEDULE FOR MORE INFORMATION

NOTES PREPARED FOR
2025.09.18 APX CONSTRUCTION - JS

# POWER ATHLETICS
## PROPOSED STE. 400 OF THIS BUILDING

PLUMBING SPECIFICATIONS

1. All plumbing shall be installed in accordance with the Minnesota Plumbing Code (see Minnesota Rules, Chapter 4714).
2. The water distribution system shall be disinfected per Minnesota Rules.
3. A sanitary sewer cleanout will be provided near the connection between the building drain and the building sewer.
4. PVC sanitary sewers will meet one of the following ASTM Standards: D3034, F789, D2665, or F891. ASTM D2241 pipe may be used for sewers 6_inch and larger. The installation will comply with ASTM D2321, which requires installation by open trench on a continuous granular bed.
5. PVC solvent weld joints will include a primer of contrasting color to the pipe and cement.
6. RCP storm sewers must comply with ASTMC76.
7. All joints and connections in the storm sewer system shall be gastight or watertight. Approved resilient rubber joints must be used to make watertight connections to manholes, catchbasins, and other structures. Cement mortar joints are permitted only for repairs and connections of existing lines constructed with such joints.
8. Polyethylene (PE) water services must meet ASTM D2239 or D2737 installed perASTM D2774. Joints must use approved insert fittings with metal clamps. No more than two feet may be exposed within the building.
9. The bottom of the water service pipe located within ten feet of the sewer crossing must be at least 12 inches above the top of the sewer. When this is not feasible, the sewer pipe must be constructed of materials listed in the Minnesota Rules. The water service should not contain any joints or connections within 10 feet of the crossing.
10. All portions of the storm sewer system located within 10 feet of the building or water service line must be tested in accordance with Minnesota Rules.

1"=30'
30 0 30
HORIZ. SCALE FEET

Consultant:
JONES HAUGH SMITH
Engineers • Surveyors
515 South Washington Ave. Albert Lea, MN 507-373-4876

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.
Date: 9/20/22
Brian J. Jackson
Reg. No. 43744

Project:
APX CAMPUS PARK

Revision:
11/2/2022
11/8/2022

No.: Date: 9/20/22
Drawn: bjj Checked:
Project Manager:
Project Status: CD
Sheet Title:
UTILITY PLAN

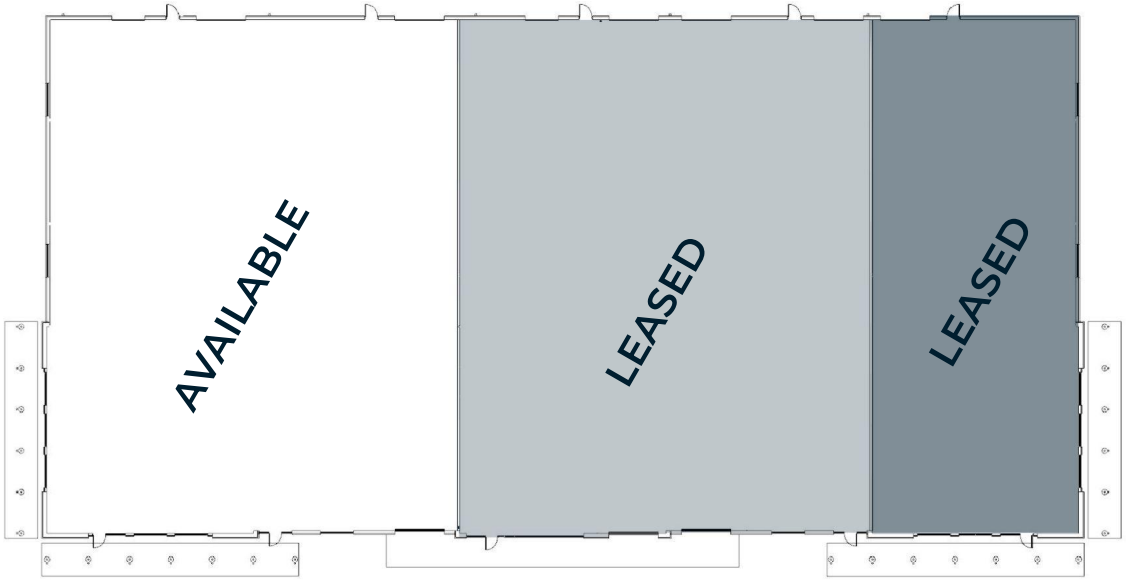
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# ELEVATE22

*31,250 SF OF MODERN & FLEXIBLE CONDO SPACE*








## CONTRACTOR PARK

Make the move to the professional tenant mix at Elevate22. Newly developed modern and flexible 31,250 SF property available for sale or lease in Mankato, MN. Industrial and flexible suites offered in increments of 6,250 SF. Elevate22 is ideal for office, retail, and warehouse space ranging from 6,250-31,250 SF. Each 6,250 SF suite includes 1,000 SF vanilla shell with bathroom rough ins, office area, 5,250 SF warehouse space, plus a loading dock and drive-in.

## PROPERTY DETAILS

- New Construction
- Suites starting at 6,250 SF
- Flex space in increments of 6,250 SF up to 31,250 SF
- Quick access to Highway 14 and Highway 22
- Exterior courtyards
- Fenced and secured outdoor storage
- Ample and private parking
- Common shared conference room, receptionist, shop manager available for shipments and deliveries



*FOR MORE INFORMATION*

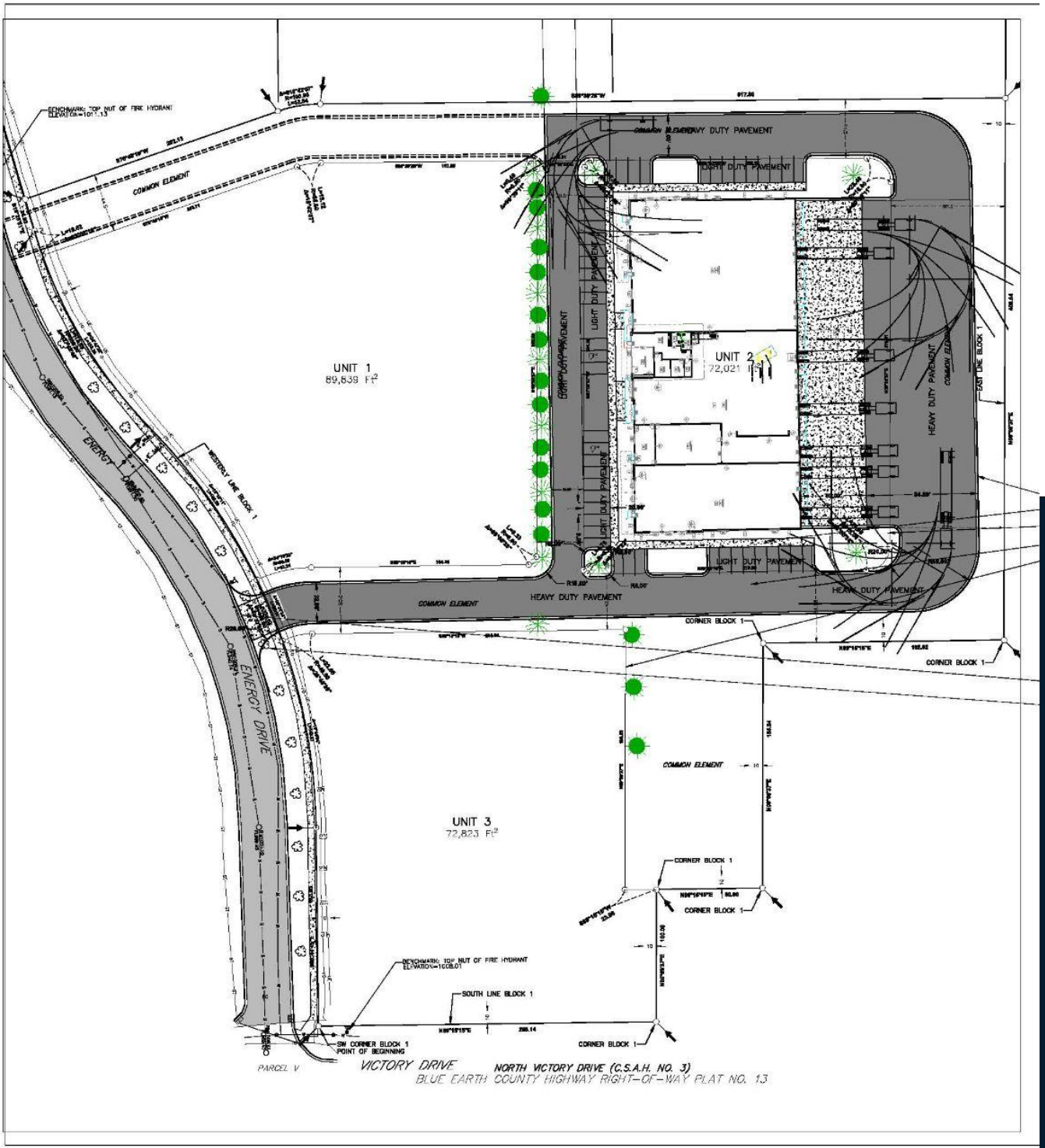
JAMIE JACOBS
507-387-6836 x211
JAMIE@APXCONSTRUCTIONGROUP.COM

*a development by APX Construction Group*

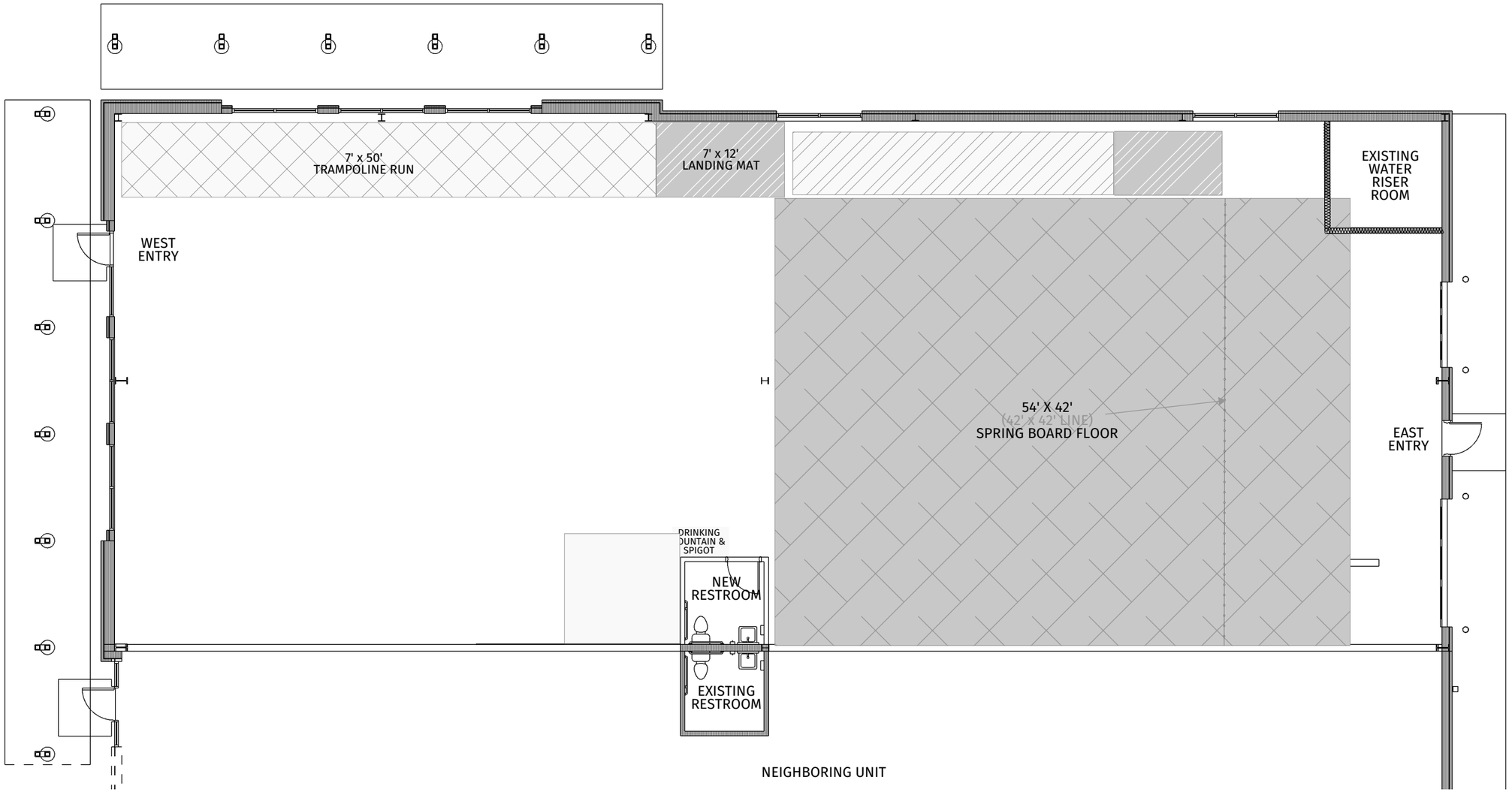
# FOR SALE OR LEASE

# ELEVATE22

*31,250 SF OF MODERN & FLEXIBLE CONDO SPACE*



# Power Athletics, LLC
# Elevate 22
# 1021 Elevate Lane
# Suite 400




SCALE
3/32" : 1'
1 :128

APX CONSTRUCTION GROUP

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AUGUST 2025

# Power Athletics, LLC

## ALLSTAR CHEERLEADING AND TUMBLING FOR THE GREATER MANKATO AREA

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# Executive Summary

POWER ATHLETICS, LLC

## VISION

Bringing all star cheerleading and tumbling to the greater Mankato area and beyond by working with youth athletes and teaching our core values of mastery, accountability, kindness, excellence and strength.

## MISSION

To expand into the greater Mankato area by offering opportunities to emphasize and teach our athletes mastery and safety of cheer and tumbling through the accountability, hard work and strength to do the sport while fostering a kind, inclusive environment.

CORE VALUES

## MASTERY

We pursue mastery through continuous learning, practice, and refinement. Striving towards perfection in all that we do, before progressing to new levels.

## ACCOUNTABILITY

We embrace accountability as a driver of learning and improvement, using feedback to grow and develop. We own our actions and their outcomes, taking responsibility for our commitments and performance.

## KINDNESS

We foster a culture of kindness, where everyone feels valued, supported, and appreciated. We demonstrate kindness through our actions, treating everyone with respect, compassion and generosity.

## EXCELLENCE

We relentlessly pursue excellence in all that we do. We are committed to the highest standards of quality and performance.

## STRENGTH

We build strength through resilience, determination, and teamwork. We are committed to developing both physical and mental fortitude. We believe that physical wellness supports mental clarity and resilience, and that mental strength empowers us to overcome challenges and achieve our goals.

# The Organization




## BRIDGETTE ZINS

**Owner**
**& Co-Founder**

Setting strategy by defining the mission, vision, values, and goals of the business. Representing the company in public forms by managing relationships and marketing strategies. Monitoring the performance of employees. Assessing opportunities by monitoring industry changes and assessing areas of opportunities and growth.

## HALEY HUCHON

**Owner**
**& Co-Founder**

Managing the business financial activities through financial planning, assessing financial risks and minimizing them, creating financial reports, overseeing accounting and ensuring the businesses compliance with financial regulations.

## MAKI BRAUNSHAUSEN

**Owner**
**& Co-Founder**

Daily operations of the business. Ensuring strategic goals are met, managing performance of staff, creating and implementing strategies for business growth. Creating and maintaining relationships with athletes and parents. Cleaning, stocking, and maintaining equipment.

# Business Description

## PROBLEM

There is a desire to bring allstar cheerleading and tumbling into Mankato that offers safe, progressive training taught by skilled and knowledgeable coaches.

## SOLUTION

Power Athletics offers a variety of classes and teams at all levels to bring all star cheerleading and tumbling to the Mankato area through the expertise of their skilled coaches and safe facility.

## TARGET MARKET

### 1. CHEERLEADERS OF ALL LEVELS

Class offerings to benefit those at the beginner, intermediate and advanced levels.

### 2. INDIVIDUALS LOOKING TO IMPROVE TUMBLING

Progressive tumbling classes that benefit cheerleaders, dancers and gymnasts.

### 3. COMPETITIVE CHEER TEAMS

Performance and competitive teams in either half year or full year offerings for athletes of all abilities and commitments (novice, prep, elite).

### 4. INDIVIDUALS LOOKING TO GAIN FITNESS THROUGH MOVEMENT

Class offerings from infant exploratory movement through adult classes to gain physical fitness and stay active.

# Business Information

## NARRATIVE:

Power Athletics is seeking to establish a business presence within the city limits of Mankato, MN. Our needs for our facility to ensure a safe training area for our youth athletes includes, a large facility (Over 5000 square feet) to fit two competition sized floors, as well as training materials such as tumbling trampolines of various sizes. In addition to the large space needed, we are in need of high ceilings, as part of the sport involves tosses in which athletes are set into the air approximately 15 feet up. A similar feature needed is clear span area, as the competition floor is the size of 54 feet by 42 feet.

While Power Athletics has enjoyed being in Kasota/ St Peter, we have outgrown our location, and with the Highway 22 road construction for the years of 2025-2027, we are in need of moving to Mankato to be come more accessible to our families and to add a second floor. It is not possible to expand in our current location.

Power Athletics has searched the Mankato Area of over one year of time, and there are little to no options that are both affordable, and fit the criteria needed to provide safe, well lit, with appropriate facilities and parking available. Power Athletics has intension of moving to 1021 Elevate Ln, in the Elevate 22 Suites. Leasing 6129 sq ft, with a lease term of 5 years. Zoned as Office/Warehouse, Industrial, we hope to fit in with the current occupant businesses of Evenson Concrete Systems and Babe Plumbing.

Below are locations we have previously considered:
Rice/ De Mars Future Owned/Built: Power Drive Building- Not in construction phase yet, but ideal space.
River Hills Mall: - 30 ft structure poles, rent too high
Madison East Mall: Would need to retrofit building in existing hallways.
1850 Madison Ave: UNRL building: - Pricing too high, 30 ft structure poles
~1072 South Victory Drive- Space too small, no parking, zoning industrial
706 N Victory Dr (MVAC)- no bathroom addition option available to make suitable for code.
219 S. Victory Drive- differing ceiling heights, no space for a full floor, additional building not heated, cooled,

## BUSINESS DETAILS:

**Hours of Operation**
June-August: Monday-Thursday
11:00am-8:00pm
September- May: Sunday-Thursday
4:00pm-8:30pm

**Staff**
Approximately 8-10 part time staff
(4 coaches max in building at one time)

# Service Offerings

## GROUP CLASSES

Beginner, intermediate and advanced levels to develop tumbling or cheer skills.

## COMPETITIVE TEAMS

Formations of teams of various levels (novice, prep, elite) that perform and compete locally, regionally, and nationally.

## PRIVATE LESSONS

Personalized coaching for specific skill development with qualified coaches.

## SPECIALTY CLINICS

To develop areas such as stunts, tumbling, jumps, flexibility or themed clinics to have fun (princess clinic, tie dye & tumbling, Barbie, etc.)

## BIRTHDAY PARTIES

Offering a space to celebrate away from home offering both time in the gym and time for cake/presents. Specialty parties such as Nerf Parties.

## GYM RENTAL

Other teams or groups can rent the gym for floor time whether it be for practices or private parties. (Ex: school teams)

# Marketing Plan

Our marketing plan is to reach potential customers through four main sources: digital, community outreach, promotions and branding.

## DIGITAL MARKETING

This will be through our website, social media (Facebook, Instagram, etc) and targeted online advertizing.

## COMMUNITY OUTREACH

Partnerships with local schools and colleges, community events to spread awareness of the gym.

## PROMOTIONS

This will be achieved through running a free trial class, open houses, bring a friend class, and referral programs.

## BRANDING

Consistent visual identity across all marketing materials (online media, print, apparel).

# Market Analysis

## INDUSTRY GROWTH

Growing popularity of competitive cheerleading has increased the demand for specialized training and the rising interest in the sport as a fitness activity.

"Currently, cheerleading is one of the most popular activities across the US and around the globe – with over 3 million cheerleaders in the US participating in youth rec, all star, school cheer, and STUNT, and hundreds of thousands worldwide. With the recent recognition by the IOC and USOPC, there's no signs of slowing down the growth and interest for cheer!" - USA Cheer, usacheer.org

| LOCATION | POPULATION |
|---|---|
| Mankato, MN | Population: 45,742<br>Persons under 5 years: 5%<br>Persons under 18 years: 17.3% |
| **INCOME** | **LOCAL HIGH SCHOOL TEAMS** |
| • Median Household Income: $64,826 | • St. Peter High School<br>• LCWM High School<br>• St. Clair High School<br>• Maple River High School<br>• New Ulm High School<br>• Waseca High School |
| **LOCAL COLLEGE TEAMS** | **NEARBY COMPETITORS** |
| • MSU, Mankato Cheer Team<br>• MSU, Mankato Dance Team<br>• Gustavus Adolphus College Cheer Team | • Empire All Stars - Jordan, MN<br>• K & G Gymnastics - Mankato, MN<br>• Mankato Area Gymnastics Academy - Mankato, MN<br>• Spotlight Dance Company - Mankato, MN<br>• Dance Express - Mankato, MN<br>• Northern Elite All Stars - Bloomington, MN |

# Competitor Analysis

Power Athletics, LLC has several similar sport competitors in the radius of 45 miles. Power Athletics specific advantages are being the only competitive cheerleading program in a 40 mile radius. Competitors locally for similar type sports do not offer competitive cheerleading of any capacity. Thus creating an open need in the Mankato and surrounding communities. Recreational programming is available in Mankato and surrounding communities, however most programs have limited safety measures in place for the intermediate to advanced athlete.

## EMPIRE ALL STARS - JORDAN, MN & NEW MANKATO LOCATION

| STRENGTH | WEAKNESS | OPPORTUNITY | THREATS |
|---|---|---|---|
| • Highly ranking competitive cheer teams on a national scale | • Distant Owners<br>• High prices comparatively to other gyms/studios<br>• Small Mankato location | • Power Athletics can offer competitive pricing compared to their costs of teams/classes | • If they offer teams or tumbling classes at times that are more convenient to our families |

## MAGS - MANKATO, MN

| STRENGTH | WEAKNESS | OPPORTUNITY | THREATS |
|---|---|---|---|
| • Optimal gym location off of Hwy 169<br>• More equipment such as pits, trampolines, mats | • High prices<br>• Does not offer cheer | • Power Athletics offers competitive pricing<br>• Offer a service that they do not have - cheer classes | • Convenient location |

# Financial Plan

All financial projections can be found in our Annual Business Budget.

Link to Annual Business Budget

# Price Comparisons

Price comparisons collected based on comparable and competitive industries in our area.

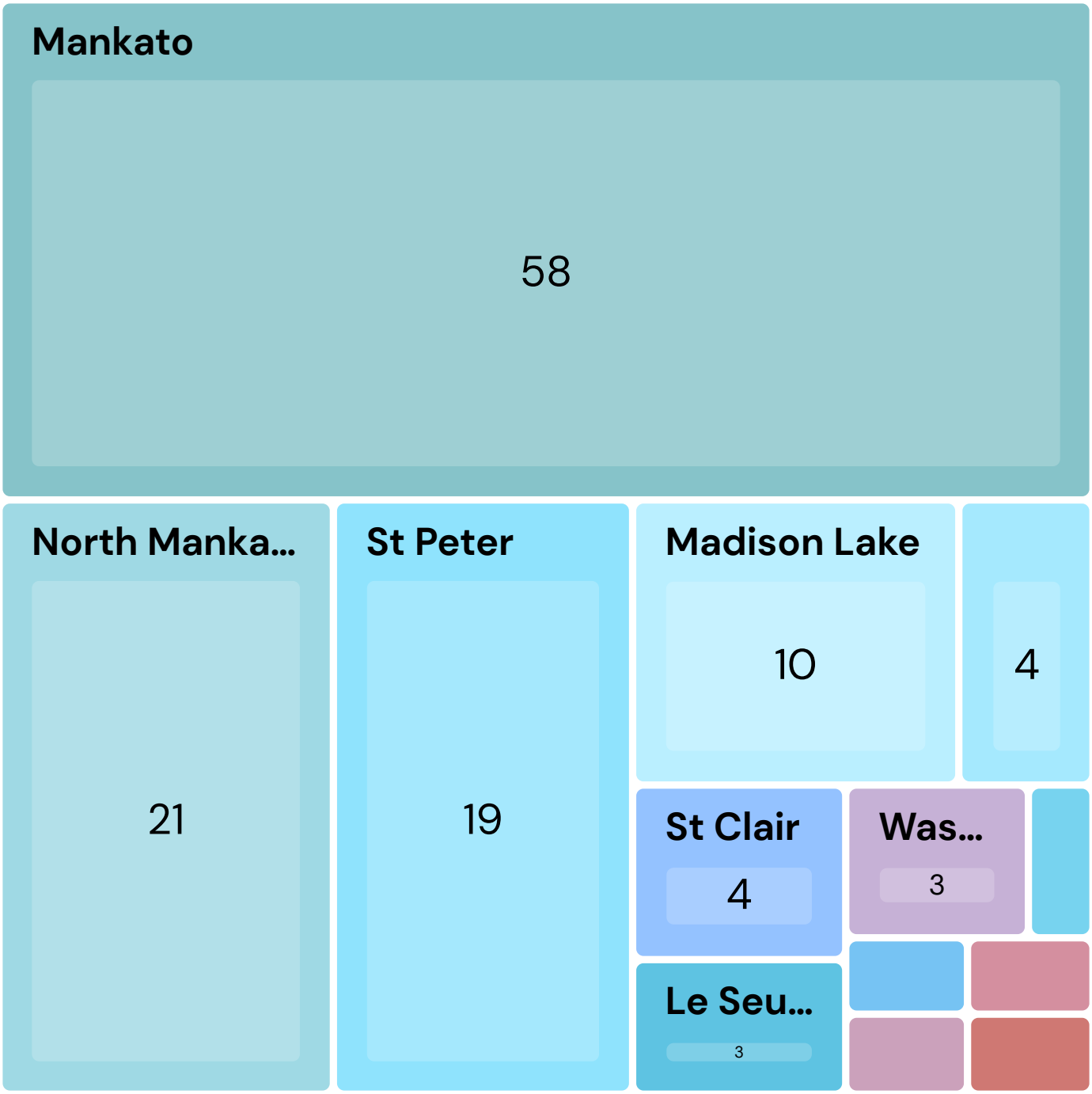
Link to Price Comparisons

# Fall Schedule

Link to Proposed Current Fall Schedule- 1 Floor

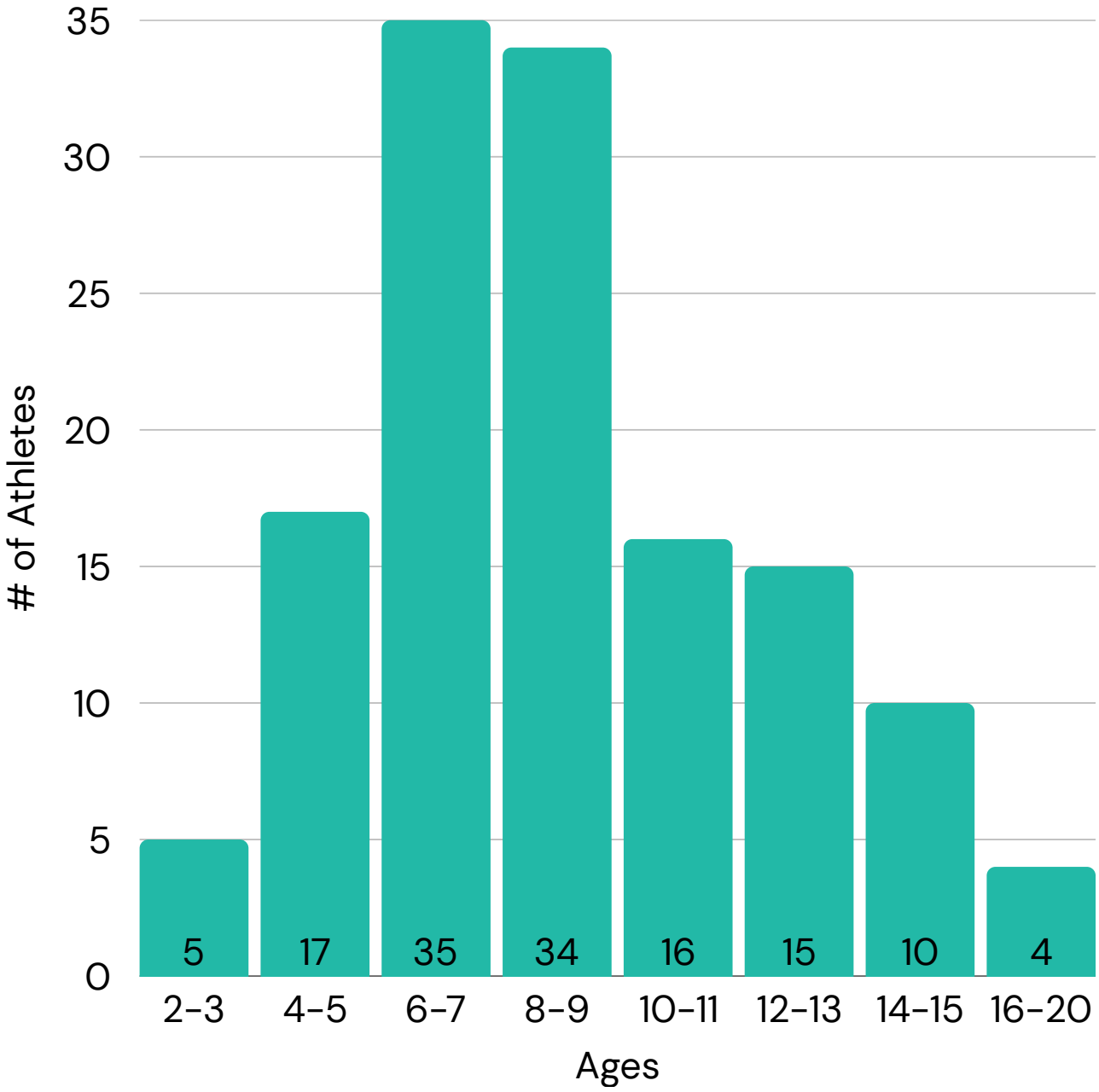
# Current Families

Active enrolled families as of August 19, 2025

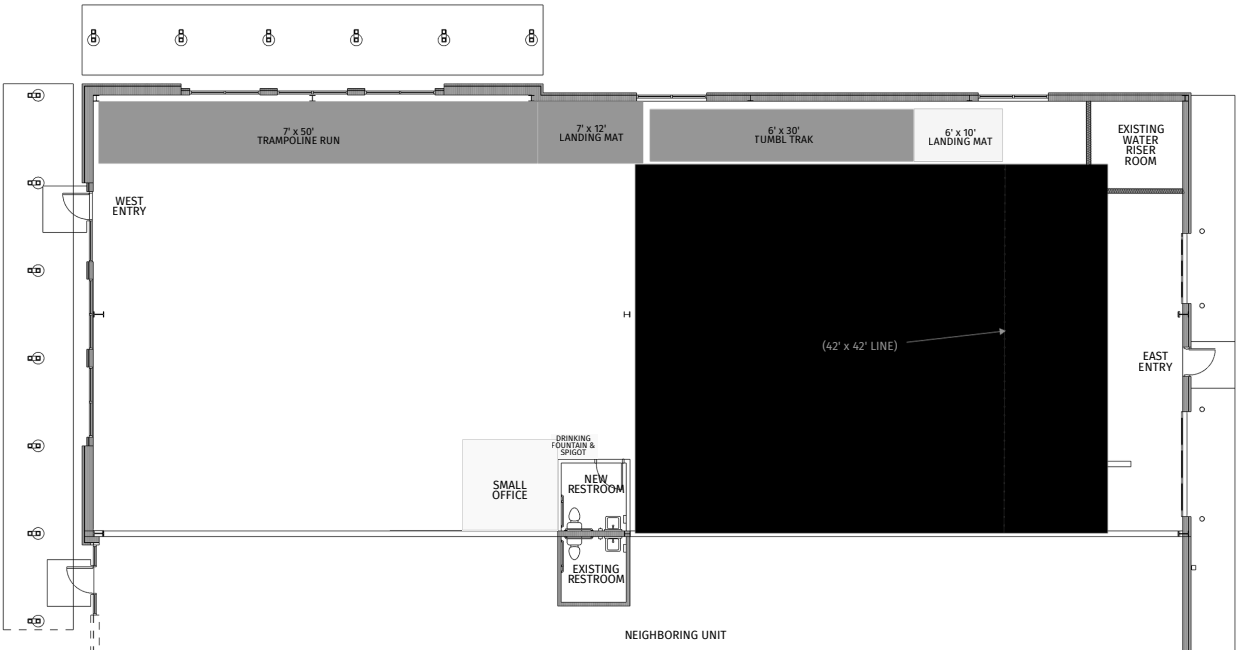


# Current Families

Active enrolled Ages of athletes as of August 19, 2025



# Proposed Building




SCALE
3/32" : 1'
1:128

APX CONSTRUCTION GROUP

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| | |
|---|---|
| FLOOR PLAN OPTIONS | 2025.08.01 |
| POWER ATHLETICS | 1 |

We look forward to working with Power Athletics and potentially joining the multi-tenant building located at 1021 Elevate Lane, Mankato, MN. Their tenancy on the north end of the building represents a strong commitment to the continued growth and vitality of this development.

Power Athletics is a tenant of high caliber whose operations will complement the existing businesses within the building. This addition supports our shared goals of fostering economic development, attracting quality employers, and ensuring the highest and best use of this property.

We look forward to a productive partnership with Power Athletics and to the positive contributions they will bring to the community and the broader business environment.

**Conditional Use Permit Narrative**

**Applicant:** Power Athletics, LLC

**Property:** 1021 Elevate Lane, Mankato, MN (Suite 400)

**Zoning:** M-1, Light Industrial District

**Introduction**

Power Athletics respectfully requests approval of a Conditional Use Permit (CUP) to operate a youth and collegiate cheerleading and tumbling training facility at 1021 Elevate Lane in Mankato, MN. The proposed use is consistent with the intent of the M-1, Light Industrial District and is of the same general character as indoor recreational facilities, specifically the permitted use of indoor firing ranges. The facility will provide structured, supervised, and safe indoor athletic training opportunities for area youth and young adults.

**Description of Use**

Power Athletics will occupy Suite 400 of the newly developed Elevate 22 building. The facility will provide recreational and competitive training in all-star cheerleading and tumbling. Programs will serve youth through collegiate athletes and will be led by professional, certified coaches. The facility includes spring floors, tumbling tracks, mats, office space, and support areas as detailed in the attached floor plan.

**Operations**

The business will operate on the following schedule:

- Summer: Monday through Thursday, 10:00am–8:00pm

- Fall/Winter/Spring: Sunday through Thursday, 4:00pm–9:00pm

Classes will be scheduled in blocks, with groups of athletes arriving and departing in predictable patterns. The nature of the training ensures staggered traffic flow rather than continuous high-volume traffic. The business will not generate outdoor activity, excessive noise, emissions, or storage needs beyond the building footprint.

**Compatibility with Zoning**

The M-1 District lists indoor firing ranges as a permitted use. Power Athletics is comparable in that it:

- Is conducted entirely indoors

- Involves structured, supervised activity led by trained professionals

- Has scheduled participation with predictable traffic patterns

- Provides a safe recreational use consistent with community needs

The proposed use is also consistent with how other indoor training facilities (dance studios, martial arts academies, gyms) have been interpreted in similar zoning contexts.

**Compatibility with Surrounding Uses**

The existing tenants of the building include Babe Plumbing, Heating and Air (Suite 100) and Evenson Concrete Systems (Suite 200). Power Athletics will complement these uses by occupying the remaining suites with a low-intensity recreational use. Unlike heavier industrial operations, Power Athletics does not create noise, odor, vibration, or traffic that would interfere with these tenants. Instead, the presence of Power Athletics adds diversity to the building's tenant mix while maintaining overall compatibility with the M-1 district.

**Community Benefits & Economic Impact**

Power Athletics will provide significant community benefits by:

- Offering safe, structured after-school programs for children and young adults

- Preparing athletes for collegiate-level opportunities through high-quality training

- Serving as a positive gathering place for youth and families

- Attracting visitors to Mankato for cheerleading competitions, camps, and clinics

- Supporting local businesses such as hotels, restaurants, and retailers through event-related tourism

The presence of Power Athletics enhances the community's recreational offerings and positions Mankato as a regional hub for competitive cheerleading and tumbling.

**Findings of Fact**

1. The proposed use is of the same general character as permitted uses in the M-1 District, particularly indoor firing ranges.

2. The request is consistent with the City's comprehensive planning policies by diversifying uses within industrial corridors.

3. The proposal does not interfere with neighboring uses and is compatible with Babe Plumbing and Evenson Concrete Systems.

4. The property is served by public facilities and utilities.

5. The use does not create undue traffic congestion.

6. There are no known historical, architectural, or environmental resources affected by the proposal.

7. The overall intensity of the development is not greater than other allowed uses in the district.

8. The proposal conforms with applicable regulations and ordinances.

9. The proposed use will not jeopardize public health, safety, or welfare.

**Conclusion**

Power Athletics respectfully requests approval of a Conditional Use Permit for a cheerleading and tumbling training facility at 1021 Elevate Lane. The use aligns with the intent of the M-1 District, is comparable to permitted uses, and provides significant community and economic benefits to Mankato. Approval of this request will allow Power Athletics to continue serving the region's youth and families in a safe, structured, and impactful manner.

## PARKING ANALYSIS

1020ELEVATE LANE, MANKATO, MN 56001 **9/12/2025**

| BUSINESS | STANDARD | STE | EMP | BASE STALLS | PROVIDED STALLS |
|---|---|---|---|---|---|
| BABE PLUMBING | Three (3) off-street parking spaces, plus one (1) space per employee on the largest working shift. | 100 | 3 | 6 | 10 |
| APX WAREHOUSE | Three (3) off-street parking spaces, plus one (1) space per employee on the largest working shift. | 200 | 0 | 4 | 6 |
| ECS WAREHOUSE | Three (3) off-street parking spaces, plus one (1) space per employee on the largest working shift. | 300 | 1 | 4 | 6 |
| WAREHOUSE (NO TENANT) | Three (3) off-street parking spaces, plus one (1) space per employee on the largest working shift. | 400 | 3 | 4 | 9 |
| POWER ATHLETICS | (1) off-street parking space per of the maximum occupancy load (max occ. 118) | 500 | | 30 | 30 |
| | | | | **48** | **61** |

plus Campus has an add'l 13 for overflow

## SITE SUMMARY

| | |
|---|---|
| M-1 | **ZONING** |
| 174,240 | **SITE/LOT AREA:** |
| 92,270 | **IMPERVIOUS SF** |
| 52.96% | **IMPERVIOUS %** |

## PARKING REQUIREMENTS (PER CITY CODE)

| | |
|---|---|
| LIGHT INDUSTRIAL | **TYPE** |
| (3) + 1 PER EMPLOYEE | **UNIT** |
| 25.00 | **STALLS REQUIRED** |
| 48 | **STALLS PROVIDED** |

## SETBACK

| | |
|---|---|
| 15' | **FRONT YARD - PARKING** |
| 6' | **SIDE YARD - PARKING** |
| NONE | **REAR YARD - PARKING** |
| 15' | **FRONT YARD - BUILDING** |
| 6' | **SIDE YARD - BUILDING** |
| | **REAR YARD - BUILDING** |

## CODE REVIEW DATA

1. **GENERAL INFORMATION**

A. PROJECT NAME: DISTRICT 22, APX CONTRACTOR CAMPUS
B. PROJECT LOCATION: MANKATO, MINNESOTA
C. PROJECT DESCRIPTION:
a. NEW OFFICE / WAREHOUSE PRE-ENGINEERED METAL BUILDING FOR .....

A. GROSS BUILDING SIZE:

| GROSS BUILDING AREA | | |
|---|---|---|
| Name | Area | Comments |
| FIRST LEVEL | 31,509 SF | |

**Planning Commission Regular Meeting** **5. 6.**

**Meeting Date:** 09/24/2025

**Title**

CY 52-25

**Request of the Planning Agency for review of the Hilltop Study.**

*The anticipated date of Council Action is November 10, 2025.*

**Applicant**

The City of Mankato is the applicant.

**Review**

On December 13, 2023, the Mankato City Council authorized the Hilltop Planning Area Study to evaluate land use transitions, neighborhood traffic concerns, and long-term preservation strategies for the area bounded by Madison Avenue, Victory Drive, Main Street, and the Crocus Street bluff line. The study responds to pressures from institutional expansion, commercial redevelopment, and transportation challenges that affect the stability and character of Hilltop neighborhoods.

Through a robust community engagement process—including five public meetings, online participation, and collaboration with institutional and commercial stakeholders, residents identified key priorities: pedestrian safety, traffic-calming, preservation of affordable housing, neighborhood reinvestment, and balancing institutional growth with livability.

Transportation analysis confirmed concerns about cut-through traffic, speeding, and crash history along major corridors, while also highlighting opportunities for pedestrian system improvements and safer multi-modal connectivity. Land use review emphasized the importance of managing institutional growth under the Institutional Overlay District framework, addressing redevelopment pressures along Madison Avenue, and preserving housing stock critical to neighborhood affordability.

The Hilltop Planning Study provides recommendations that could be implemented to address the concerns identified in November 2023.

**Findings**

The Hilltop Planning Study conforms to the goals of the Land Use Plan and supports concepts identified in the Strategic Plan.

**Recommendation**

Staff recommends adoption of the Hilltop Planning Study.

**Attachments**

Hilltop Planning Study

# Hilltop Planning Study

CITY OF MANKATO | SEPTEMBER 2025

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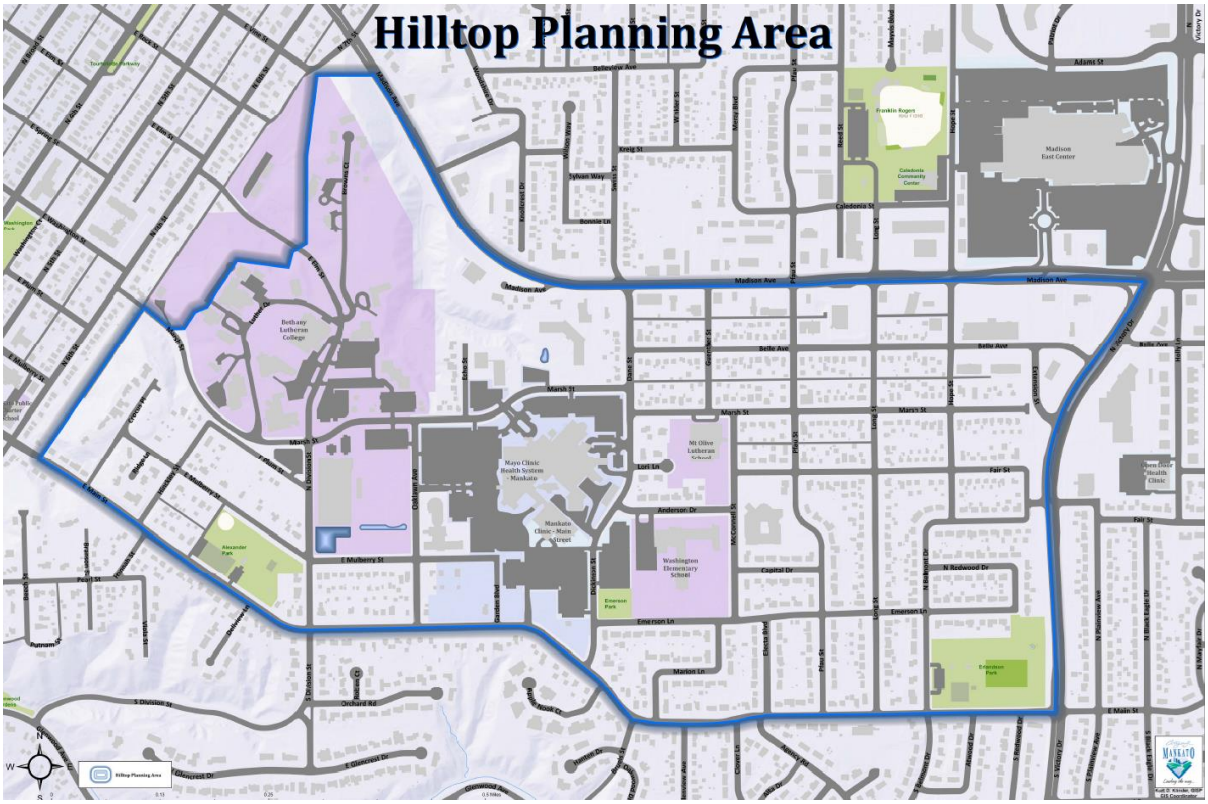
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## OVERVIEW:

On December 13, 2023, the Mankato City Council authorized a planning and engagement project for the Hilltop Planning Area. This area is bounded by Madison Avenue, Victory Drive, Main Street, and the bluff line west of Crocus Street. The project's purpose is to evaluate the Hilltop Planning Area, addressing issues and opportunities related to land use transitions and neighborhood traffic characteristics.




The planning area is characterized by significant transitions, including expansions of large institutions like Bethany Lutheran College and Mayo Health Systems. Smaller institutions, such as Mount Olive Church/School and Christ the King Church, have also expanded, often purchasing residential properties likely to be transitioned in the future. Other institutions, like Washington School and Hillcrest Nursing Home, have confined improvements within their property boundaries, yet these expansions impact on the surrounding areas.

Additionally, there is growing pressure for redevelopment of commercial properties along Madison Avenue, raising concerns about encroachments and impacts on existing residential properties.

## EXECUTIVE SUMMARY:

On December 13, 2023, the Mankato City Council authorized the Hilltop Planning Area Study to evaluate land use transitions, neighborhood traffic concerns, and long-term preservation strategies for the area bounded by Madison Avenue, Victory Drive, Main Street, and the Crocus Street bluff line. The study responds to pressures from institutional expansion, commercial redevelopment, and transportation challenges that affect the stability and character of Hilltop neighborhoods.

Through a robust community engagement process—including five public meetings, online participation, and collaboration with institutional and commercial stakeholders, residents identified key priorities: pedestrian safety, traffic calming, preservation of affordable housing, neighborhood reinvestment, and balancing institutional growth with livability.

Transportation analysis confirmed concerns about cut-through traffic, speeding, and crash history along major corridors, while also highlighting opportunities for pedestrian system improvements and safer multi-modal connectivity. Land use review emphasized the importance of managing institutional growth under the Institutional Overlay District framework, addressing redevelopment pressures along Madison Avenue, and preserving housing stock critical to neighborhood affordability.

### Recommended Actions

The study recommends the following strategies for implementation and integration into the City's Capital Improvement Plan:

- Prioritize Corridor Safety Improvements on Dane/Dickinson, Marsh, Long, and Belle Avenue, with emphasis on pedestrian crossings, sidewalks, and traffic calming.
- Integrate Traffic Calming and pedestrian safety features into the 2026 Long Street reconstruction and future capital projects.
- Expand the Pedestrian and Bicycle Network, filling sidewalk gaps, upgrading crosswalks, and improving Safe Routes to Schools.
- Preserve and Rehabilitate Housing Stock, targeting reinvestment dollars to maintain affordability and prevent displacement.
- Evaluate Parking Alternatives rather than remove affordable homes for institutional or commercial needs.
- Invest in Parks and Multi-Generational Amenities to enhance community livability, including potential splash pad installation and pet-friendly facilities.
- Advance Climate Action Goals by supporting multi-modal systems, EV charging infrastructure, and sustainable neighborhood design.
- Coordinate with Institutional Campus Plans to ensure growth is transparent, cooperative, and consistent with neighborhood stability.

By balancing growth pressures with neighborhood preservation, the Hilltop Planning Area Study provides a roadmap for maintaining livability, safety, and affordability while accommodating institutional and commercial needs in a responsible and sustainable manner.

## HISTORY

The City of Mankato Land Use Plan, adopted in 1986, included a section on the Hilltop Planning Area. This area was described as a stable residential zone primarily composed of single-family dwellings built between 1920 and 1960. The plan highlighted that the area was well-served by schools, parks, and shopping facilities. It proposed three key concepts regarding potential changes to the area:

1. **Public and Semi-Public Facilities:** Numerous facilities are dispersed throughout the planning area. Although these facilities are expected to remain, expansion or changes in land use may occur. For instance, Immanuel-St. Joseph's Hospital may need to expand due

to space restrictions. Loyola Field and Bethany College occupy large tracts of land, and their land use may change in the future. The Land Use Plan should be flexible to accommodate such changes.

2. **Commercial Development:** Commercial development has taken place along Madison Avenue, with some pressure for expansion, particularly along Belle Avenue. To protect the residential area, commercial development should not extend beyond its current location. Parcels of land with access to Madison Avenue used for commercial purposes should have their zoning changed from R-1 to B-2 to eliminate non-conformity status.
3. **Environmental Protection:** The ravines and bluffs in the area should be protected from development.

Since 1996, institutional uses with cumulative building areas of 50,000 square feet or more must establish an Institutional Overlay District (IO District) if expansion is proposed. This process encourages cooperative planning among large institutional uses, the city, and neighboring property owners.

The process involves two main components:

1. **Campus Plan Development:** This shows properties to be developed or redeveloped and those proposed for future acquisition. It was introduced to provide transparency to neighboring property owners about the institutions' future intentions. *Note: Approval of the campus plan does not change the zoning designation of properties, nor does it compel property owners to sell to the institution.*
2. **Institutional Overlay District Establishment:** This includes near-term development and redevelopment projects on properties currently owned by the institution within the campus plan. Engagement with area property owners and residents, along with City participation, is required before formal submission to the Planning Commission and consideration by the City Council. These processes have been undertaken for both Mayo Health Systems and Bethany Lutheran College.

## COMMUNITY ENGAGEMENT

### SUMMARY

To address planning awareness in the area and undertake a scoping process for plan updates, staff proposed a neighborhood engagement/planning process in 2024 in coordination with the overall update to the Land Use Plan. This neighborhood planning process occurred within the Hilltop Planning Area boundaries and began with resident engagement. The engagement helped to define the remainder of the process by providing valuable insights that shaped the scope for the work to be undertaken. Besides the residents, other stakeholders were included, such as the institutional uses discussed earlier and the commercial property owners. Those stakeholders used this as an opportunity to provide updates on their plans and provide a forum for resident feedback. Based on the results of the engagement, additional traffic information and analysis were also incorporated.

**Four community engagement events were held in 2024:**

- May 16, 2024: Washington Elementary (17 marked map locations, 19 comment cards completed)
- June 11, 2024: Erlandson Park (32 marked map locations, 18 comment cards completed)

- August 21, 2024: Alexander Park (29 marked map locations, 22 comment cards completed)
- November 14, 2024: Bethany Lutheran College (Voting on comments/concerns for further study)
- April 29, 2025: Bethany Lutheran College (Review of recommendations)

**Council Work Session**

- May 27, 2025: Council Work Session: (Overview of the Hilltop Planning transportation elements)

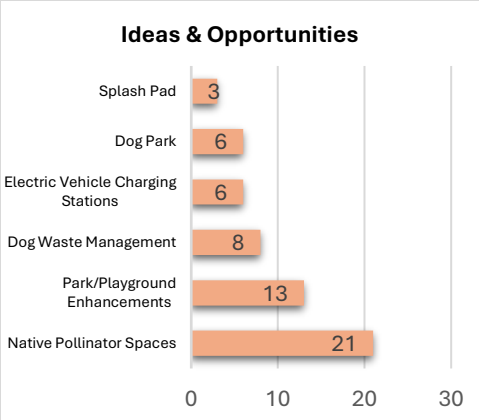
**Online Engagement:**
The Hilltop Planning Area Study launched on Every Voice Mankato in May 2024 to collect public comments: https://everyvoice.mankatomn.gov/. Participants had the option to view the area map and drop pins to add comments on specific areas of the neighborhood. Additionally, community comments were logged, and users had the opportunity to vote to add support for comments submitted and provide additional feedback.

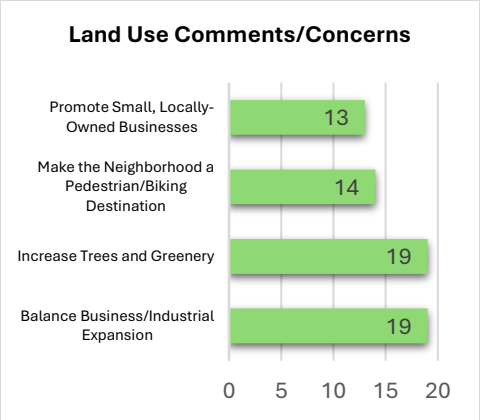
## TOP COMMENTS/CONCERNS IDENTIFIED FOR FURTHER STUDY

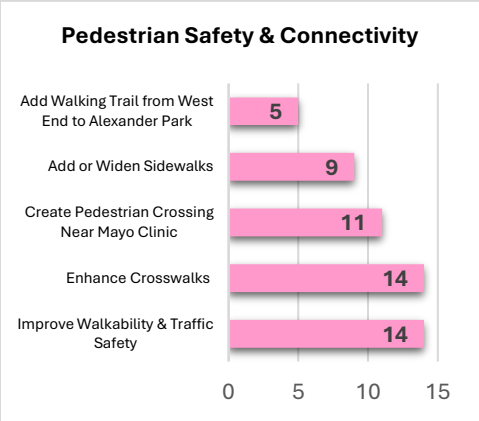
Items identified for study based on community input received through in-person and online engagement were organized into four focus areas and presented at an engagement on Nov. 14, 2024, to help prioritize the study and data collection phase. Items were organized into four main topics. Participants also had the opportunity to share any new comments/concerns or bring forward items not listed on the four focus area boards they felt should be included. Items were organized into four main topics.

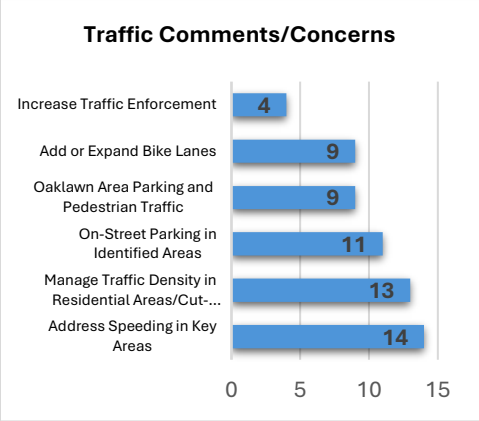
- Ideas & Opportunities
- Land Use Comments/Concerns
- Pedestrian Safety and Connectivity
- Traffic Comments/Concerns
- What's Missing?

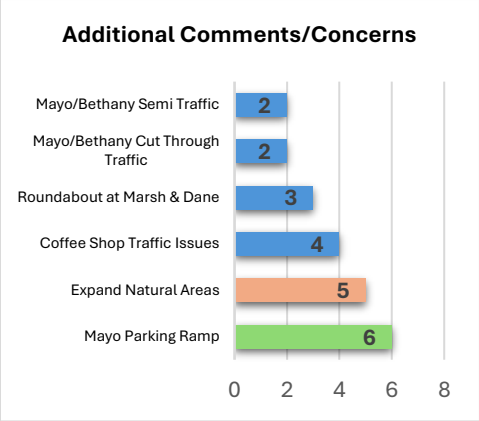
**Participant Voting Results**




## Additional Comments Received

### PEDESTRIAN SAFETY:

- Oaklawn/Mayo area concerns regarding crosswalks, sidewalk solutions and parking impacting visibility.
- Sidewalk Solution: Connect Mayo/Mankato Clinic to Main Street/Oaklawn/E. Mulberry/Garden Blvd. for improved pedestrian paths.
- Marsh & Dane: Need more visible crosswalk as traffic does not stop for pedestrians.
- Need for safe crossing points for pedestrians and bikers on E. Main (Hannah St./E. Main & Dellview Lane)
- E. Main Street: Residents feel unsafe biking due to increased traffic.

### TRAFFIC CONCERNS:

- E. Mulberry "No Parking" Area: Underutilized for tournaments, suggesting a reduction in size.
- Visibility at Mayo and Oaklawn Exits: Suggest no parking on the right side of Oaklawn Ave. to improve visibility, especially in winter.
- Pothole repairs needed on Mulberry Street.
- E. Main St/Dickinson Street: Difficult left turns and high pedestrian traffic.
- Marsh & Dane Intersection: Left turns from Marsh on to Dane are problematic.

## STUDIES AND DATA COLLECTION

### TRANSPORTATION

The Hilltop Planning Area is framed by two heavily traveled minor arterial roadways—Madison Avenue and Victory Drive—each carrying more than 16,000 vehicles per day. Main Street, on the southern boundary, functions as a major collector with over 9,000 vehicles daily. Within the neighborhood, Dane/Dickinson Street, Marsh Street, and Long Street serve as collector routes and play a critical role in traffic circulation and neighborhood connectivity.

To better understand traffic and pedestrian dynamics in the Hilltop area, the City partnered with Bolton and Menk, Inc. (report included) to conduct a comprehensive transportation analysis. Data was collected using StreetLight Insight, which compiles information from connected vehicles, mobile devices, and sensors. The analysis focused on traffic volumes, cut-through patterns, speeds, pedestrian crossings, and crash history.

**Key Findings:**

- **Traffic Volumes and Speeds:** The highest volumes were observed along Dane/Dickinson Street, Marsh Street, and Long Street. These same corridors, along with Division Street, also experienced the highest relative speeds, which aligns with neighborhood concerns regarding speeding.
- **Cut-Through Traffic:** Nearly half of the trips on Long Street (47%) were cut-through in nature, meaning vehicles entered and exited the study area without stopping. Dane/Dickinson Street (18%), Pfau Street (15%), and Belle Avenue (9%) also carried notable levels of cut-through traffic.
- **Pedestrian Activity:** The greatest concentrations of pedestrian crossings occurred at Madison Avenue (near Dane and Long Streets), Marsh Street (between the Mayo Hospital and parking lots), Dickinson Street (near Emerson Lane and the Mankato Clinic crossings), and Main Street (at Pfau and Long Streets).
- **Intersection Operations:** Analysis of the Dane/Marsh intersection showed it currently operates at a high level of service, with minimal delays during peak hours.
- **Crash History:** While overall crash rates were within statewide expectations, several corridors—Long Street, Pfau Street, Belle Avenue, Division Street, and Marsh Street—had higher crash frequencies. Four bicycle- or pedestrian-related crashes have occurred over

the past decade, highlighting the need for improved pedestrian safety measures. A fatal crash occurred at Madison Avenue and Hope Street in 2023.

**Focus Corridors:**
Based on data analysis and community engagement, four corridors emerged as priorities for further study and improvements:

- **Dane/Dickinson Street:** Recommended enhancements include new pedestrian crossings (with consideration of Rectangular Rapid Flashing Beacons), filling sidewalk gaps, improving sightlines at key intersections, and introducing traffic calming measures such as lane narrowing and bike lanes.
- **Marsh Street:** Improvements focus on safer pedestrian crossings at Mayo Clinic parking areas, vegetation trimming for sightlines, and speed feedback signs to encourage compliance.
- **Long Street:** A scheduled 2026 reconstruction project presents an opportunity to incorporate corridor-wide traffic calming, pedestrian crossing upgrades at Main and Madison, enhanced signage, and potential design features such as raised medians, mini roundabouts, or chicanes to discourage speeding and cut-through traffic.
- **Belle Avenue:** While warrants for an all-way stop were not met, a temporary stop sign has been installed at Guenther Street. Recommendations include a new sidewalk on the north side of the corridor, vegetation trimming, improved signage, and exploring mini roundabouts or other calming designs at Belle/Long Street.

**Pedestrian System Considerations:**
The study confirmed the need to expand and improve the pedestrian and bicycle network. Key strategies include completing missing sidewalk links, widening narrow sidewalks, upgrading crosswalks, and exploring connections that better link residential areas to parks, schools, and major institutions such as Mayo Health System and Bethany Lutheran College. Safe Routes to School and enhanced bicycle facilities should be prioritized to reduce conflicts between vehicles and vulnerable users.

Together, these findings emphasize the importance of a “complete streets” approach in the Hilltop area—balancing the needs of motorists with those of pedestrians, bicyclists, and transit riders. Corridor-specific recommendations provide a roadmap for targeted improvements while aligning with the City’s broader goals of safety, livability, and connectivity.

**Recommended Actions:**
Based on the analysis, the following actions are recommended for the City to consider as part of implementation and future capital planning:

1. **Prioritize Corridor Safety Improvements** – Advance design and funding for targeted improvements on Dane/Dickinson, Marsh, Long, and Belle Avenue, with emphasis on pedestrian crossings, sidewalks, and traffic calming.

2. **Reduce crashes and injuries:** Incorporate Traffic Calming into Planned Projects – Integrate speed reduction and pedestrian safety features into the 2026 Long Street reconstruction and any future capital projects within the study area.
3. **Expand the Pedestrian and Bicycle Network** – Fill critical sidewalk gaps, improve crosswalk visibility, and expand bicycle accommodations, focusing on Safe Routes to Schools and connections to parks and institutions.
4. **Continue Monitoring Temporary Measures** – Evaluate the effectiveness of the temporary stop sign at Belle/Guenther and adjust long-term traffic control strategies as needed.
5. **Enhance Public Engagement and Education** – Partner with residents, institutions, and schools to improve awareness of pedestrian safety, bicycle routes, and neighborhood traffic calming initiatives.
6. **Coordinate with Institutional Campus Plans** – Ensure transportation and pedestrian improvements align with the growth and expansion of major institutions in the Hilltop area, particularly Mayo Health System and Bethany Lutheran College.
7. **Integrate into the Community Investment Plan (CIP)** – Use the findings and recommendations from this study to inform CIP updates, ensuring that priority improvements are advanced systematically and equitably.

## LAND USE

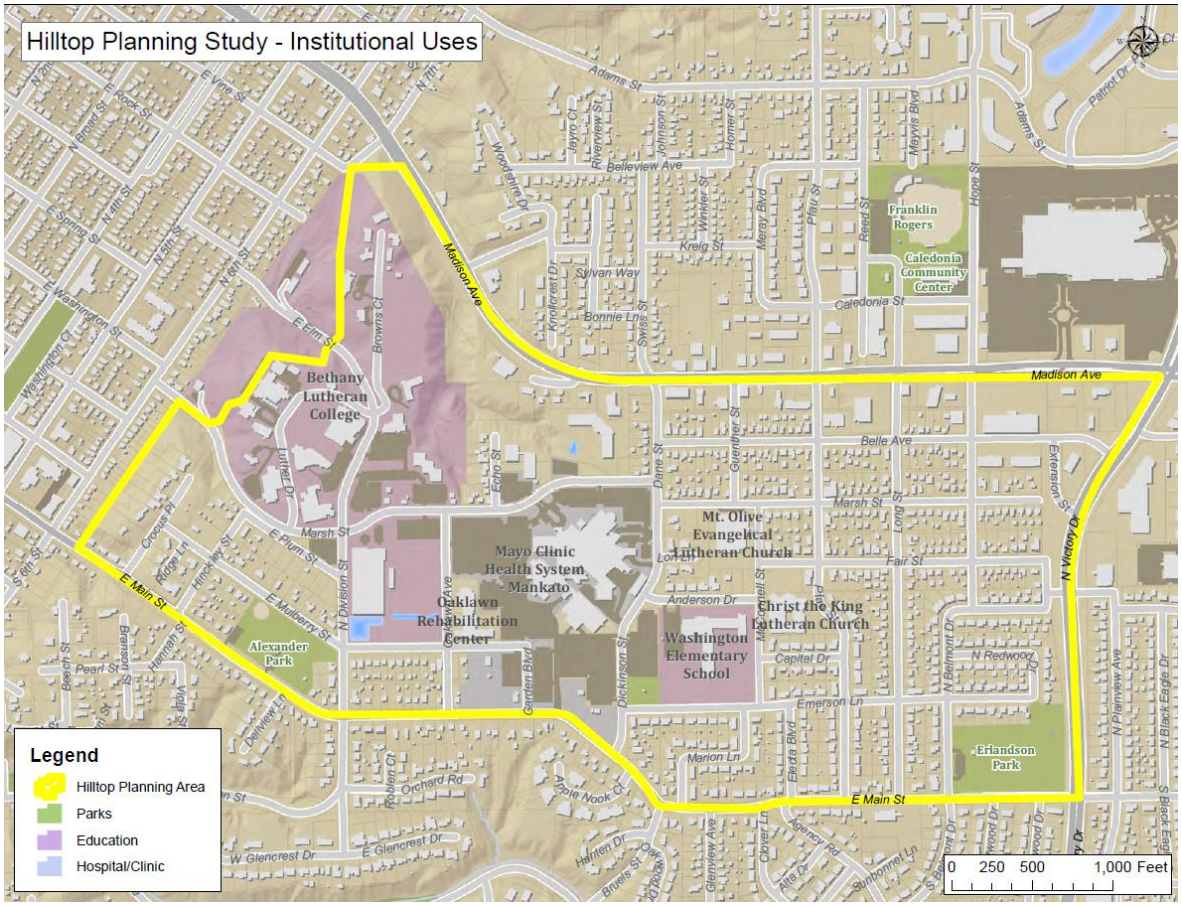
The planning area is characterized by "transition" as it contains a mix of single-family dwellings and several large expanding institutions (Bethany Lutheran College and Mayo Health Systems) and smaller institutions.

The residential areas are primarily comprised of single-family dwellings built in the 40-year period between 1920 and 1960. Although the property values vary considerably due to the size of structures, most homes are in sound condition. The area is well served by schools, parks, and shopping facilities.

Since 1996, institutional uses comprising 50,000 square feet or greater of cumulative building area are required to establish an Institutional Overlay District (IO District) if expansion is proposed. The process is intended to promote cooperative planning among the larger institutional uses, City, and neighboring property owners. The process involves two important components. First, development of an overall campus plan showing the properties to be developed/redeveloped, but also including properties proposed for acquisition and redevelopment in the future. This was included as a requirement due to feedback from neighboring property owners that desired full disclosure from the institutions on their future intent so they could plan accordingly if their home was targeted for acquisition. Note, approval of the campus plan does not change the zoning designation of properties, nor does it compel property owners to sell to the institution. The second part of the process is the establishment of an IO District in which near term development and redevelopment projects will be undertaken by the institution on properties they currently own and

within the campus plan. Establishment of the campus plans and IO District involves a process of engagement with area property owners and residents, with participation by the City, before formal submittal to the Planning Commission and consideration by the City Council.

**Institution Overlay District Campus Plans**



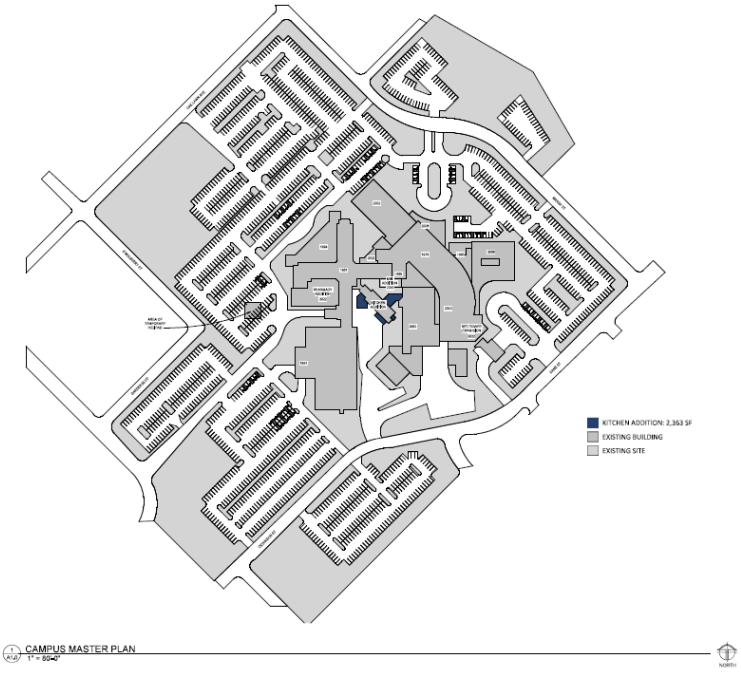
## MAYO

The Mayo Clinic Health Clinic Health Systems Institutional Overlay District is centrally located within the Hilltop Planning Area. The area extends from Main Street (south) to Marsh Street (north) and from Dickenson/Dane Street (east) to Oaklawn Avenue/Garden Boulevard (west).

Beginning in the early 2000s, the City approved the application of the Institutional Overlay District (I-O District) to the Mayo Clinic Health Systems campus, enabling a flexible planning framework for long-term institutional growth. This overlay allowed for coordinated development through Institutional Overlay District Campus Plans, which were periodically updated to reflect evolving healthcare needs and facility expansions. In the early 2000s, Mayo Clinic Health Systems (then Immanuel St. Joseph's Hospital) did expand the institutional overlay district by acquiring properties adjacent to the hospital and/or campus plan boundaries. The acquisitions did remove several homes to allow for the facility and parking expansions to occur. During this time, a portion of Marsh Street was rerouted to allow for additional campus expansion flexibility.

Key zoning actions included major expansions that added a new emergency department, surgical suites, radiology clinic, oncology clinic and inpatient bed areas, significantly increasing the hospital's capacity. Recent campus activities included construction of a multi-story bed tower, pharmacy, and kitchen area.

Traffic volumes and speeds, parking, stormwater, and preservation of homes have been common themes during the review of projects at the Planning Commission and City Council meeting.



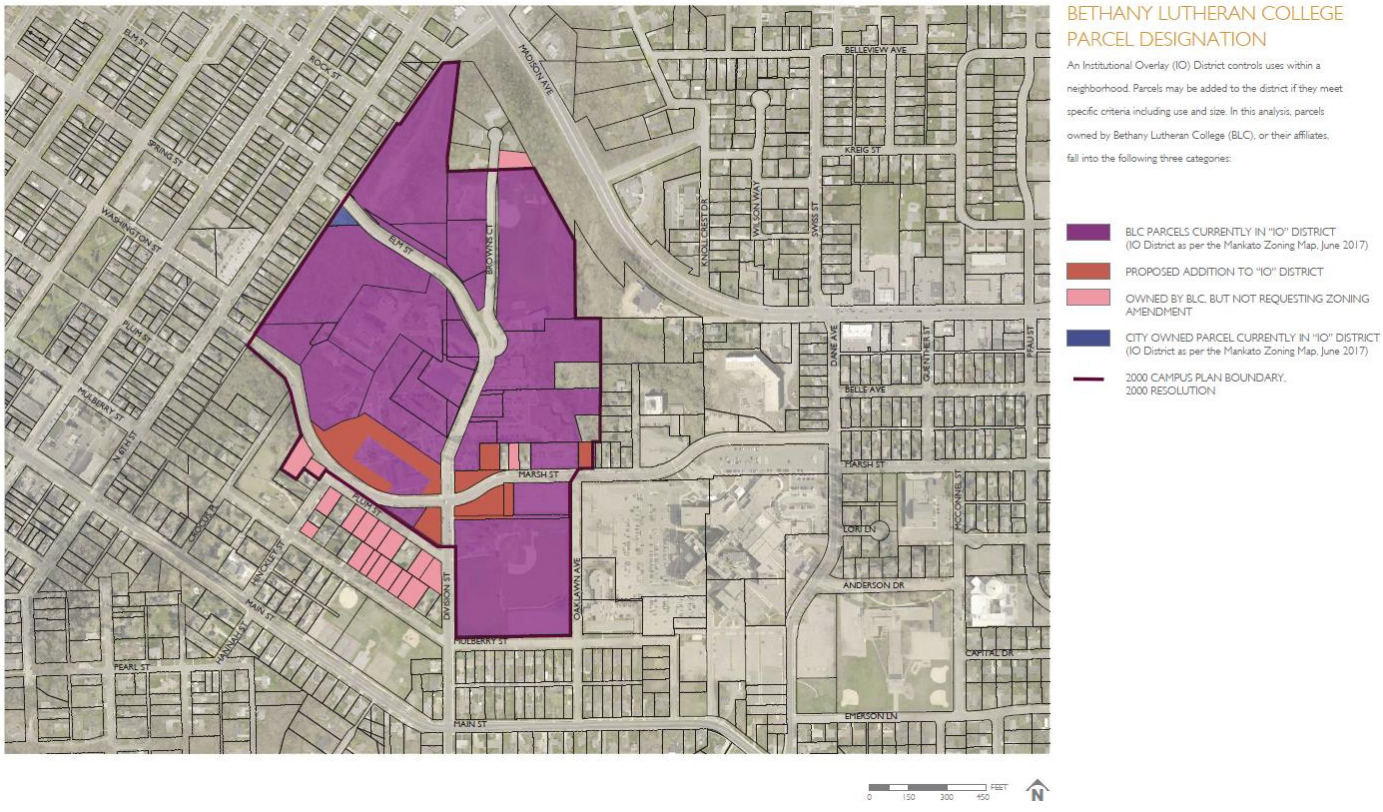
## BETHANY

The Bethany Lutheran College Institutional Overlay District is located in the northwestern corner of the Hilltop Planning Area. The area extends from Mulberry/Plum Street (south) to Madison Avenue/Browns Court (north) and from Oaklawn Avenue (east) to the bluff (west).

Beginning in the early 2000s, the City approved the application of the Institutional Overlay District (I-O District) to the Bethany Lutheran College campus, enabling a flexible planning framework for long-term institutional growth. As with Mayo Clinic Health Systems, this overlay allowed for coordinated development through Institutional Overlay District Campus Plans, which were periodically updated to reflect evolving education needs and facility expansions. In the 2000s and 2010s, Bethany did expand the institutional overlay district by acquiring properties adjacent to the college and/or campus plan boundaries. The acquisitions did remove several homes to allow for the educational building, activities growth, and parking expansions to occur.

Key zoning actions included major expansions that added a new education building (Honsey Hall), dormitories, Student Activities Center, and the construction of a new soccer facility which facilitated enrollment growth. The most recent campus activities included construction of a Student Activities Center and the soccer complex.

Parking, traffic volumes and speeds, refuse, environmental concerns, stormwater, and preservation of homes have been common themes during the review of projects at the Planning Commission and City Council meeting.



The area also contains smaller institutional uses that have expanded in the past such as Mount Olive Church/School and Christ the King Church. All the institutions have purchased properties that at this time remain residential, but it is likely that those properties will be transitioned as well.

### MOUNT OLIVE

Mount Olive was originally constructed in 1970. The original layout for the property includes the church sanctuary and classrooms. In 2001, the church expanded to provide additional classrooms in the K-6 school, a gymnasium/ fellowship hall, and church office spaces located on-site. A second expansion occurred in 2018. The 2018 expansion included a vestibule, narthex area, lobby, offices, conference rooms, restrooms, youth/multi-purpose room, workstations, and classroom space. Exterior work included the construction of a canopy and the relocation of parking to the south side of the property.

In 2018, Mount Olive constructed an addition on the eastern side of the building for the purpose of adding offices and classrooms.

### CHRIST THE KING CHURCH

Christ the King church's building development occurred through a series of building projects and renovations that reflect the congregation's growth and evolving needs. Contracts for the construction of original church facility and the parsonage were executed in February 1960. In 1964, the education wing was dedicated, providing dedicated space for religious instruction and fellowship. Continued expansion led to the completion of a major addition in 1969, which introduced the current main worship space, a library, and the Fireside Room. In 1995, the church underwent extensive remodeling and enlargement, which included the creation of a Community Room, a new Fireside Room, and the installation of air conditioning. The most recent phase of improvement occurred in 2004, when many of the halls and classrooms were redesigned to support a "rotation model" Sunday school, ensuring that the church's facilities remained responsive to the needs of its educational programs.

The church's expansion has not required the acquisition of properties in recent years. In 2004, the church did vacate right-of-way.

### OTHER INSTITUTIONAL USES

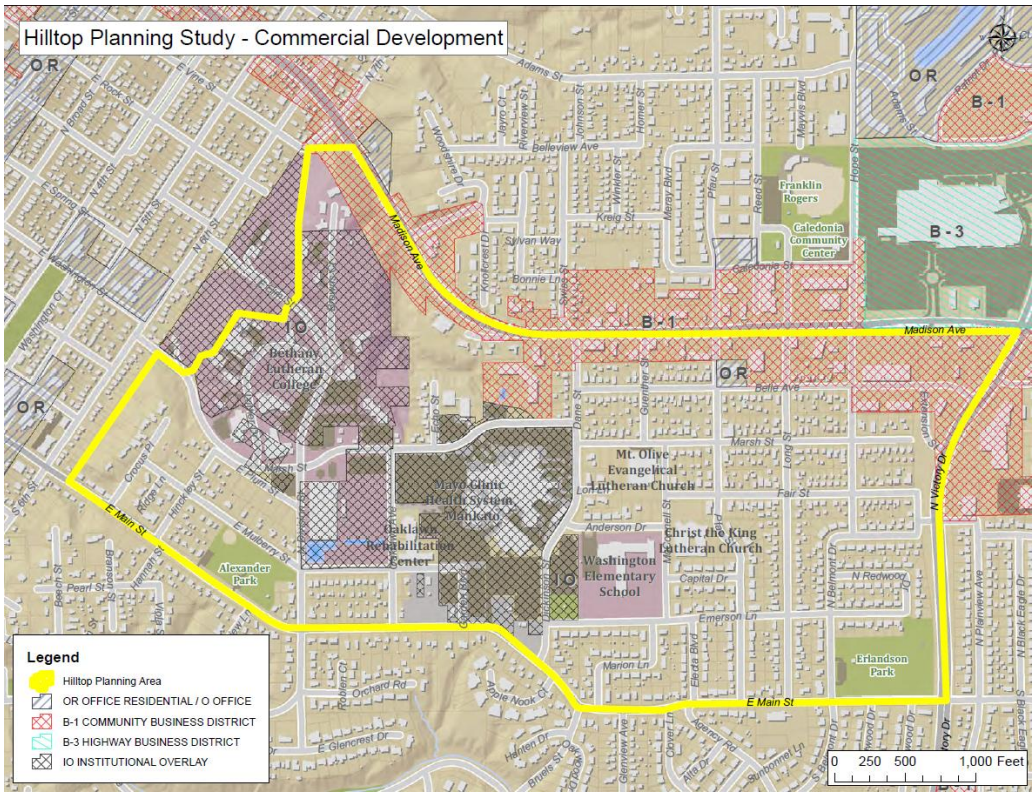
Other institutional uses, such as Washington School and Oaklawn Nursing Home, have also seen improvements over the years but have confined those to their existing property boundaries, but the expansions do have impacts on the surrounding area.

**Growing Pressure for Redevelopment**

Commercial development, depicted as a B-1 area in the maps below, has occurred in the northern part of the planning area along Madison Avenue. A certain amount pressure for commercial expansion exists particularly along Belle Avenue. Commercial expansion should be promoted and supported in areas designed for commercial use such as the Madison Avenue Corridor. New commercial development should be evaluated on the potential impacts to the neighborhood (traffic, noise, lighting, etc.) Complimentary uses to the neighborhood should be considered. This

area could be targeted for commercial rehabilitation dollars to assist in building maintenance and appearance. The commercial expansion should not be limited beyond the present location unless previous concepts reviewed by the City Council support the change.

There is also growing pressure for redevelopment of the existing commercial properties along Madison Avenue. As those properties redevelop, there are concerns in the area regarding encroachments and impacts on existing residential properties. Recent examples include the redevelopment of the southwest corner of Dane Street and Madison Avenue and the redevelopment of the southwest corner of Long Street and Madison Avenue. The redevelopment of each of those parcels did expand the commercial areas/square footage adjacent to the residential neighborhood.




**Preservation of Existing Neighborhoods**

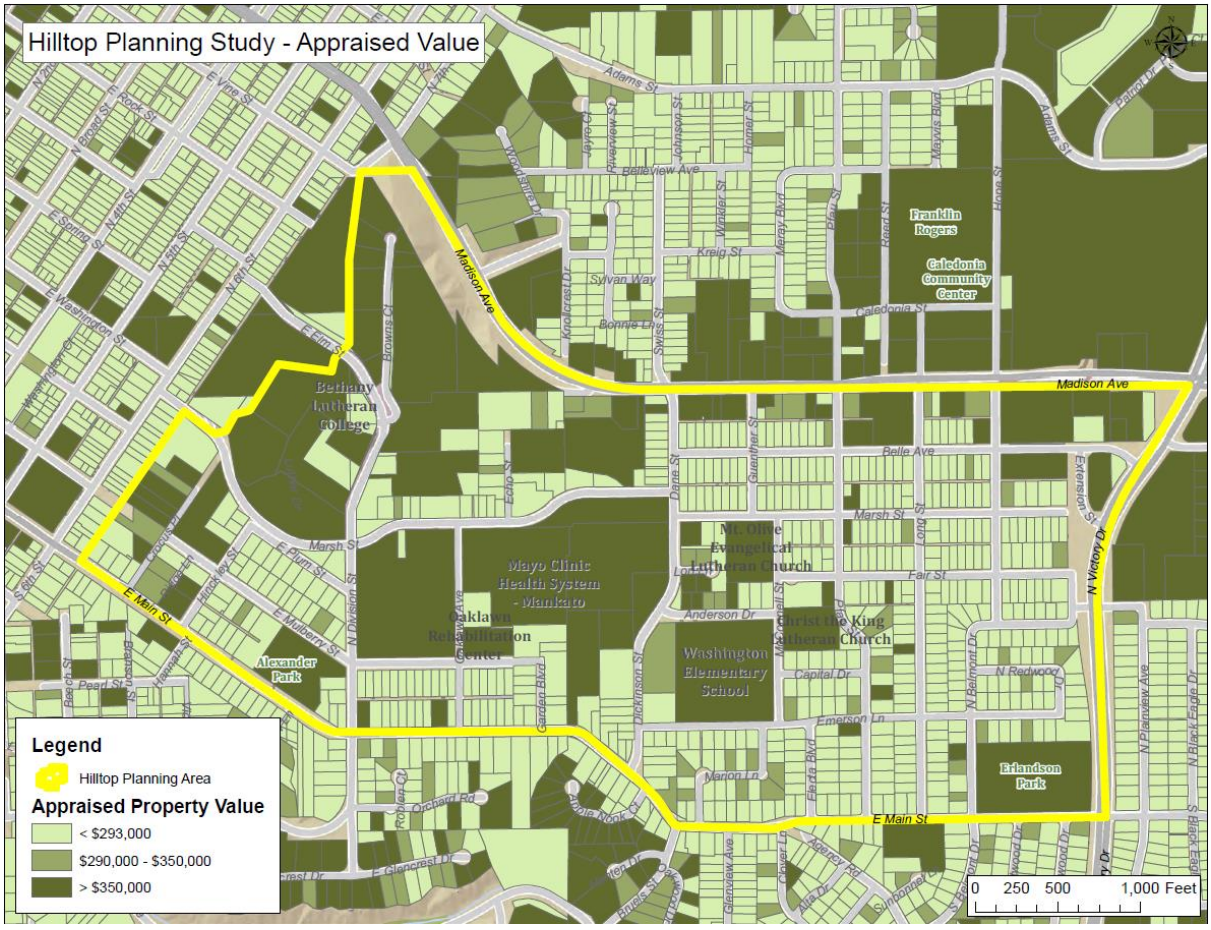
Preserving the neighborhoods located in the Hilltop Planning is essential to maintaining the area's character, housing diversity, and long-term stability. This neighborhood serves as a critical link between the city's historic core and its expanding commercial corridors, providing a mix of older, affordable housing stock alongside newer reinvestment. The Hilltop Areas continues to face pressure from encroachment by nearby commercial uses and the institutional expansion of Bethany Lutheran College, Mayo Clinic Health Systems, Mount Olive Church, Christ the King Church, and Washington Elementary School. This growth can erode the availability of affordable housing, displace long-term residents, and undermine the neighborhoods' connectivity and livability.

Preservation efforts should emphasize reinvestment in existing housing, infrastructure improvements, and strategies that maintain affordability, preserve and enhance multi-modal

neighborhood connectivity. Parking alternatives should be evaluated and prioritized over the continued removal of affordable homes to accommodate institutional or commercial needs. By balancing growth pressures with thoughtful preservation and innovative parking solutions, the City can ensure these neighborhoods remain vibrant, stable, and integral to Mankato's overall community fabric.

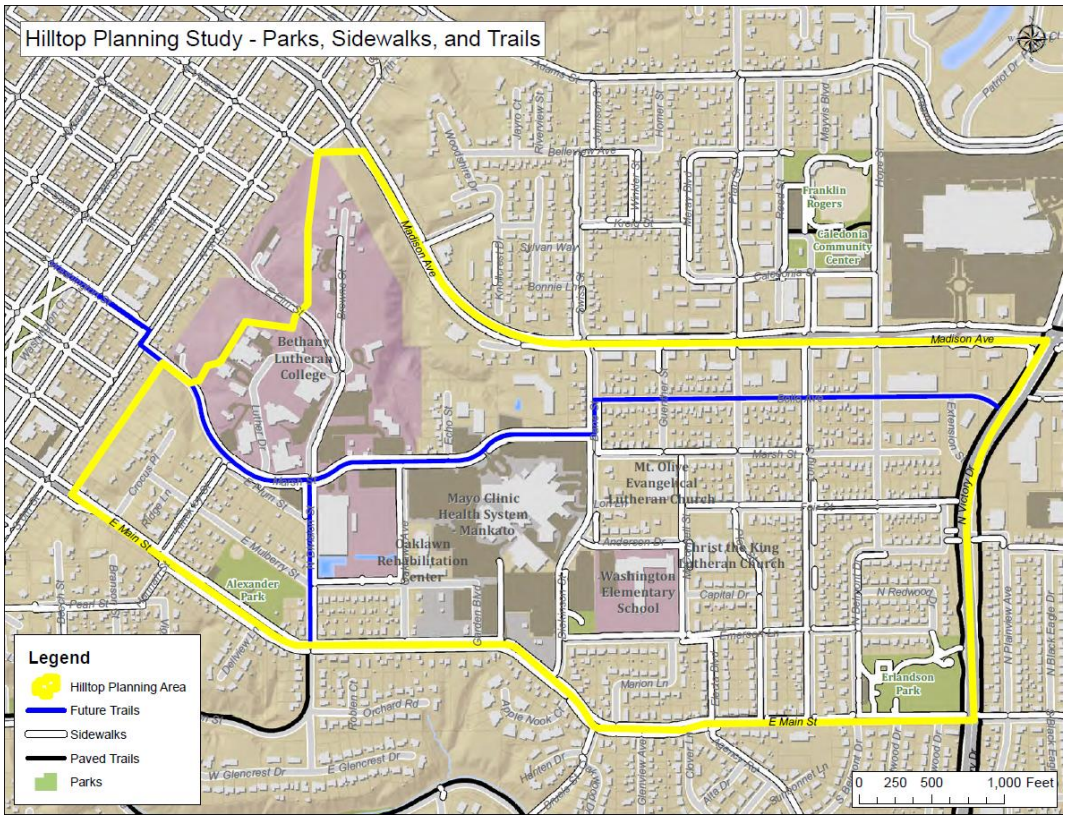
The recently adopted Housing Study indicates that a typical household can afford to pay 3.0- 3.5 times their annual income on a single-family home. Based on this information a family of 4 at 80% Area Median Income, approximately $83,750, can afford a home priced at or below $293,125. A family of 4 at 100% of Area Median Income, approximately $104,700, can afford a home at or near $350,000.

A valuation map of the area, using Blue Earth County assessed value information, depicts a majority of the single-family dwellings in the range at or below $293,125. A small percentage of the dwellings are between the range of $293,125 and $350,000. Many of the properties above the $350,000 value are commercial/institutional uses.

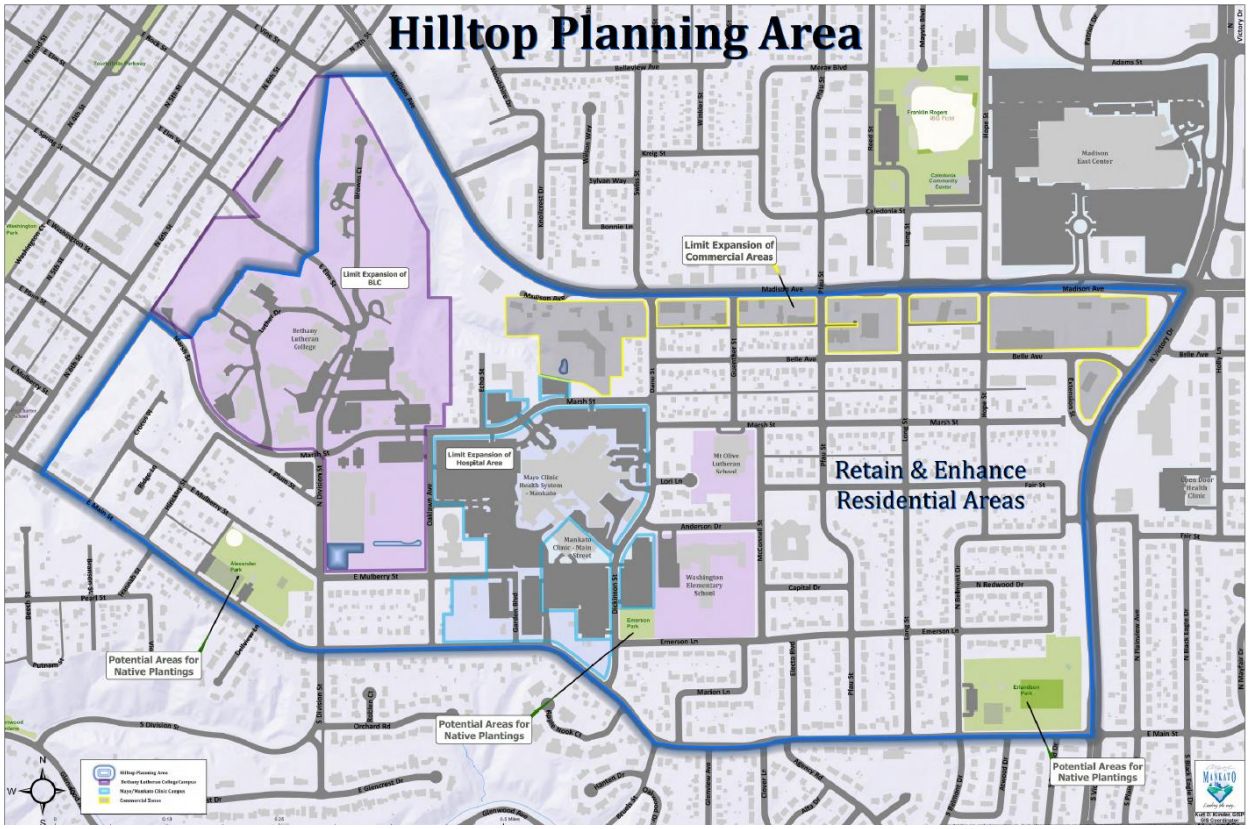


In addition to housing, the neighborhood discussed the importance of the parks and open spaces in the Hilltop Planning Area. The Hilltop Planning is served by Alexander Park (on the western side), Emerson Park (centrally located) and Erlandson Park (on the eastern side). Recent updates have been made to Erlandson and Alexander Parks. Comments received from the residents included a need to have more amenities for small children and pets.

Trails and connectivity is also crucial to the neighborhood. The Hilltop Planning Area does contain locations of interrupted sidewalk segments that limit the walkability of the neighborhood. Expansion of the sidewalk to underserved areas will better connect the neighborhood to the trail system on Victory Drive. The City of Mankato Sidewalk and Trail Map also discusses potential future trails. The first connection the from the Washington Park Neighborhood through the Hilltop Neighborhood to the trail on Victory Drive. A secondary north/south trail is proposed to connect from Bethany Lutheran College/Marsh Street connected to Main Street which then provides a connection to the Warren Street trail.



Another area of focus for the development of the parks was to create areas for native plantings to grow. These planting could be placed in areas underutilized by active recreation. Emerson Park may be an ideal location to pilot native plantings.




The ravines and bluffs in the area should be protected from development.

## RECOMMENDED ACTIONS:

Based on the analysis, the following actions are recommended for the City to consider as part of implementation and future capital planning:

**Livability**

1. Access to safe, well-maintained park and recreation assets for all- Continue to make park enhancements in the Hilltop Areas. This includes the maintenance and enhancement of the existing resources like the tennis courts, basketball courts, field space, restrooms, and equipment. The improvements should consider multi-generational amenities to encourage all users to frequent the parks. The play system amenities should consider pieces for children under the age of 5, teen amenities, safe walking areas, and evaluate the placement of a splash pad in the area.
2. Enhancements discussed by the residents included installation of open spaces and public areas with native plantings in public spaces throughout the neighborhood.
3. Placement of pet waste facilities for people that walk dogs in park areas. Also, the consideration of areas to bring pets for safe, off-leash recreation.
4. Well maintained transportation assets. Further evaluate and implement the appropriate concepts suggested in Bolton and Menk Study. In addition, provide neighborhood access to the transit system. As part of the bus stop improvement program, bus stop locations should be strategically placed in the neighborhood to allow for transportation alternatives that encourage less parking and greater mobility.
5. Create a clear vision on climate change- follow the guidance in the recently adopted Climate Action Plan.
6. Better and safer multi-modal systems for all users to improve connectivity across the community- Consider the installation EV Charging stations for e-bikes and other multi-modal electric transportation methods. The charging stations could be encouraged in commercial areas or bike charging resources may be considered in park areas.

**Housing**

1. Integrate speed reduction and pedestrian safety features into the 2026 Long Street reconstruction and any future capital projects within the study area.
2. Promote preservation of existing housing stock. The preservation of the existing housing stock provides affordable housing opportunities to the City.
3. Target rehabilitation dollars to assist with maintenance of the existing housing stock.

## CONNECTING THE WORK TO THE STRATEGIC PLAN:

### GOAL 1: HOUSING

**Preserve the existing affordable housing stock:**

4. Make strategic City investments in neighborhood enhancements *(Goal: 1 Action 4)*

### GOAL 2: SUSTAINABLE INFRASTRUCTURE

**Well-maintained transportation assets:**

2. Strategic City investments in neighborhood enhancements *(Goal 2, Action 2)*
3. Better, safer multi-modal opportunities for all users *(Goal 2, Action 3)*
4. Improve connectivity across community *(Goal 2, Action 4)*

**Clear vision on the city's work to protect the climate:**

13. Develop a climate action plan and prioritize the initiatives *(Goal 2, Action 13)*
14. Create education program to help people understand how to support environmental initiatives *(Goal 2, Action 14)*

**Better and safer multi-modal systems for all users to improve connectivity across the community:**

19. Develop education and awareness campaigns for drivers, pedestrians, bikes, and e-bike safety *(Goal 2, Action 19)*

### GOAL 3: COMMUNITY CONNECTION AND LIVABILITY

**Access to safe, well-maintained park and recreation assets for all:**

5. Develop a park and recreation system plan that inventories assets and conditions and identifies investments and policies *(Goal 3, Action 5)*
6. Update the Parks and Open Spaces Operations and Capital Plan Projects plan based on community needs and trends and educate the community *(Goal 3, Action 6)*

### GOAL 4: COMMUNITY SAFETY

**Reduce crashes and injuries:**

5. More targeted enforcement based on crash data *(Goal 4, Action 5)*
6. Continual engagement to inform data-based traffic safety improvements and necessary educational outreach *(Goal 4, Action 6)*
7. Review and prioritize infrastructure and design improvements for high crash areas *(Goal 4, Action 7)*

### GOAL 5: ECONOMY

**Mankato's business community is thriving and can grow:**

10. Analyze available land for business development and redevelopment opportunities *(Goal 5, Action 10)*

**Shared goals with community partners to advance economic development for Mankato:**

11. Align partnerships around the City's goals for economic development *(Goal 5, Action 11)*



## APPENDIX 1:

### For Homebuyers:

Locally there are several affordable gap funding programs available for home buyers. These can be used independently or layered together to meet homebuyer needs:

**MN Cities Participation Program (MCPP)**
**Contact:** Mankato EDA, Associate Director of Housing, 507-873-8623
**Helpful link:** https://www.mankatomn.gov/residents/housing/homeownership-resources

**Participating Lenders:** **https://www.mnhousing.gov/lender-directory.html**

**Program description:** Program through MN Housing and administered directly through MN Housing participating banks. They have start up and step up programs with income limits up to $142,800 and home purchase prices up to $604,400, including down payment assistance up to $53,000.

**Housing Choice Voucher Homeownership**

**Contact:** Mankato EDA, Housing Coordinator, 507-387-8675
**Helpful link:** **https://www.mankatomn.gov/residents/housing/housing-programs/housing-choice-voucher-program/hcv-homeownership-program**

**Program description:** For participants in Blue Earth County receiving Housing Choice Voucher rental assistance can transition into owning their own home. Housing subsidies can be used to support mortgage payments. The EDA has up to $5,000 in down payment assistance for participants on the HCV homeownership program if needed to qualify for homeownership.

**Partnership Community Land Trust**

**Contact:** Southwest MN Housing Partnership, Director of Resources and Program Development, 507- 836-1621
**Helpful link:** **https://www.swmhp.org/buy-a-home/partnership-community-land-trust/**

**Program description:** Administered through the Southwest MN Housing Partnership to create affordability by separating the cost of the land from the cost of the home. The nonprofit retains ownership of the land, leasing it to the homeowner for a small fee.

**MN Housing Impact Fund**
**Contact:** Southwest MN Housing Partnership, Housing Counselor, 507-836-1620.
**Program description:** Provided by Southwest MN Housing Partnership - affordable gap funding through MN Housing to assist homebuyers with up to $20,000 and is used in partnership with the Partnership Community Land Trust.

**For Owner-Occupied Housing Rehabilitation:**

**City of Mankato Community Development Block Grant Loan Funds**

**Contact**: Mankato EDA, Economic Development Coordinator, 507-387-8711
**Helpful link:**

https://www.mankatomn.gov/home/showpublisheddocument/14361/638503504312270000

**Helpful link:**

https://www.mankatomn.gov/home/showpublisheddocument/12952/638175188971430000

**Program description:** Community Development Block Grant (CDBG) loan funds available to assist owner-occupied properties with required exterior, energy efficiency and building code improvements. Eligible applicants must be low to moderate income (80% AMI or less) owner-occupied property owners within one of the targeted neighborhoods. Eligible property owners may apply for a loan of up to $35,000 per property. The loans will be provided at 0.0% interest and will require no monthly payments. The loans are secured with a mortgage on the property to be improved and are forgiven after a 10-year period; provided the property ownership is not transferred and the use of the property as an owner-occupied residence does not change. If property ownership is transferred or the use of the property changes during the 10-year commitment period, the loan must be repaid to the City of Mankato on a pro-rated basis.

**Minnesota Housing Home Improvement Loans**

**Contact:** Minnesota Valley Action Council, Loan Department, 507-345-2438
Bank Vista, 507-344-3505
Frandsen Bank & Trust, 507-345-5043
**Helpful link:** https://www.mnhousing.gov/homeownership/improve-your-home.html

**Program description:** Minnesota Housing offers a variety of loan programs to help make necessary repairs or updates to your home. Minnesota Housing works with local participating lenders who can answer questions about program eligibility and help you learn about the features of the programs.

**MVAC Energy Related Repair**

**Contact:** Minnesota Valley Action Council, Energy Department, 507-345-2430
**Helpful link:** https://www.mnvac.org/programs/energy/weatherization/
**Status:** Program runs October 1st - May 30th

**Program description:** For homeowners who are Energy Assistance eligible. Provides repairs or replacements of primary heating units in emergency no-heat situations.

**MVAC Housing Rehabilitation**

**Contact:** Minnesota Valley Action Council, Loan Department, 507-508-0826
**Helpful link:** https://www.mnvac.org/programs/housing/home-improvement-loans/

**Program description:** Loan & grant programs help very low-income people to address health and safety improvements. Funds may be used for basic home improvements that directly affect the home's safety, habitability, or energy efficiency to homeowners. Additionally, there are loan programs designed to address emergency home improvements and essential accessibility improvements. Loans are deferred loans– this means no monthly payments or interest, but there is a lien on the home. You must remain in the home for 15 years to be forgiven (10 years if it is a mobile home in a park).

**MVAC Standalone Program (for water heaters & air conditioning)**

**Contact:** Minnesota Valley Action Council, Loan Department, 507-345-2438
**Helpful link:** https://www.mnvac.org/programs/energy/weatherization/

**Program description:** For owners & renters who are Energy Assistance eligible. Provides repair/replacement of water heaters and air conditioners without going through the entire Weatherization process. See notes in Appendix.

**APPENDIX 2:**
**Bolton and Menk Traffic Study:**

# MEMORANDUM

**Date**: July 2, 2025

**From**: Angie Bersaw, AICP and Jennifer McCoy, PE, PTOE

**Subject**: Mankato Hilltop Planning Area Study – Transportation Analysis

City of Mankato, MN

Project No.: 25X137882000

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## I. Introduction

The purpose of the Hilltop Planning Area Study is to evaluate the Hilltop Planning Area, addressing issues and opportunities related to land use transitions and neighborhood traffic characteristics. The key elements of the study include:

- Identify existing issues and concerns through:
  - Neighborhood and public input
  - Traffic and pedestrian data collection
  - Crash history
- Develop a future land use plan
- Identify transportation improvement options

The purpose of this memorandum is to summarize the traffic, pedestrian, and bicycle data collection that was conducted to identify transportation issues, focus areas, and improvement recommendations in the Hilltop Planning Area.

## II. Transportation Data Collection

Several types of transportation data were collected to understand traffic volumes, speeds, cut-through routes, intersection operations, pedestrian crossing locations, transit routes, and crash history.

Vehicle and pedestrian data were gathered using StreetLight Insight. StreetLight Insight uses data from connected vehicles, mobile devices, and sensors to provide insights about traffic patterns, volumes and behaviors without the need for field data collection.

The most recent available StreetLight Insight data was used for vehicles (2023-2024) and for pedestrians (2021-2022). The analysis window for both vehicles and pedestrians focused on the months of April-May

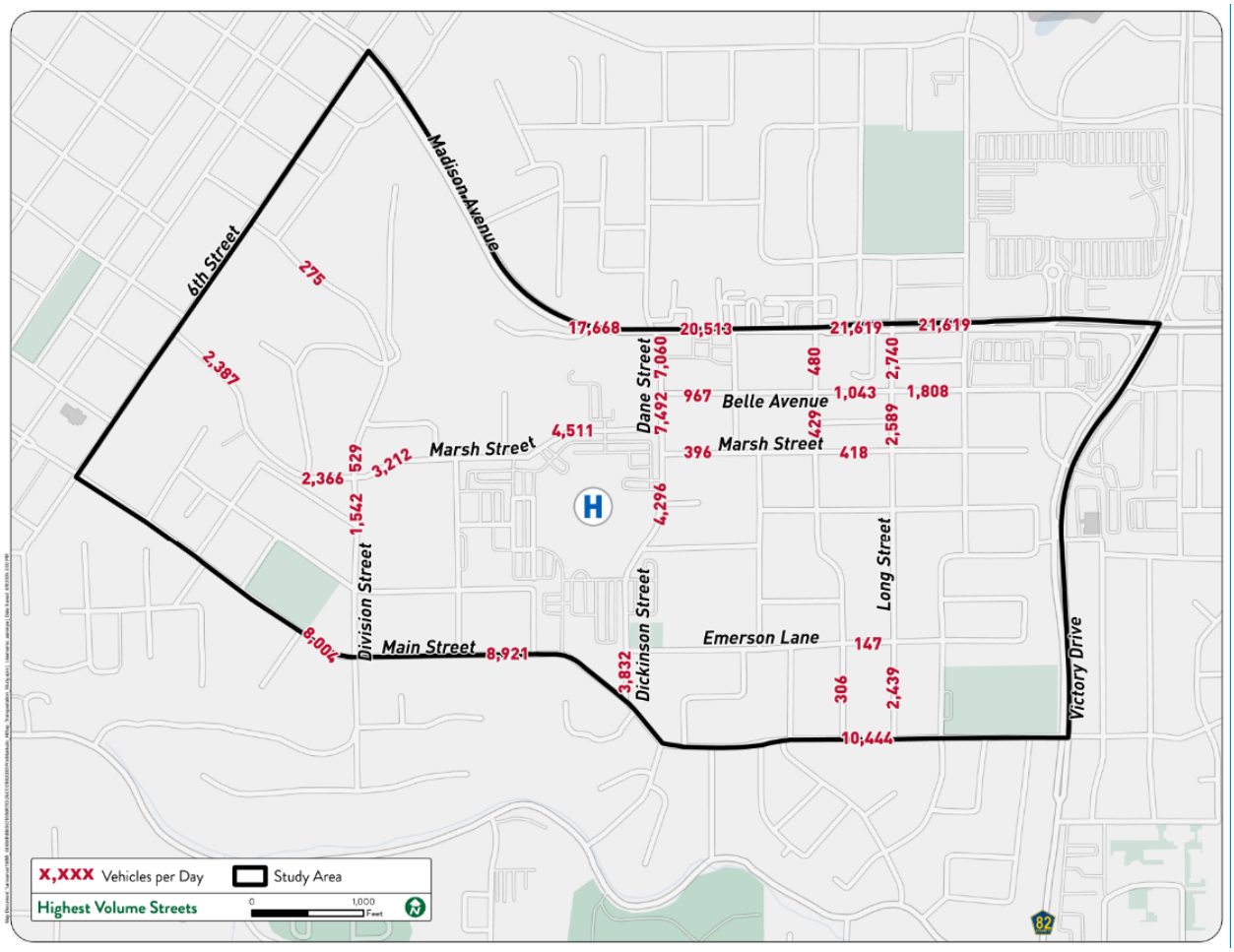
and September-October. These months were chosen to avoid any major changes in traffic patterns due to seasonality and included weekday school traffic.

The following summarizes the data sources and results of the data analysis.

## TRAFFIC VOLUMES

**Figure 1** illustrates the traffic volumes on key corridors through the study area. The corridors carrying the highest traffic volumes include Dane Street/Dickinson Street, Marsh Street (from Division Street to Dane Street) and Long Street.

**Figure 1. Highest Traffic Volume Streets**




## PEDESTRIAN CROSSING LOCATIONS AND TRANSIT ROUTES

The existing pedestrian network (sidewalks and trails) and the existing transit network was mapped to compare to areas with pedestrian activity in the study area as shown in **Figure 2**. It should be noted that StreetLight Insight data only captures pedestrian activity where mobile devices and sensors are recording that activity. Therefore, lack of pedestrian activity at an intersection does not necessarily mean there were no pedestrians, rather it could be an indication of a lack of data.

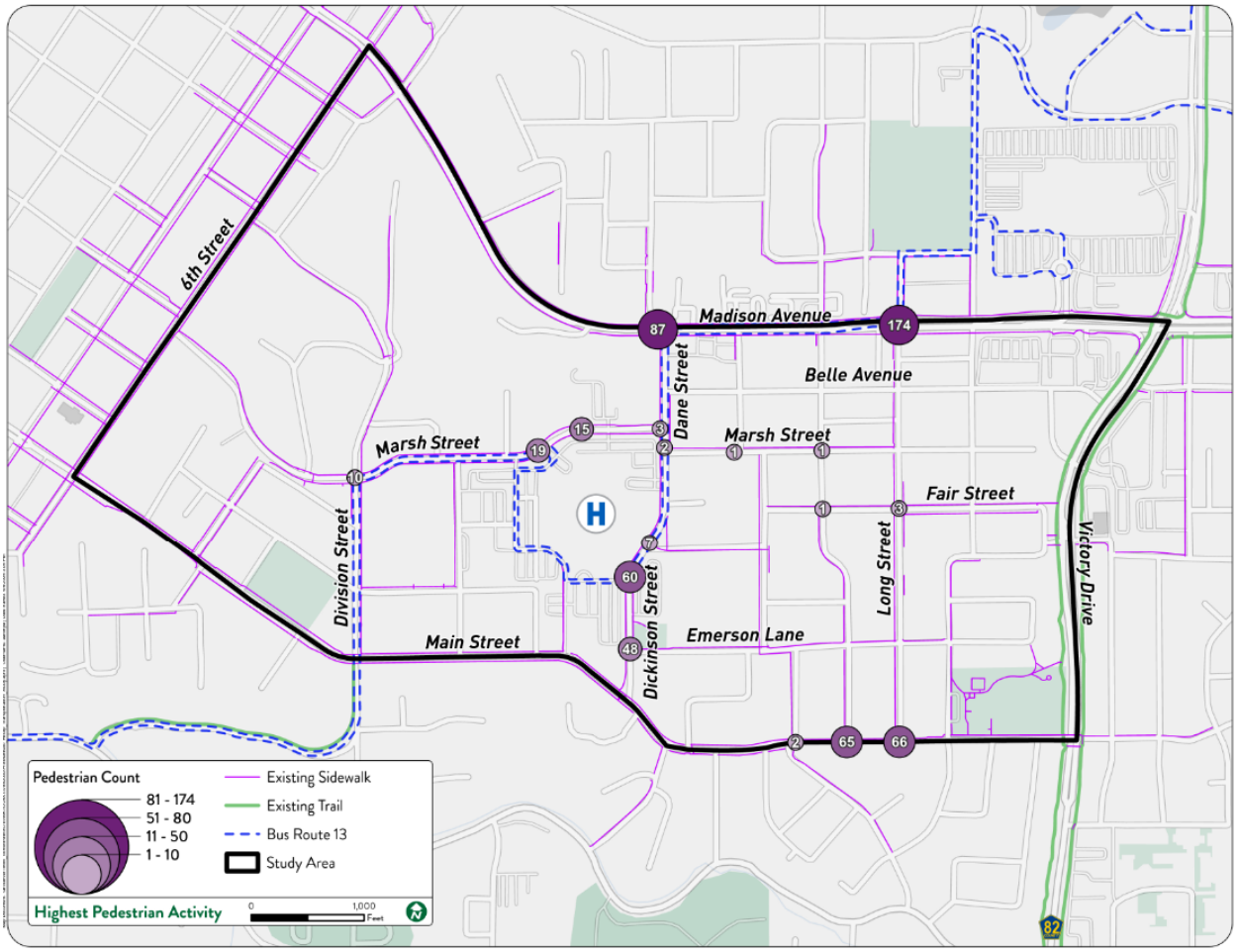
The results of the analysis showed the highest pedestrian activity at:

- Madison Avenue – at Dane Street and Long Street

- Marsh Street – between the Mayo Hospital and employee parking lots
- Dickinson Street – at the Emerson Lane intersection and the crossing between the Mankato Clinic parking lot and employee parking lot

- Main Street – at Pfau Street and Long Street

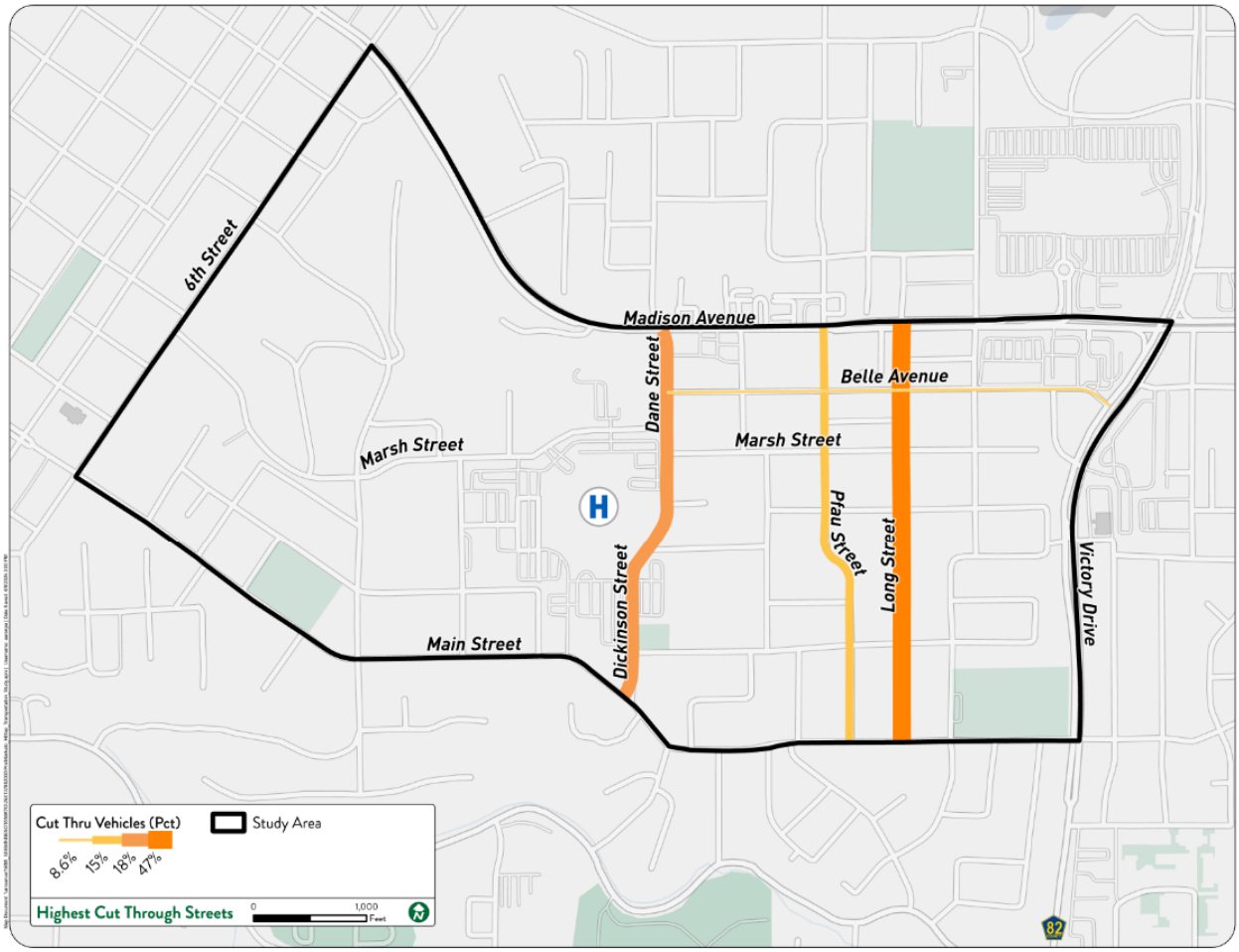
**Figure 2. Highest Pedestrian Activity**




## CUT-THROUGH ROUTES

StreetLight Insight data was used to identify cut-through trips, or trips that entered and exited the study area on the same roadway. **Figure 3** illustrates the highest cut-through corridors in the neighborhood. These include 47% of the trips on Long Street, 18% of the trips on Dane Street/Dickinson Street, 15% of the trips on Pfau Street, and 9% of the trips on Belle Avenue.

**Figure 3. Highest Cut-Through Streets**

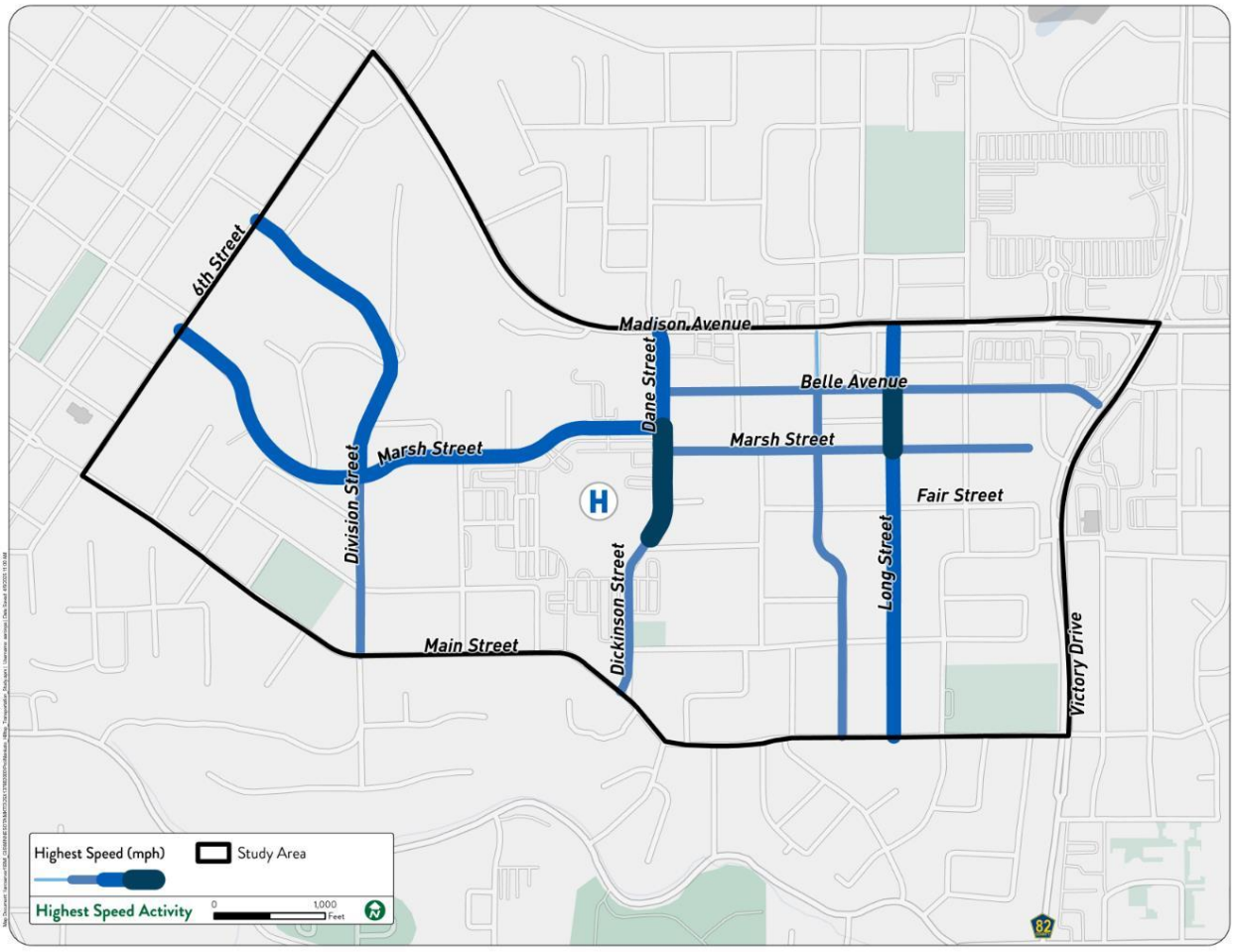



## TRAFFIC SPEEDS

StreetLight Insight data was used to understand traffic speeds occurring on each study corridor, relative to other study corridors in the neighborhood. This method identifies high-speed areas in the neighborhood and allows comparison to the public feedback on speeding issues. StreetLight Insight data is not a replacement for traditional data collection measures that capture vehicle speeds in miles per hour, as StreetLight Insight data averages the speeds of all vehicles passing through an analysis point. This means the averages in areas near intersections or driveways can be skewed as vehicles are slowing down or speeding up from a stopped condition. However, the data is still a useful tool for a relative comparison across corridors in a planning analysis like this.

**Figure 4** shows the highest speed activity in the neighborhood was found along Dane Street/Dickinson Street, Long Street, Marsh Street, and Division Street (north of Marsh Street). Belle Avenue was another corridor near the top of highest speed activity in the neighborhood.

**Figure 4. Highest Speed Activity**




## INTERSECTION OPERATIONS

Turning movement traffic data from StreetLight Insight was collected for the intersection of Dane Street and Marsh Street in the AM and PM peak hours. The peak hours were determined to be 7:15-8:15 AM and 3:30-4:30 PM. The intersections were modeled in the analysis software Trafficware Synchro and the volumes were used to determine how the existing intersection operates today.

The average vehicle delays were reported as a Level of Service (LOS) ranging from A to F. These letters serve to describe a range of operating conditions for different types of facilities. Levels of Service are calculated based on the Highway Capacity Manual which defines the LOS, based on control delay. Control delay is the total delay experienced by vehicles slowing down as they are approaching the intersection, the wait time at the intersection, and the time for the vehicle to speed up through the intersection and enter the traffic stream. The average intersection control delay is a volume-weighted average of delay experienced by all motorists entering the intersection on all intersection approaches.

A LOS D or better is commonly taken as an acceptable LOS. The level of service and its associated intersection delay for an unsignalized intersection is presented in **Table 1**.

**Table 1 - Level of Service Criteria**

| | Unsignalized Intersection |
|---|---|
| **LOS** | **Control Delay per Vehicle (sec.)** |
| A | ≤ 10 |
| B | >10 and ≤ 15 |
| C | >15 and ≤ 25 |
| D | >25 and ≤ 35 |
| E | >35 and ≤ 50 |
| F | >50 |

The operations of the intersection of Marsh Street and Dane Street were evaluated using the PM peak as it had the highest volume. The results of the analysis are shown below in **Table 2**. Synchro analysis demonstrates that the intersection operates at LOS A for all scenarios in the PM peak hour.

**Table 2 – Dane St/Marsh St Level of Service Analysis Results**

| Intersection | Intersection Delay (1.) | | Maximum Delay-LOS (2.) | | Limiting Movement (3.) | Highest Approach Queue 95th % Queue (ft) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | EB | WB | NB | SB |
| EB Marsh St/Dane St *Existing PM Peak* | 4 | A | 9 | A | EB | 10 | N/A | 0 | 0 |
| WB Marsh St/ Dane St *Existing PM Peak* | 1 | A | 9 | A | WB | N/A | 0 | 0 | 0 |

1. Maximum delay and LOS on any approach and/or movement
2. Limiting Movement is the highest delay movement

The Dane Street/Marsh Street intersection was found to be operating at a LOS A for both peak hours today, which corresponds to less than 10 seconds of delay.

## CRASH HISTORY

Crash data from the last five complete years (2020-2024) was reviewed using Minnesota's Crash Mapping Tool (MnCMAT2) and the City of Mankato crash data. The analysis focused on identifying safety concerns at study intersections and segments. Crash rates at intersections are measured as crashes per million entering vehicles (MEV), while segment crash rates are measured as crashes per million vehicle miles traveled (MVMT). The critical crash rate is a statistical value unique to each site, based on vehicular exposure and statewide averages. If the observed crash rate exceeds the critical rate, it indicates a potential safety concern. According to MnDOT's Traffic Safety Handbook, a critical index above 1.0

suggests a high probability that site conditions contribute to the higher crash rate, whereas a value at or below 1.0 indicates performance within expectations.

The analysis revealed that all study intersections are performing as expected based on the critical crash index. However, there have been four bike or pedestrian-related crashes at these intersections over the past decade. Specifically, the Marsh Street/Dane Street intersection had one possible injury crash involving a vehicle making an eastbound left turn hitting a northbound bicyclist. The Madison Avenue/Dane Street intersection experienced two minor injury crashes: one due to a failure to yield to the right-of-way during a northbound left turn, and another where a vehicle making a northbound right turn hit a westbound scooter. The Madison Avenue/Long Street intersection had one minor injury crash caused by a failure to yield to the right-of-way during a southbound right turn.

**Figure 5** illustrates the Hilltop Planning Area highest crash streets including Long Street, Pfau Street, Belle Avenue, Division Street, and Marsh Street. A fatal crash occurred in the study area at Madison Avenue and Hope Street in 2023. The most common factors contributing to crashes were failure to yield to the right-of-way and following too closely. Marsh Street had a high number of single-vehicle run-off-road crashes at the curve.

**Figure 5. Highest Crash Streets**

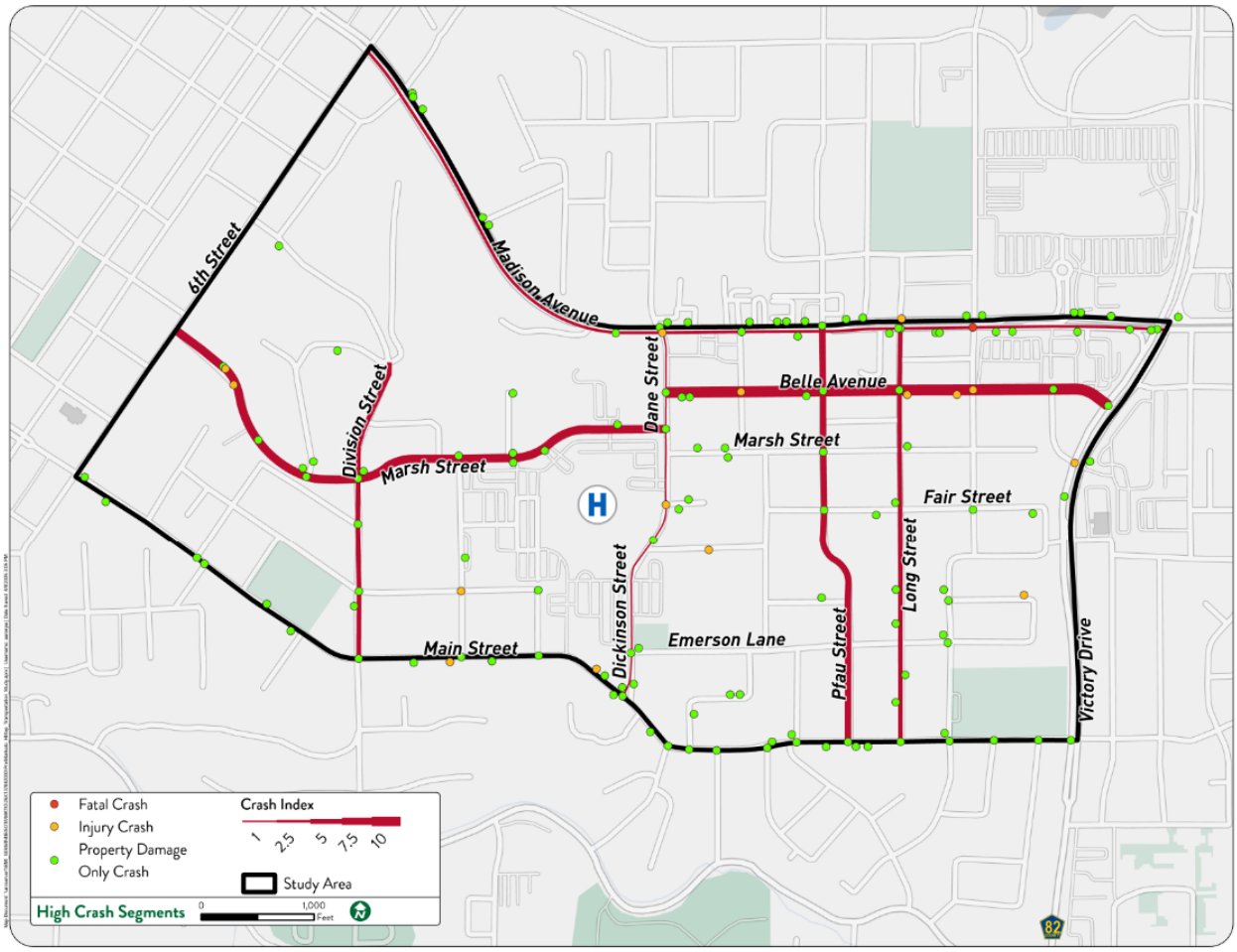


**Figure 6** and **Figure 7** provide additional details on the crash types and crash severity for crashes occurring between 2020-2024.

**Figure 6. Crash Types (2020-2024)**

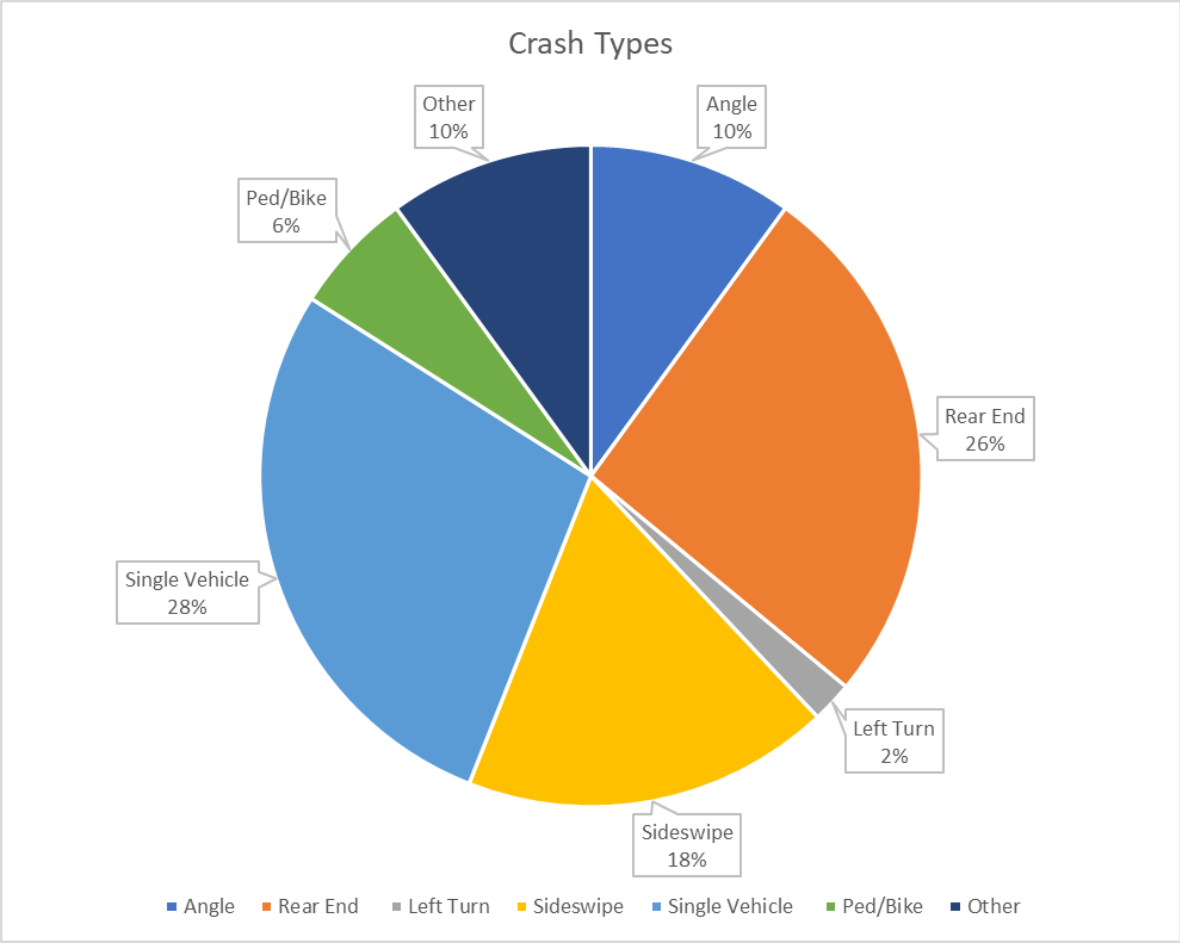
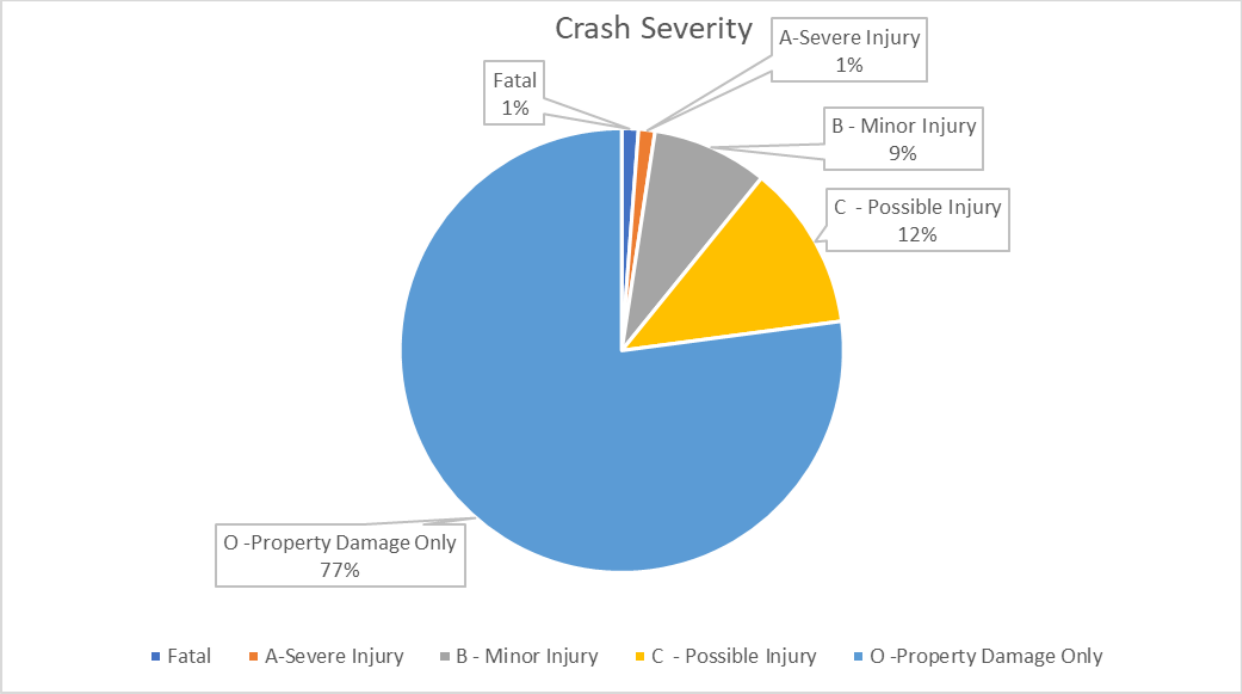


**Figure 7. Crash Severity (2020-2024)**




**Tables 3-6** summarize segment and intersection crash data for the intersections and segments based on MNCMAT2 and City of Mankato data. **Tables 7-8** summarize the crash types observed based on MNCMAT2 data.

**Table 3: MNCMAT2 Intersection Crash Data Analysis (2020-2024)**

| Intersection | Traffic Control | Total Crashes (5 Years) | Total Crash Rate | | | |
|---|---|---|---|---|---|---|
| | | | Observed | *Statewide Average* | *Critical Rate* | Crash Index |
| Marsh St & Dane St | Thru-Stop | 2 | 0.09 | 0.15 | 0.38 | 0.24 |
| Belle Ave & Dane St | Thru-Stop | 1 | 0.07 | 0.15 | 0.43 | 0.15 |
| Madison Ave & Dane St | Signal | 17 | 0.40 | 0.69 | 1.03 | 0.39 |
| Madison Ave & Long St | Signal | 14 | 0.33 | 0.69 | 1.03 | 0.32 |

## Table 4: MNCMAT2 Segment Crash Data Analysis (2020-2024)

| Segment | Length (Miles) | # Lanes | Total Crashes (5 Years) | Total Crash Rate | | | |
|---|---|---|---|---|---|---|---|
| | | | | Observed | *Statewide Average* | *Critical Rate* | Crash Index |
| Madison Ave from 7th to Victory Dr | 1.05 | 5 | 50 | 1.28 | 0.57 | 0.89 | 1.44 |
| Belle Ave from Dane St to Victory Dr | 0.49 | 2 | 4 | 3.51 | 0.35 | 2.02 | 1.58 |
| Dane St/Dickinson St from Madison Ave to Main St | 0.49 | 2 | 6 | 1.18 | 0.32 | 1.17 | 1.01 |
| Marsh St from Dickinson St to Bethany Luther College | 0.65 | 2 | 7 | 1.89 | 0.32 | 1.20 | 1.58 |
| Long St from Madison Ave to Main St | 0.49 | 2 | 6 | 2.59 | 0.32 | 1.48 | 1.75 |
| Division St from Main St to Bethany Luther College | 0.56 | 2 | 4 | 5.02 | 0.35 | 2.67 | 1.87 |
| Pfau St from Madison Ave to Main St | 0.49 | 2 | 4 | 11.04 | 0.35 | 4.25 | 2.60 |

## Table 5: City of Mankato Intersection Crash Data Analysis (2020-2024)*

| Intersection | Traffic Control | Total Crashes (5 Years) | Total Crash Rate | | | |
|---|---|---|---|---|---|---|
| | | | Observed | *Statewide Average* | *Critical Rate* | Crash Index |
| Marsh St & Dane St | Thru-Stop | 5 | 0.23 | 0.15 | 0.38 | 0.60 |
| Belle Ave & Dane St | Thru-Stop | 4 | 0.27 | 0.15 | 0.43 | 0.62 |
| Madison Ave & Dane St | Signal | 25 | 0.59 | 0.69 | 1.03 | 0.57 |
| Madison Ave & Long St | Signal | 39 | 0.92 | 0.69 | 1.03 | 0.90 |

**Assumed the same statewide average and critical rate as the MnCMAT2 analysis in Tables 3 and 4 since these are based on comparison groups.*

## Table 6: City of Mankato Segment Crash Data Analysis (2020-2024)*

| Segment | Length (Miles) | # Lanes | Total Crashes (5 Years) | Total Crash Rate | | | |
|---|---|---|---|---|---|---|---|
| | | | | Observed | *Statewide Average* | *Critical Rate* | Crash Index |
| Madison Ave from 7th to Victory Dr | 1.05 | 5 | 93 | 2.43 | 0.57 | 0.89 | 2.73 |
| Belle Ave from Dane St to Victory Dr | 0.49 | 2 | 27 | 23.71 | 0.35 | 2.02 | 11.74 |
| Dane St/Dickinson St from Madison Ave to Main St | 0.49 | 2 | 7 | 1.38 | 0.32 | 1.17 | 1.18 |
| Marsh St from Dickinson St to Bethany Luther College | 0.65 | 2 | 39 | 10.54 | 0.32 | 1.20 | 8.78 |
| Long St from Madison Ave to Main St | 0.49 | 2 | 15 | 6.47 | 0.32 | 1.48 | 4.37 |
| Division St from Main St to Bethany Luther College | 0.56 | 2 | 10 | 12.51 | 0.35 | 2.67 | 4.68 |
| Pfau St from Madison Ave to Main St | 0.49 | 2 | 10 | 27.60 | 0.35 | 4.25 | 6.49 |

**Assumed the same statewide average and critical rate as the MnCMAT2 analysis in Tables 3 and 4 since these are based on comparison groups.*

## Table 7: Intersection Crash Types (2020-2024)

| Intersection | Crash Severity | | | | | Crash Type | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | A Injury | B Injury | C Injury | PDO | Angle | Rear End | Left Turn | Sideswipe (Same) | Sideswipe (Opposing) | Single Vehicle Runoff Road | Single Vehicle Other | Pedestrian | Other | Total |
| Marsh St & Dane St | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Belle Ave & Dane St | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Madison Ave & Dane St | 0 | 0 | 3 | 2 | 12 | 2 | 5 | 3 | 1 | 1 | 1 | 0 | 2 | 2 | 17 |
| Madison Ave & Long St | 0 | 0 | 5 | 3 | 6 | 4 | 2 | 0 | 1 | 0 | 2 | 3 | 1 | 1 | 14 |

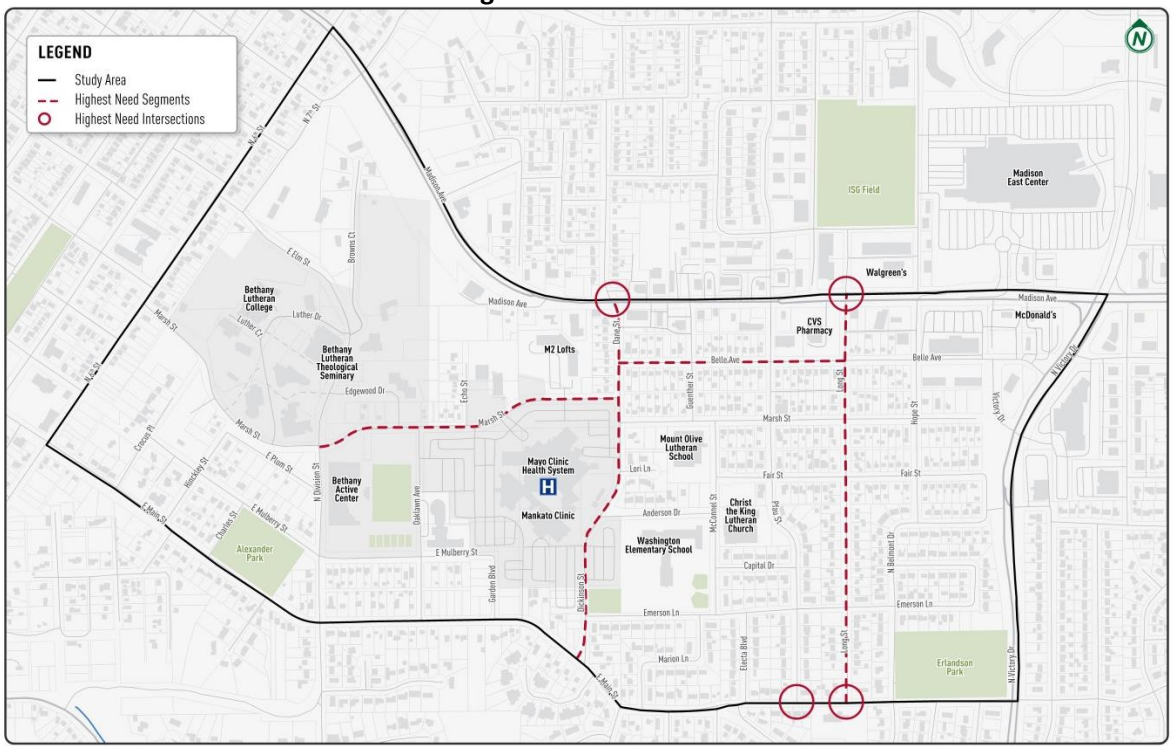
**Table 8: Segment Crash Types (2020-2024)**

| Segment | Crash Type | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Angle | Rear End | Left Turn | Sideswipe (Same) | Sideswipe (Opposing) | Single Vehicle Runoff Road | Single Vehicle Other | Pedestrian | Bike | Other | Total |
| Madison Ave from 7th to Victory Dr | 5 | 13 | 1 | 8 | 1 | 11 | 3 | 2 | 1 | 5 | 50 |
| Belle Ave from Dane St to Victory Dr | 2 | | | | | | | 1 | | 1 | 4 |
| Dane St/Dickinson St from Madison Ave to Main St | 2 | 2 | 1 | | | 1 | | | | | 6 |
| Marsh St from Dickinson St to Bethany | 1 | | | | | 5 | | | | 1 | 7 |
| Long St from Madison Ave to Main St | 1 | | | 1 | 1 | 0 | 0 | | | 3 | 6 |
| Division St from Main St to Bethany Luther | 2 | | | | | | | | | 2 | 4 |
| Pfau St from Madison Ave to Main St | 2 | | | | | | | | | 2 | 4 |

## III. Focus Areas

City staff and consultant team used the transportation data analysis results and the public and neighborhood input from 2024 to identify focus areas. Four corridors emerged from this exercise due to their higher speeds, higher pedestrian activity, higher rates of crashes, higher pedestrian activity, and more cut-through trips. These include Dane Street/Dickinson Street, Marsh Street, Long Street, and Belle Avenue as shown in **Figure 8**.

**Figure 8. Focus Areas**



**Figures 9-12** provide a summary of each of the focus corridors compiling the takeaways from the data analysis and community input along with a location map.

**Figure 9. Dickinson St./Dane St. Focus Area Summary**

## Dickinson St./Dane St.

**Corridor Context/Issues Summary:**

- 4,100 to 7,300 vehicles per day
- 108 pedestrians crossing per day
- 18% cut-through traffic
- Crash Index 1.18
- Critical Crash Index 1.17

**Community Input Themes:**

- Bike lanes are desired
- Traffic on Dane does not yield to pedestrians; crossing safety concerns
- Traffic speed concerns
- Missing sidewalks on east side of Dane

Dickinson/Dane St. Location Map




**Figure 10. Marsh Street Focus Area Summary**

## Marsh Street

**Corridor Context/Issues Summary:**

- 2,400 vehicles per day
- 34 pedestrians crossing per day
- Crash Index 8.78
- Critical Crash Index 1.20

**Community Input Themes:**

- Several comments on the Dane/Marsh Intersection. Consider a roundabout.
  - Existing intersection analysis showed PM Peak Hour at Level of Service A
- Improve pedestrian crossings near Mayo Clinic and Mankato Clinic
- Traffic speeds and volumes on Marsh St.

Marsh Street Location Map



**Figure 11. Long Street Focus Area Summary**

## Long Street

**Corridor Context/Issues Summary:**

- 2,700 vehicles per day
- 66 pedestrians crossing per day
- 47% cut-through traffic
- Crash Index 4.37
- Critical Crash Index 1.48

**Community Input Themes:**

- Improve pedestrian crossings at Madison Ave and Emerson Lane
- Speeding traffic concerns
- Drivers running Belle Ave stop signs at Long Street

Long Street Location Map

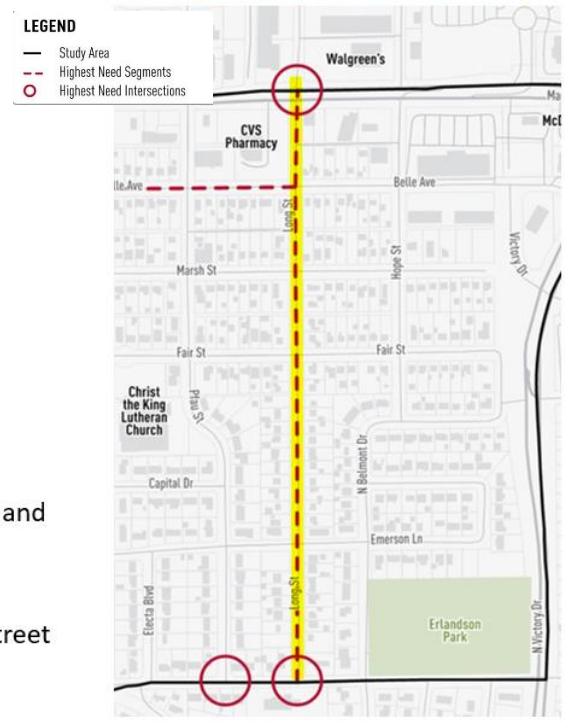



**Figure 12. Belle Avenue Focus Area Summary**

## Belle Avenue

**Corridor Context/Issues Summary:**

- 1,000 to 1,800 vehicles per day
- 9% cut-through traffic
- Crash Rate 11.74
- Critical Crash Index 2.02

**Community Input Themes:**

- Concerns with speeding and reckless driving
- Desire additional stop signs on Belle Avenue to slow traffic

Belle Ave Location Map



# IV. Recommendations

## POTENTIAL TRANSPORTATION DESIGN TREATMENTS TOOLBOX

The toolbox in **Figures 13-15** includes potential transportation design treatments that can be applied to focus corridors in the Hilltop Planning Area Study. Each treatment is categorized by its primary purpose including pedestrian crossing enhancements, active transportation enhancements, and traffic safety enhancements. Design treatments can be applied individually or in combination for greater impact.

**Figure 13. Potential Design Treatments Toolbox – Pedestrian Crossing Enhancements**

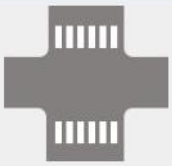
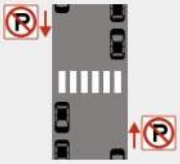
| PEDESTRIAN CROSSING ENHANCEMENTS | | |
|---|---|---|
| **Treatments** | | **Benefits** |
|  | **High Visibility Striping** are bold and reflective pavement markings that make crosswalks more noticeable to drivers and pedestrians. | Visibility<br>Minimal Infrastructure<br>Higher Yield Rate |
|  | **Advanced Warning Signs** can be placed ahead of pedestrian crossings to alert drivers of an upcoming crosswalk. | Visibility<br>Minimal Infrastructure |
|  | **Rectangular Rapid Flashing Beacon (RRFB)** are pedestrian-activated warning lights that alert drivers to yield at crosswalks. Typically used in conjunction with warning signs. | Safety<br>Visibility<br>Significantly Higher Yield Rates |
|  | **Daylighting** involves removing visual obstructions such as parked cars and vegetation near crosswalks to improve sight distance for drivers and pedestrians. | Safety<br>Visibility & Sight Distance<br>Minimal Infrastructure<br>Higher Yield Rates |
|  | **Raised Crosswalks** are elevated sections of roadway at pedestrian crossings that are level to the curb and function similarly to a speed hump. | Safety<br>Visibility<br>Reduced Vehicle Speeds<br>Higher Yield Rate |

**Figure 14. Potential Design Treatments Toolbox – Active Transportation Enhancements**

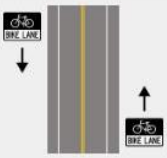
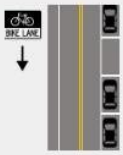
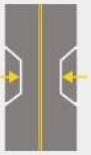
| ACTIVE TRANSPORTATION ENHANCEMENTS | | |
|---|---|---|
| **Treatments** | | **Benefits** |
|  | **Complete Sidewalk Connections** allow for uninterrupted pedestrian pathways across neighborhoods, reducing crossing needs, and better connect existing destinations. | Pedestrian Safety<br>Pedestrian Connectivity |
|   | **Bike Lanes** can replace on-street parking spaces on one or both sides of the road and provide dedicated street space for cyclists. | Bike Safety<br>Bike Connectivity |

**Figure 15. Potential Design Treatments Toolbox – Traffic Safety Enhancements**

| TRAFFIC SAFETY ENHANCEMENTS | | |
|---|---|---|
| **Treatments** | | **Benefits** |
|   | **Pavement Striping** clearly defines street space for specific uses including travel lanes, bike lanes, and parking spaces. | Visibility<br>Vehicles Stay in Lane<br>Minimal Infrastructure |
|  | **Pinch Points** are features that narrow the width of travel lanes at specific locations to reduce vehicle speeds and can be created out of pavement markings or permanent curb extensions. | Reduced Vehicle Speeds<br>Flexible Design |
|   | **Intersection Visibility Improvements** include reviewing and trimming vegatation to improve sightlines and enhancing visibility of existing traffic control devices with additional reflective tape or flags. | Intersection Safety<br>Visibility<br>Minimal Infrastructure |
|   | **Speed Feedback Signs** are displays that show drivers their current speed in real time and can display a "slow down" message if the limit is exceeded. | Reduced Vehicle Speeds<br>Minimal Infrastructure |
|  | **Speed Cushions** are raised, spaced traffic calming devices designed to slow vehicles while allowing emergency vehicles and bikes to pass through unaffected. | Reduced Vehicle Speeds<br>Targetted Traffic Calming |

## CORRIDOR RECOMMENDATIONS

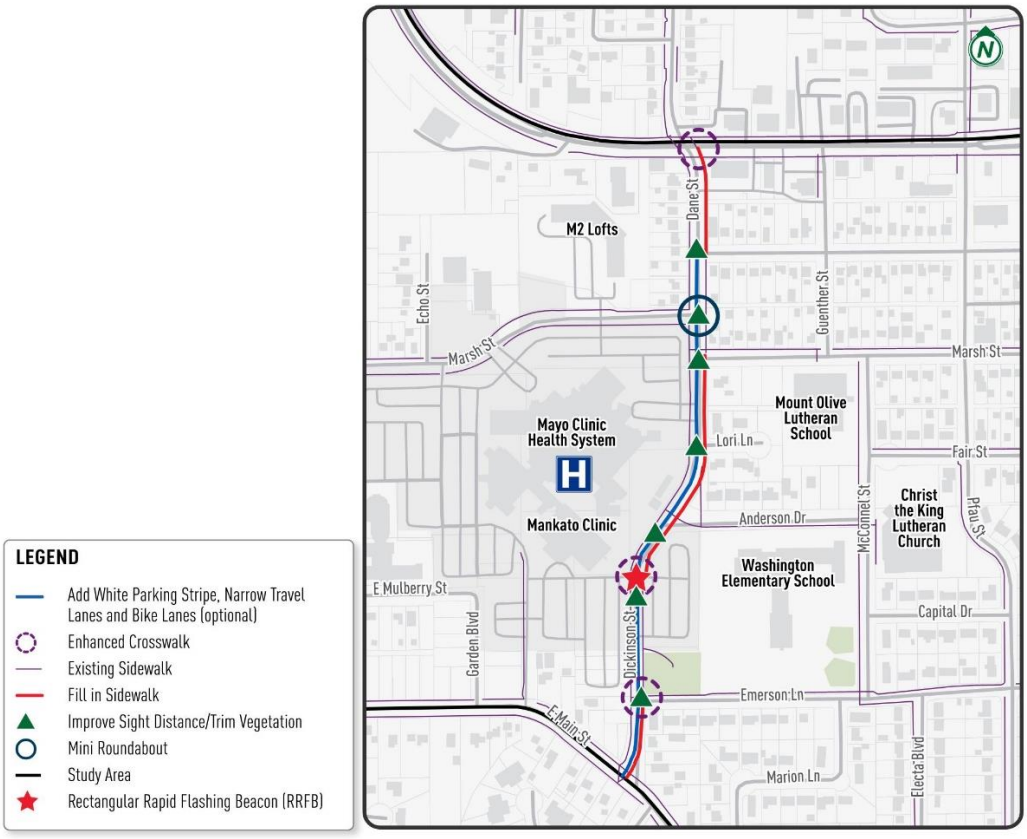
The following pages of this memorandum include a summary of each focus corridor that includes improvement recommendations for the city's consideration as projects are programmed over time.

**Dickinson Street/Dane Street**

This corridor is a Municipal State Aid System (MSAS) route that provides a continuous north-south connection between Main Street and Madison Avenue. There is no reconstruction project programmed on this corridor in the city's 2025-2029 Community Investment Plan (CIP). **Figure 16** illustrates the range of potential improvements on Dickinson St/Dane St which include:

- Pedestrian crossing enhancements at Madison Avenue, the Mankato Clinic parking lot crossing, and at Emerson Lane. Also consider a Rectangular Rapid Flashing Beacon (RRFB) at the crossing from the employee parking lot to the Mankato Clinic entrance.
- Addition of sidewalk on the east side of the corridor between Main Street and Emerson Lane, the Mankato Clinic employee parking lot and Marsh Street, and Dane Street to Madison Avenue.
- Improve sight distance through vegetation trimming at Emerson Lane, Mankato Clinic entrance, Anderson Drive, Lori Lane, Marsh Street (west), Marsh Street (east), and Belle Avenue.
- Consider striping and/or typical section adjustments to encourage traffic calming and bicycle accommodations such as: adding a white parking stripe, narrowing travel lanes, and adding a bike lane from Main Street to Belle Avenue.

**Figure 16. Dickinson St./Dane St. Recommendations**

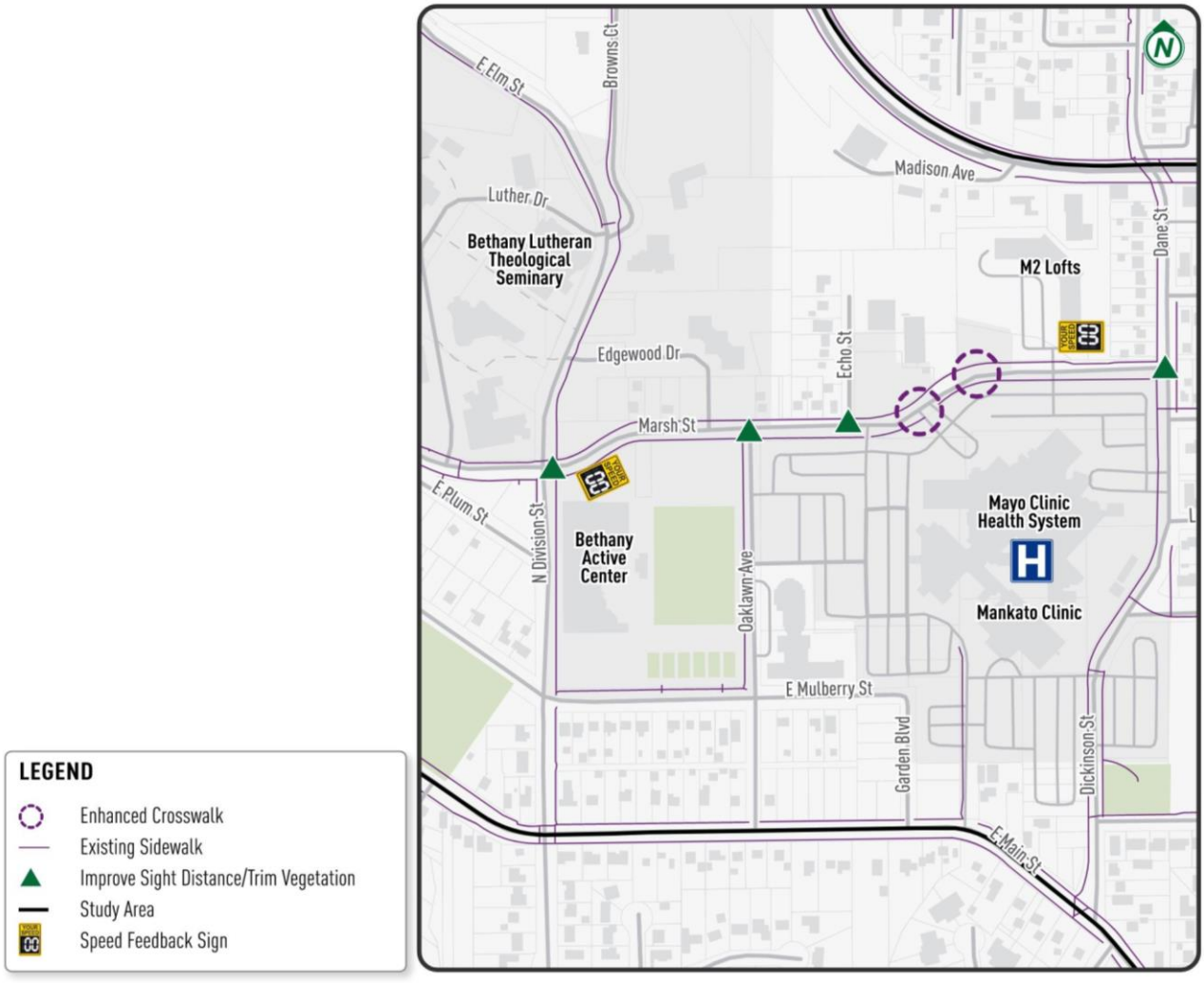


**Marsh Street**

This corridor is a Municipal State Aid System (MSAS) route between Division Street and Dane Street. There is no reconstruction project programmed on this corridor in the city's 2025-2029 Community Investment Plan (CIP). **Figure 17** illustrates the range of potential improvements on Marsh Street which include:

- Enhanced crosswalks at the Mayo Clinic patient/visitor/staff parking lot crossings of Marsh Street.
- Improve sights distance through vegetation trimming at Division Street, Oaklawn Avenue, and Echo Street.
- Install speed feedback signs on both ends of the corridor to encourage speed limit compliance in both directions.

**Figure 17. Marsh St. Recommendations**



**Long Street**

This corridor is a Municipal State Aid System (MSAS) route that provides a continuous north-south connection between Main Street and Madison Avenue. The city has a 2026 reconstruction project planned on Long Street between Main Street and Fair Street in the Community Investment Plan (CIP).

The Hilltop Planning Area Study recommends extending the 2026 reconstruction project to Madison Avenue to include traffic calming elements the entire length of the Long Street corridor from Main Street to Madison Avenue. Additional considerations for the design phase of this reconstruction project are outlined below.

**Figure 18** illustrates the range of potential improvements on Long Street which include:

- Pedestrian crossing enhancements at Main Street and Madison Avenue.
- Improve sight distance through vegetation trimming at Emerson Lane, Fair Street, and Belle Avenue.
- Addition of "No Parking Here to Corner" signs to improve sight distance at the Long Street/Emerson Lane intersection.
- Enhance stop signs at Long Street and Belle Avenue for increased compliance.

Reducing speeds and cut-through traffic are two priorities for Long Street improvements. The following traffic calming measures are recommended for further analysis in the design phase of the 2026 Long Street reconstruction project:

- Install speed feedback signs on both ends of the corridor to encourage speed limit compliance in both directions.
- Consider reconfiguring the typical section. Below are a range of ideas discussed during the study phase. Some of these may be paired together but most are independent solutions. All require further design analysis to determine feasibility and benefit versus cost.
    - Add a white parking stripe and narrow travel lanes from Main Street to Belle Avenue.
    - Add a raised median planter at some intersection approaches to provide traffic calming. **Figure 19** shows an example from Warren Street near Maywood Avenue. Additional analysis is needed to determine if adequate width exists on Long Street to accommodate this type of treatment without restricting driveways or street intersections.
    - Investigate the feasibility of mini roundabouts at Emerson Lane, Fair Street, and Belle Avenue.
    - investigate the feasibility of a "Chicane" corridor where travel lanes are narrowed and shifted through intersections to encourage lower speeds (see **Figure 20** for example).

**Figure 18. Long St. Recommendations**

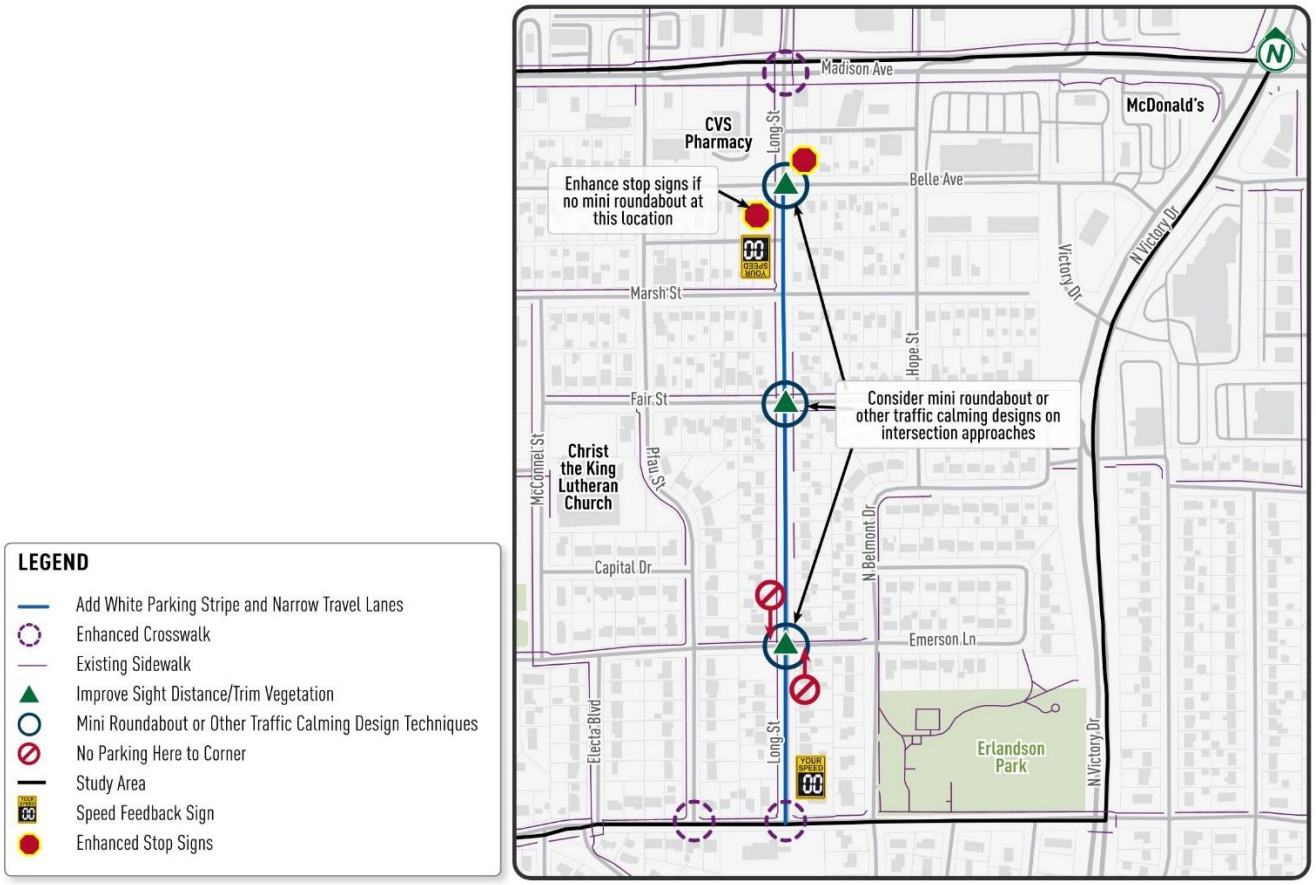
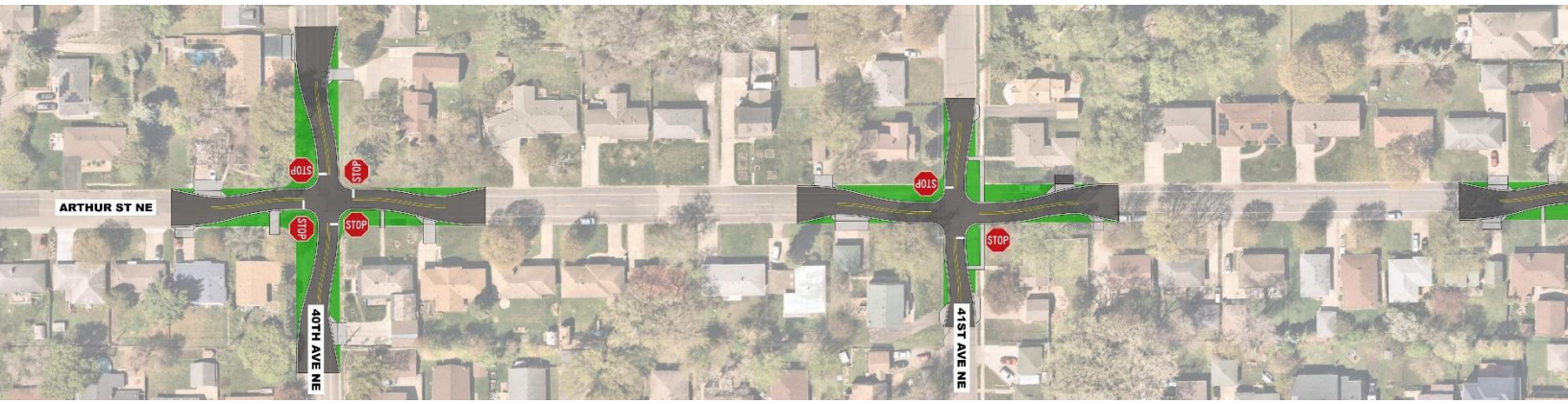



**Figure 19. Warren Street Raised Planter Example**



**Figure 20. Chicane Corridor Example**



**Belle Avenue**

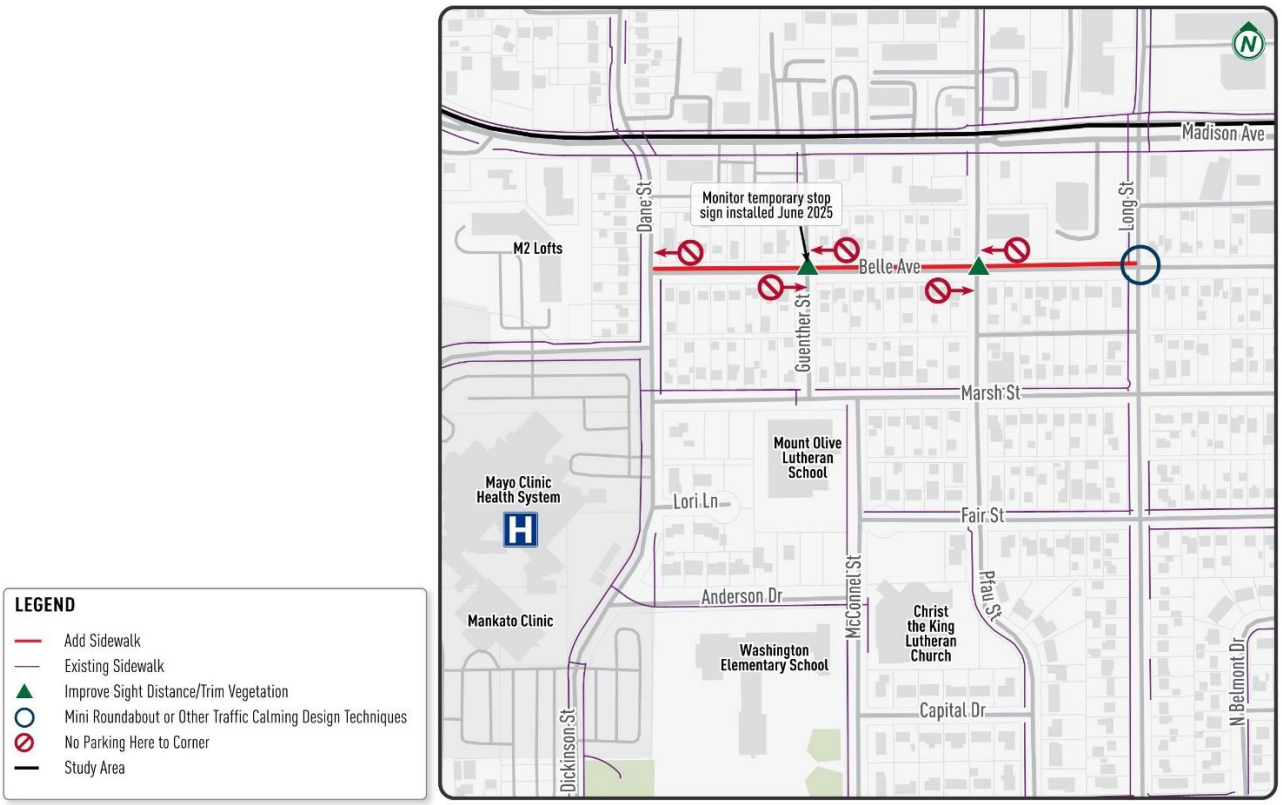
Belle Avenue provides an east-west connection in the Hilltop Neighborhood between Dane Street and Victory Drive. The focus area for this study was from Dane Street to Long Street based on identified issues. An all-way stop traffic warrant analysis was conducted based on resident requests for the addition of a stop sign on Belle Avenue to slow speeds. The analysis showed traffic warrants were not met for an all-way stop on Belle Avenue based on existing traffic volumes.

In June 2025, the Mankato City Council passed a resolution to install a temporary stop sign at the Guenther Street/Belle Avenue intersection for speed control purposes in response to resident requests. The study team recommends continued monitoring of intersection operations and traffic speed data to evaluate the effectiveness of the stop sign and long-term plan for traffic control at this intersection.

There is no reconstruction project programmed on this corridor in the city's 2025-2029 CIP. **Figure 21** illustrates the range of potential improvements on Belle Avenue which include:

- Add a sidewalk on the north side of Belle Avenue Between Dane Street and Long Street.
- Improve sight distance through vegetation trimming at Guenther Street and Pfau Street.
- Addition of "No Parking Here to Corner" signs to improve sight distance at the Belle Avenue intersections with Dane Street, Guenther Street, and Pfau Street.
- Investigate feasibility of a mini roundabout or other traffic calming design techniques at the intersection of Belle Avenue and Long Street as described above in the Long Street recommendations.

**Figure 21. Belle Ave. Recommendations**




## V. Next Steps

The City of Mankato is working on an update to their Community Investment Plan to consider implementation timelines for improvement recommendations from the Hilltop Planning Area Study. These recommendations will likely occur through future planned reconstruction projects and independent spot improvements over time.