



MANKATO PLANNING COMMISSION
Regular Meeting August 28, 2024 - 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.

1. **CALL TO ORDER**

2. **APPROVAL OF AGENDA**

3. **APPROVAL OF MINUTES**

1. **July 24, 2024 Draft Planning Commission minutes**

4. **OLD BUSINESS**

5. **NEW BUSINESS**

1. CY34-24

CY34-24

Request of ISG with permission of the property owner(s) for an amendment to the previously approved preliminary plat of Hotel Mankato Redevelopment plat and for final plat approval for Hotel Mankato Redevelopment plat. The subject properties are described as Lot 1, Block 1, Key City Renewal Fifth Addition; and, the easterly 102.5 feet of the Northerly 23 feet of Lot 9 and the Easterly 102.5 feet of Lot 10, Block 14, City of Mankato; and All that part of the north – south running alley dedicated in Block 14, Map of Mankato, according to the recorded plat thereof, lying north of the Westerly extension of the north line of Lot 7, Block 14, Map of Mankato, according to the recorded plat thereof, City of Mankato, Blue Earth County, Minnesota, EXCEPT the west half of said alley adjacent to Lots 3 and 4, Block 14, Map of Mankato; and, The Westerly 55 feet of the Northerly 99 feet of Lots 9 and 10, Block 14, Map of Mankato; and, Commencing at the Southwest Corner of Lot 9, Block 14, Map of Mankato, on the east line of the alley running on the west side of said Lot 9, running thence in a southeasterly direction and at right angles with said alley 55 feet, thence in a northeasterly direction and at right angles with said last mentioned line 33 feet; thence in a northwesterly direction and at right angles with last described line 55 feet and thence in a southwesterly direction and at right

angles with said last described line 33 feet to the place of beginning; and, Lot 8, Block 14, Map of Mankato, except the Southerly 6 feet of the Easterly 60 feet; and, The Southerly 43 feet of the Easterly 102 1/2 feet of Lot 9, Block 14, Map of Mankato; and, Beginning at the Southwesterly corner of Lot 8, Block 14, Map Of Mankato, according to the recorded plat thereof; thence easterly 66.00 feet along the southerly line of said Lot 8 to a point on the northerly extension of the westerly line of Lot 4, Spencer's Subdivision Of Lots 6 And 7 In Block 14 Mankato, according to the recorded plat thereof; thence southerly along said northerly extension 12.00 feet to the northwesterly corner of said Lot 4; thence westerly along the westerly extension of the northerly line of said Lot 4 to the westerly line of said Block 14; thence northerly along the westerly line of said Block 14 to the point of beginning; and, All that part of the 12.00 foot alley dedicated per the Spencer's Subdivision Of Lots 6 And 7 In Block 14 Mankato, according the recorded plat (alley being now vacated per recorded document 600CR931) described as follows: Being bound on the west by the northerly extension of the west line of Lot 4 of said Spencer's Subdivision; and, Being bound on the east by a line being 60.00 feet west of the northerly extension of the easterly line of said Spencer's Subdivision (101 E. Main, 121 and 123 E. Main, and 118 S. 2nd Street).

The anticipated date of City Council action is September 9, 2024.

2. CY35-24

CY35-24

Request by Jacob Hummer to rezone a property to R-T, Residential Transition, from B-1, Community Business District. The subject property is described as the south 80 feet of lot 13 and the east 10 feet of the south 68 feet of lot 14, Block 175, Plan of West Mankato subdivision).

The anticipated date of City Council action is October 15, 2024.

3. CY36-24

CY36-24

Request of Orthopaedic and Fracture Clinic for an amendment to the Planned Unit Development to allow for a use to operate outside the completely enclosed structure for an outdoor physical therapy area at the existing building within the medical campus. The subject property is described as Lot 1, Block 1, Mankato Clinic First Addition, etal (1431 Premier Drive).

The anticipated date of City Council action is September 9, 2024.

4. CY37-24

CY37-24

Request of Civil Site Group, on behalf of the property owner for a certificate of design compliance for the construction of a new, approximately 5,200 square foot structure in the Highway Gateway Overlay District. The subject property is described as Lot 8, Block 1, River Hills Mall Addition (1896 Adams Street).

The anticipated date of City Council action is September 9, 2024.

5. CY38-24

CY38-24

Request of Graham Engineering, on behalf of the property owner, for a certificate of design compliance for the construction of a new, approximately 10,700 square foot structure in the Highway Gateway Overlay District. The subject property is described as Lot 3, Block 2, Victory Commercial Park, (Blue Earth County PID R010904300021 and R010909102004).

The anticipated date of City Council action is September 9, 2024.

6. CYL39-24

CYL39-24

Request of New Energy Equity, on behalf of the property owner, for an interim use permit to allow for a one-megawatt community solar garden in the Lime Township Rural Conservation zoning district. 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).

The anticipated date of Lime Township Board action is September 10, 2024.

6. MISCELLANEOUS

7. ADJOURNMENT

Planning Commission Regular Meeting

3. 1.

Meeting Date: 08/28/2024

Title

July 24, 2024 Draft Planning Commission minutes

Attachments

July 24, 2024 Planning Commission Minutes

**Mankato Planning Commission
Regular Meeting
July 24, 2024**

1. CALL TO ORDER.

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

Commissioners Present: Chair Zehnder, Ms. Johnson, Mr. Wilke, Mr. Meister, Mr. Dieken, Mr. Iddings, Ms. Surdy

Staff Present: Mark Konz – Director of Community Development, Molly Westman-Planning Coordinator, Sydney DePrenger-Planner, Bennett Hanson – Economic Development Specialist, Travis Johnson- Permit Technician.

2. APPROVAL OF AGENDA.

Ms. Johnson made a motion to approve the agenda. Mr. Meister seconded the motion. The motion carried unanimously.

3. APPROVAL OF MINUTES.

Mr. Dieken made a motion to approve the minutes from June 26, 2024. Ms. Johnson seconded the motion. The motion carried unanimously.

4. OLD BUSINESS

5. NEW BUSINESS

CY28-24 Request of Thomas Ponce, on behalf of the property owner, Mesenbrink Construction, for a conditional use permit to allow wetland sequencing and replacement of 7.10 acres of wetland impacts. The subject property is described as part of the West 30 acres of the SW ¼, Section 15-108-26, except the South 330 feet of the West 330 feet thereof, AND The SE ¼ of the NW ¼ of the SE ¼; The S. ½ of the NE ¼ of the SE ¼; The SE ¼ of the SE ¼; The SW ¼ of the SE ¼, Except the West 30 acres thereof; all in Section 15, Township 108, Range 26, Blue Earth County, Minnesota, with some exceptions. (Blue Earth County PID R430915400003 and R430915400009).

(CY28-24 continued)

Ms. Westman presented the staff report and reported the following recommended findings:

1. The proposed request, sequencing and replacement for wetland impacts, is considered a Conditional Use Permit in Mankato City Code section 10.82 subd. 11.
2. The request is in keeping with the comprehensive planning policies of the City as the underlying land use plan identifies this parcel as having the uses that are proposed in the overall development plan.
3. The proposal does not interfere with or diminish the use of property in the immediate vicinity.
4. The development will be served by public facilities and services.
5. The proposal, wetland impacts, does not cause undue traffic congestion.
6. There are no known historical or architectural resources on the site.
7. The proposal seeks to preserve the unnamed lake wetland basin located on the northerly side of the parcel. The wetlands proposed for impact and replaced are wetlands that have historically been in crop rotation and have been heavily degraded by the removal of wetland hydrology and hydrophytic plant communities.
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.
11. The proposal conforms to the Wetland Conservation Act.

Ms. Westman reported that based on the findings staff recommends approval of the conditional use permit to allow wetland sequencing and replacement for 7.10 acres of wetland impacts with the following conditions:

1. The final DNR approved site plan that includes the hydrologic capacity shall be provided to the City of Mankato.
2. If modeling through the DNR Public Waters permit process, or for other reasons, requires different or additional wetland impact(s), additional review and approval by an amended conditional use permit and review and approval through the City of Mankato Technical Evaluation Panel (TEP) will be required.
3. The preliminary plat conditions of approval shall be adhered to, and those conditions are as follows:

(CY28-24 continued)

1. At the time of submission for a final plat, the applicant shall provide a complete draft copy of the proposed property owners association documents and deed restrictions, covenants, and permanent easements or other instruments. The documents shall address, but are not limited to, private streets, private utilities, current and future building envelopes, future additions, and how this will be privately managed. Membership in the property owners association shall be mandatory and in accordance with all applicable shoreland standards. The deed restriction shall properly address future vegetative and topographic alterations, construction of additional buildings, and shall ensure the long-term preservation and maintenance of open space in accordance with the shoreland and DNR criteria.
2. The applicant shall enter into a subdivision agreement addressing public improvements within the subdivision including Hoffman Road, 211th Lane, and public storm water facilities within the subdivision.
3. The applicant will be responsible for all required permitting and authorization for the proposed improvements associated with the natural gas easement. Written authorization from the easement holder acknowledging the proposed development, and providing consent for the proposed improvements, shall be in place prior to the submission of a final plat.
4. Block configuration shall be modified to achieve Mankato City Code standards of not more than 1,200 feet.
5. Prior to the submission of a final plat or planned unit development request for the parcel, a Notice of Decision shall be in place authorizing the proposed wetland impacts.
6. Prior to submission of a final plat or a planned unit development, the applicant shall have applied for and obtained all necessary Public Waters Work Permit(s) from the Department of Natural Resources, DNR, for the proposed project.
7. Applicant shall install signs at the required open space area at intervals acceptable to the DNR, and other applicable parties.
8. The applicant shall submit a request for the desired residential rental density within the new low-density residential areas, and this shall proceed for review along with the ordinance amendment for rezoning, platting, etc. for the development.
9. Bulk, height, setback, density, coverage, parking and other underlying zoning district criteria will apply to the subject lots and blocks.
10. Approval of this preliminary plat does not imply future approval of wetland replacement plans or planned unit developments or other future zoning requests.

(CY28-24 continued)

Mr. Wilke inquired what is the cost per credit for the wetland bank

Ms. Westman indicated that the city does not get involved in the cost rather we make sure it conforms to the standards and that the credits are being purchased in the same bank service area. She also indicated that the applicant would be able to answer that question more directly.

Mr. Wilke also indicated that this appears to be farmland currently. He inquired if they were truly wetlands or simply low spots.

Ms. Westman indicated that wetlands are evaluated based on their type. These are type 1 or type 2. This means seasonally flooded basins meaning they will have water in them when it rains or in the spring.

Mr. Wilke also questioned if there was any tiling in the parcel.

Ms. Westman stated that she would let the applicant answer that question.

Dan Donayre, Bolten & Menk, Natural Resources Project Manager. Dan was present to answer the commissions questions in relation to this project. He indicated this was considered a type 1 seasonal flooded basin meaning that it only has a water-table within 12 inches of the surface for 14 days consecutively. He also indicated that this field has been tiled.

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

Ms. Johnson made a motion to approve the conditional use permit to allow wetland sequencing and replacement for 7.10 acres of wetland impacts. The motion was seconded by Mr. Meister. The motion passed unanimously.

City Council Agenda Date: August 12, 2024.

CY29-24 Request of APX Construction Group for a certificate of design compliance for exterior modifications to a structure located in the Highway Gateway Overlay district. The subject property is described as Lot D, Block 1, except the north 15' of right of way, Scheurer's Sunray Addition. (1531 Madison Avenue, Blue Earth County PID R010916101004).

Ms. DePrenger presented the staff report and reported the following recommended findings:

1. The request is in keeping with the comprehensive planning policies of the City as the underlying land use plan identifies this parcel as "commercial."
2. The proposal does not interfere with or diminish the use of property in the immediate vicinity.
3. The proposal is currently served by public facilities and services and will continue to be.
4. The proposal does not cause undue traffic congestion as there are no changes in the number of employees which would require additional parking, and no other changes are proposed to the site access, or traffic patterns.
5. There are no known historical or architectural resources on the site.
6. There are no known natural or environmental features on the site.
7. It will not cause a negative cumulative effect and effect on the City as a whole as the current and future use will need to comply with city code.
8. To the extent known, the development 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 property is located in the Highway Gateway Overlay District and the proposed value of the project does not exceed \$500,000 by Mankato City Code Chapter 10.48, this project only requires review of the Planning Commission.

Ms. DePrenger reported that based on the findings staff recommends approval of the certificate of design compliance with the following conditions:

1. The elevations shall conform to the submitted elevations approved by the Planning Commission.
2. A sign permit will be required for all proposed exterior signage and shall adhere to Mankato City Code Section 10.87.
3. All new lighting fixtures shall conform to Mankato City Code Section 10.89.
4. All new exterior finishes shall conform to the Mankato City Code. Exterior architectural metal panels shall have concealed fasteners and shall not be exposed.

(CY29-24 continued)

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

Ms. Johnson made a motion for approval of the certificate of design compliance. The motion was seconded by Mr. Wilke. The motion passed unanimously.

CY30-24 Request by HDR, on behalf of the property owner, Mayo Clinic Health System, for amendments to the Institutional Overlay District and the approved campus plan. The subject properties are described as Lots 7-22, Block 4, Oaklawn Addition including vacated alley; Lots 7-15 and the easterly 29.84 feet of Lot 16, Block 5 Oaklawn Addition, including vacated Plum Street and vacated alley; Lots 1-7, Block 7, Oaklawn Addition including vacated Hawthorn Avenue and Fair Street and vacated alley; Lots 1-20, Block 8, Oaklawn Addition, Lots 7-21; Lots 2-6, 7, 8, 10 and 12, Block 6, Oaklawn Subdivision and Agency Heights Subdivision; commencing at the northwest corner of the southeast quarter of the northwest quarter, Section 17, Township 108 N, Range 26 W, then south 514.8', west 198' to beginning; West 60 feet of the south 175 feet of the west six acres of the southeast quarter of the northwest quarter north of road, Section 17, Township 108 N, Range 26 W; All area north of road and west six acres of the southeast quarter of the northwest quarter except 3.16 acres; East 52' of the south 150' of the west six acres of the southeast quarter of the northwest quarter north of the road, Section 17, Township 108 N, Range 26 W; Lots 2-20 Saylor Addition; Lots 13-16 Dickinson's Subdivision; Lots 1-12 Thielges Addition; .146 Acres in the northeast quarter of the northwest quarter, Section 17, Township 108 N, Range 26 W, Record Book 156, Page 496; .12 acres in the northeast quarter of the northwest quarter, Section 17, Township 1089 N, Range 26 W, Record Book 156, Page 509; Tract 48' X 90' directly rear of the west 48' of Lot 4, Thielges Addition; .094 acres directly in the rear of Lot 5, Thielges Addition, east 2' of Lot 4, Thielges Addition; and west 2' of Lot 6, Thielges Addition; .07 acres directly rear of Lot 6, Thielges Addition; .02 acres directly in rear of Lot 7, Thielges Addition, etal. (1025 Marsh Street). (Blue Earth County PID R010813101049).

Ms. DePrenger presented the staff report and reported the following recommended findings:

1. The proposed use conforms with the goals of the Mayo Clinic Campus Plan,
2. The proposed use is determined to be in conformance with the overall intent of the campus plan in the IO, Institutional Overlay District.

(CY30-24 continued)

Ms. DePrenger reported that based on the findings staff recommends approval of the Institutional Overlay amendment and the amendment of the Campus Plan:

1. Landscaping shall be installed in accordance with Mankato City Code. A conforming landscaping plan shall be submitted for review and approval prior to installation.
2. The temporary driveway on Garden Blvd and Mulberry Street will not be permitted and therefore will need to be removed.
3. The conditions from the previous approvals for the Mayo Clinic Health Systems Institutional Overlay District shall remain in effect unless amended in the conditions listed below.
4. All exterior lighting shall adhere to Mankato City Code Section 10.89. The applicant shall provide lighting cut sheets for all exterior lighting fixtures. All fixtures shall be full cut, fully shielded style.
5. The applicant shall provide a photometric plan at the time of building permit submission that depicts no more than 1/2 foot candle lighting levels at the property lines. Field lighting shall conform to section 10.89 Subpart 3A.
6. Screening for the Bulk Oxygen relocation shall be screened in accordance with Mankato City Code Section 10.88.
7. Applicant shall have a pre-construction meeting with the neighborhood 30 days prior to construction of the facilities. The meeting shall address timing, staging areas, and contractor parking.
8. Any changes to the approved campus signage plans for the development will require additional review and approval of the overall campus plans.
9. Building elevations and materials of the proposed new structures shall be similar to the existing structure.

Ms. Surdy inquired about the reasoning behind the signs needing to be taller.

Ms. DePrenger stated that the applicant had a wayfinding study conducted that indicated higher signs makes it easier for people to find their way, especially in emergency situations.

Chris Roeder, Mayo Clinic project group. Mr. Roeder stated that in relation to the height of the signs, prior suggestions from consultants indicated that the signs needed to be big and visible especially at entrances.

(CY30-24 continued)

Chair Zehnder inquired if there is further parking expansion planned to the southwest of the campus area and why the shift from parking ramps to surface lots.

Mr. Roeder stated that based on prior parking studies this would be enough stalls for the next several years. The move away from the parking ramps is purely a cost driven factor. They currently have the space for surface parking and have planned it that way.

Chair Zehnder also questioned whether there would be issues from drainage and if the city storm sewers are able to handle that increase from new impervious surfaces.

Alec Pietz, Bolton & Menk, Inc. Alec indicated that with every new project they try and integrate more storm water BMPs as required by city ordinances.

Ms. Johnson stated that the rain gardens that are mentioned in this project are something that hopefully will become more popular with future projects.

Mr. Wilke thanked Mayo Clinic for the continued investment in the community and appreciated them trying to balance the needs of the clinic and the neighborhood.

Chair Zehnder opened the public hearing for public comment

Greg Albers, 306 Dane Street. Greg was present at the meeting to express his concerns in relation to this project. With the relocation of the oxygen tanks, he wanted to make sure proper noise mitigation was taking place. Greg also stated that the height of the signs was obnoxious and could diminish the value of his property by having one at the end of his driveway.

Chair Zehnder requested to have the applicant address some of the concerns brought forth by Greg.

Mr. Roeder stated that with the sign that is currently in place it is easy to miss and not always visible to people coming to the hospital. They want the sign to really jump out and direct people where to go. He also stated in relation to the noise they are in the process of running tests to establish where the noise is coming from. The oxygen tanks will create a hiss but the system itself is quiet. The additional noise may be stemming from cooling towers that have large fans moving air

(CY30-24 continued)

through them. IEA is currently running tests to see what is driving the additional noise.

Chair Zehnder questioned if there would be places where additional noise screening could be placed if the noise study finds the levels unacceptable.

Mr. Roeder stated he thinks this is the intent of the study. If they do find that it is too high, they will be looking at what they can do to mitigate that sound.

Ms. Surdy questioned if they would consider putting some of these mitigation processes in place even if the study doesn't reveal significant noise levels.

Mr. Roeder stated that he believes that they would be open to doing that but can't guarantee anything.

Chair Zehnder asked if there was a previous noise baseline to compare to.

Mr. Roeder stated that during their process of testing they will shut down a certain number of fans and record measurements and times to compare noise levels to when all 6 fans are operational.

Mr. Konz stated that when Mayo initially installed those cooling tanks, they conducted a sound study and encouraged Mayo to look through their files to determine if they had those studies.

A resident questioned where the new helicopter pad would be located.

Chair Zehnder indicated that it was his understanding it would be located on top of the new bell tower and was confirmed by Mr. Roeder.

With no one else wishing to speak, Chair Zehnder closed the public hearing.

Chair Zehnder raised a motion to add the condition that at the completion of the sound study, the study findings be provided to the City. If the sound is found to be above the state defined threshold more mitigation would be added. This was seconded by Ms. Surdy. The amended condition passed unanimously.

Ms. Surdy stated that she had an objection to the monument and wayfinding signage.

Mr. Wilke made a motion for approval with the amended condition of the Institutional Overlay amendment and the amendment of the Campus Plan. The motion was seconded by Mr. Meister. The motion passed unanimously with the objection from Ms. Surdy.

(CY30-24 continued)

City Council Agenda Date: September 9, 2024

CY31-24 Request of Cohen Esrey Development Group for an amendment to the current planned unit development to decrease the parking plan from the previously provided 87 stalls to 82 stalls at Lewis Lofts. The subject property is described as Lots 1A, 1B, and 1C of The Neighborhood subdivision (Blue Earth County PID R010813256009, R010813256010, R010813256008, 209 Dewey Lane).

Mr. Hansen presented the staff report and reported the following recommended findings:

1. Parking flexibility for Lewis Lofts is sought as a result of the project being a senior housing development and to assist with the project affordability.
2. The proposed decrease in the number of on-site parking stalls does not exceed the minimum 1.25 parking stalls per-unit rate that was approved by the council.
3. A decrease in the number of on-site parking stalls will not cause a negative cumulative effect on the city as a whole.
4. To the extent known, the property conforms with all other applicable regulations of the district, and other applicable ordinances.
5. The proposal will not jeopardize the public's health, safety, or general welfare.
6. It is in keeping with the comprehensive planning policies of the City and this Chapter as amended from time to time.

Mr. Hansen reported that based on the findings staff recommends approval of the request to amend a planned unit development to decrease the parking plan from the previously provided 87 stalls to 82 stalls at Lewis Lofts with the following conditions:

1. Bicycle parking will be required at a rate of 5% of parking stalls for a minimum of 5 stalls, based on the 82-stall amended proposal.
2. The applicant shall provide common open space amenities conducive to a senior development, such as an outside patio or gathering area or areas with benches or other seating within the development.
3. The applicant shall provide a parking plan that details the management of on-site parking. This includes, but is not limited to, the dedication of parking stalls to tenants, and reservation of stalls to allow for guest parking.

(CY31-24 continued)

4. Conditions and recommendations from the previously approved Planned Unit Development that was approved on 02/14/2022 will continue to apply. The aforementioned conditions are as follows:
 1. A loading and unloading plan shall be provided for the development that contemplates all associated activities on private property and not utilizing the public streets, obstructing parking stalls or disrupting ingress/egress to the site.
 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. All lighting shall conform to Mankato City Code including full-cut, fully shielded light fixtures and a photometric plan demonstrating a lighting level of no more than 1/2-foot candle at the property line.
 4. A City of Mankato rental license for the premise shall be secured prior to occupancy.
 5. The landscaping, as per the approved landscaping plan, shall be installed prior to occupancy.
 6. The applicant shall provide a snow removal plan, *in conjunction with the building permit*.
 7. The applicant shall provide common open space amenities for gathering for a senior development.

Chair Zehnder questioned if the upcoming study that is being conducted on the Stoltzman and Riverfront intersection would include the area where Dewey Street ends.

Mr. Konz explained that the intersection is what is being studied. They may go a little beyond the intersection but typically would not go a full block beyond the intended area of study.

Nate Myhra, Project Manager, Bolton & Menk, Inc. Mr. Myhra was present at the meeting to address any questions the Planning Commission may have.

Mr. Dieken inquired if there would be assigned parking per unit.

Mr. Myhra advised that every tenant provides their license plate number and make and model of vehicle. They govern it themselves with the management team at the property making sure the cars are parked appropriately. If the need for additional parking, the Sinclair Flats across the street can be used.

(CY31-24 continued)

Mr. Dieken questioned if the parking requirements would need to be changed if the facility were to become market rate housing.

Mr. Myhra advised that they are limited by the amount of parking that they currently have.

Chair Zehnder asked if Cohen Esrey had some type of provision for guest parking if residents have visitors

Mr. Myhra advised that with 82 parking stalls and only 66 units there would be some additional stalls if every resident only had 1 vehicle.

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

Mr. Meister made a motion for approval of the request to amend a planned unit development to decrease the parking plan from the previously provided 87 stalls to 82 stalls at Lewis Lofts. The motion was seconded by Ms. Surdy. The motion passed unanimously.

City Council Agenda Date: August 12, 2024

CY33-24 Request of David Hruska for a conditional use permit to allow for a restaurant in the CBD-F, Central Business District-Fringe. The subject property is described as Lot 5, Lewis and Meaghers Subdivision (609 S. Front Street, Blue Earth County PID R010918152003).

Mr. Konz presented the staff report and reported the following recommended findings:

1. The proposed use, a restaurant, in the Central Business District-Fringe, CBD-F, zoning district is considered a Conditional Use Permit in Mankato City Code.
2. The request is in keeping with the comprehensive planning policies of the City as the underlying land use plan identifies this parcel as "Central Business District", which is in keeping with this request.
3. The proposal does not interfere with or diminish the use of property in the immediate vicinity.
4. The primary structure will continue to be served by public facilities and services, and no utility service provider changes are proposed with this proposal.

(CY33-24 continued)

5. The proposal does not cause undue traffic congestion as the proposed project. No changes are proposed to the public street system. The property was previously used as a restaurant.
6. There are no known historical or architectural resources on the site.
7. There are no known natural or environmental features 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.

Mr. Konz reported that based on the findings staff recommends approval of the conditional use permit with the following conditions:

1. Prior to the occupancy of the structure, the applicant/property owner shall provide a lease for the off-street parking stalls or have petitioned and received approval to join the Downtown Parking District.
2. The applicant shall obtain a license to encroach on all proposed private encroachments on the public right of way.
3. No outside storage of any material is allowed.
4. All refuse containers shall be fully enclosed in conformance with Mankato City Code, or stored entirely within the buildings. This includes all grease collection containers, recycling containers and other associated containers.
5. The applicant shall obtain a separate sign permit, and the proposed signage must conform to Mankato City Code.
6. If the applicant proposes to serve alcohol in the future, the applicant shall work with the Department of Safety on a liquor license agreement. The agreement will require City Council approval prior to serving alcohol.

Ms. Surdy commented that she was very excited and felt as though it was a good fit and location for the restaurant. One iconic Mankato restaurant being replaced by an iconic restaurant from Blue Earth County was a great fit.

Mr. Dieken questioned if when the property was the Wagon Wheel were they apart of the downtown parking district

(CY33-24 continued)

Mr. Konz explained they were not previously part of the parking assessment district. They had parking stalls on the rear side of the property and had agreements with the adjacent properties to use their stalls. Other adjustments such as angled parking stalls did provide additional parking.

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

Ms. Surdy made a motion for approval of the conditional use permit. It was seconded by Mr. Wilke. The motion passed unanimously.

City Council Agenda Date: August 12, 2024

MISCELLANEOUS

Mr. Konz introduced Kelly Miller as the new alternate for the Planning Commission. Mr. Iddings has moved into a permanent position.

Mr. Konz announced that Ms. Westman has been promoted to the Planning and Zoning Administrator for the City of Mankato.

There were no other miscellaneous business items.

ADJOURNMENT

There being no further business, Mr. Wilke moved to adjourn the meeting. The motion was seconded by Mr. Meister and carried unanimously.

The meeting adjourned at 7:31 pm

MINUTES APPROVED.

Chair, Mankato Planning Commission

Meeting Date: 08/28/2024

Title

CY34-24

Request of ISG with permission of the property owner(s) for an amendment to the previously approved preliminary plat of Hotel Mankato Redevelopment plat and for final plat approval for Hotel Mankato Redevelopment plat. The subject properties are described as Lot 1, Block 1, Key City Renewal Fifth Addition; and, the easterly 102.5 feet of the Northerly 23 feet of Lot 9 and the Easterly 102.5 feet of Lot 10, Block 14, City of Mankato; and All that part of the north – south running alley dedicated in Block 14, Map of Mankato, according to the recorded plat thereof, lying north of the Westerly extension of the north line of Lot 7, Block 14, Map of Mankato, according to the recorded plat thereof, City of Mankato, Blue Earth County, Minnesota, EXCEPT the west half of said alley adjacent to Lots 3 and 4, Block 14, Map of Mankato; and, The Westerly 55 feet of the Northerly 99 feet of Lots 9 and 10, Block 14, Map of Mankato; and, Commencing at the Southwest Corner of Lot 9, Block 14, Map of Mankato, on the east line of the alley running on the west side of said Lot 9, running thence in a southeasterly direction and at right angles with said alley 55 feet, thence in a northeasterly direction and at right angles with said last mentioned line 33 feet; thence in a northwesterly direction and at right angles with last described line 55 feet and thence in a southwesterly direction and at right angles with said last described line 33 feet to the place of beginning; and, Lot 8, Block 14, Map of Mankato, except the Southerly 6 feet of the Easterly 60 feet; and, The Southerly 43 feet of the Easterly 102 1/2 feet of Lot 9, Block 14, Map of Mankato; and, Beginning at the Southwesterly corner of Lot 8, Block 14, Map Of Mankato, according to the recorded plat thereof; thence easterly 66.00 feet along the southerly line of said Lot 8 to a point on the northerly extension of the westerly line of Lot 4, Spencer's Subdivision Of Lots 6 And 7 In Block 14 Mankato, according to the recorded plat thereof; thence southerly along said northerly extension 12.00 feet to the northwesterly corner of said Lot 4; thence westerly along the westerly extension of the northerly line of said Lot 4 to the westerly line of said Block 14; thence northerly along the westerly line of said Block 14 to the point of beginning; and, All that part of the 12.00 foot alley dedicated per the Spencer's Subdivision Of Lots 6 And 7 In Block 14 Mankato, according the recorded plat (alley being now vacated per recorded document 600CR931) described as follows: Being bound on the west by the northerly extension of the west line of Lot 4 of said Spencer's Subdivision; and, Being bound on the east by a line being 60.00 feet west of the northerly extension of the easterly line of said Spencer's Subdivision (101 E. Main, 121 and 123 E. Main, and 118 S. 2nd Street).

The anticipated date of City Council action is September 9, 2024.

Applicant

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

Request

The applicant is seeking review of an amendment to the preliminary plat of Hotel Mankato Redevelopment, and final plat review and approval for Hotel Mankato Redevelopment.

Location

The redevelopment project encompasses properties addressed as 101 E. Main Street, 118 S. Second Street, and 121 and 123 E. Main Street. The vacation portion of the request also includes property adjacent to 117 S. Front Street and 119 S. Front Street. The subject properties are legally described as Lot 1, Block 1, Key City Renewal Fifth Addition; and, the easterly 102.5 feet of the Northerly 23 feet of Lot 9 and the Easterly 102.5 feet of Lot 10, Block 14, City of Mankato; and All that part of the north – south running alley dedicated in Block 14, Map of Mankato, according to the recorded plat thereof, lying north of the Westerly extension of the north line of Lot 7, Block 14,

Map of Mankato, according to the recorded plat thereof, City of Mankato, Blue Earth County, Minnesota, EXCEPT the west half of said alley adjacent to Lots 3 and 4, Block 14, Map of Mankato; and, The Westerly 55 feet of the Northerly 99 feet of Lots 9 and 10, Block 14, Map of Mankato; and, Commencing at the Southwest Corner of Lot 9, Block 14, Map of Mankato, on the east line of the alley running on the west side of said Lot 9, running thence in a southeasterly direction and at right angles with said alley 55 feet, thence in a northeasterly direction and at right angles with said last mentioned line 33 feet; thence in a northwesterly direction and at right angles with last described line 55 feet and thence in a southwesterly direction and at right angles with said last described line 33 feet to the place of beginning; and, Lot 8, Block 14, Map of Mankato, except the Southerly 6 feet of the Easterly 60 feet; and, The Southerly 43 feet of the Easterly 102 1/2 feet of Lot 9, Block 14, Map of Mankato; and, Beginning at the Southwesterly corner of Lot 8, Block 14, Map Of Mankato, according to the recorded plat thereof; thence easterly 66.00 feet along the southerly line of said Lot 8 to a point on the northerly extension of the westerly line of Lot 4, Spencer's Subdivision Of Lots 6 And 7 In Block 14 Mankato, according to the recorded plat thereof; thence southerly along said northerly extension 12.00 feet to the northwesterly corner of said Lot 4; thence westerly along the westerly extension of the northerly line of said Lot 4 to the westerly line of said Block 14; thence northerly along the westerly line of said Block 14 to the point of beginning; and, All that part of the 12.00 foot alley dedicated per the Spencer's Subdivision Of Lots 6 And 7 In Block 14 Mankato, according the recorded plat (alley being now vacated per recorded document 600CR931) described as follows: Being bound on the west by the northerly extension of the west line of Lot 4 of said Spencer's Subdivision; and, Being bound on the east by a line being 60.00 feet west of the northerly extension of the easterly line of said Spencer's Subdivision.

Existing Land Use

The redevelopment site consists of the former City Center Hotel property and the Landmark building. The project also includes a portion of the to-be vacated public alley.

Zoning

The subject properties are zoned CBD-C, Central Business District Core.

Other Board or Commission

The Planning Commission reviewed the preliminary plat, the alley vacation, a conditional use permit and a certificate of design compliance at their June 26, 2024 meeting. Final action on that request occurred at the August 12, 2024 City Council meeting.

Environmentally Sensitive Areas

There are no known environmentally sensitive areas on the site.

Public Utilities

The site is currently served by public utilities and the proposed redevelopment will continue the use public infrastructure.

City Code

[Mankato City Code Chapter 11](#) provides standards for Subdivision and Development Regulations (platting).

Site Plan Review Comments

The Site Plan and Traffic Advisory Committee reviewed the item at their August 13, 2024 meeting and provided the following comment. The applicant's response is also included.

1. Applicant shall address storm sewer in vacated alley. Information on the intention with this shall be provided for review and approval of the City's Engineering Department. *Applicant's response: ISG and the City Engineering department have discussed the storm sewer within the vacated alley. A manhole will be constructed south of the vacated alley in public right-of-way. The proposed storm sewer lead going north will be private and the proposed lead going east will be on city property.*

Review

ISG, on behalf of the property owner Hotel Mankato, LLC, is requesting the review of an amended preliminary plat for Hotel Mankato Redevelopment, and review of the final plat.

The property proposed for redevelopment is bordered by S. 2nd Street, E. Main Street and South Riverfront Drive. The current addresses associated to the plat are 101 E. Main Street, 121 and 123 E Main Street, and 118 S. 2nd Street.

An amended preliminary plat and the proposed final plat of Hotel Mankato Redevelopment has been presented for consideration. The amendment to the preliminary plat and the final plat is consistent with the original in the creation of a one lot, one block subdivision. However, the amendment makes provisions for the applicant obtaining a 7.5' strip of the vacated alley from the adjacent property owner and this area is now included in the proposed plats.

The previously reviewed and approved hotel development project is consistent with the prior approvals, and the only request with this submission is for the amendment to the preliminary plat, and consideration of the final plat.

The proposed subdivision combines the underlying 9 parcels along with the vacated alley into a new one-lot, one block subdivision that encompasses 2.05 acres.

Findings

Staff submits the following findings in relation to the amended preliminary plat and the final plat:

1. General Requirements

1. The site is designed in conformance with the location and widths of streets as no changes are proposed to the streets, the general drainage situation, lot sizes and arrangement.
2. Drainage study information has been submitted to the City Engineer to verify compliance with the City drainage requirements, and recommended conditions of approval are included for the preliminary plat relative to the drainage and storm sewer system.

2. Streets

1. There are no proposed changes to the public street width or public road right of way associated with the proposed plat.
2. The applicant has received approval for the vacation of a portion of the existing public alley that traverses the proposed development property.

3. Easements

1. The preliminary plat does not dedicate new easements as the buildings and structures encompass a large portion of the lot to the property line in several locations.
2. The existing private telephone easement on the subject site will be vacated privately by the easement holder.
3. The other existing easements on the site are proposed to remain.

4. Block Standards

1. The one block, one lot subdivision within the subdivision was designed for the intended end use as an urban redevelopment that includes two hotels.

5. Lot Standards

1. The lots within the subdivision are intended for central business district core development. The lots are designed in conformance with the standards set forth in Chapter 10.
2. The concept plans submitted for the commercial development depict areas for off-street parking and conditions are included with the approvals that require participation in the Downtown Parking District. The current request reduces the parking by 100 stalls from the previous approval.
3. The concept plans submitted for the redevelopment project show off-street parking, loading and other such areas to satisfy the requirements of Chapter 10 of the Mankato City Code, which includes participation in the Downtown Parking District for the required parking not provided on the development site.

6. Public Sites and Open Spaces

1. The applicant will not be paying a parkland dedication fee because all parcels within the plat have previously been platted.

Recommendation

Staff recommends approval of the preliminary plat with the following conditions:

1. Drainage from the city-owned parking lot will need to be routed in such a way that lies within the parcel that it serves or in a public right-of-way.
2. Storm sewer facilities within the area of vacation become property of the petitioner.

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

Attachments

General Location Map

Aerial Plan

Preliminary Plat

Final Plat

General Location Map



Date: July 2024

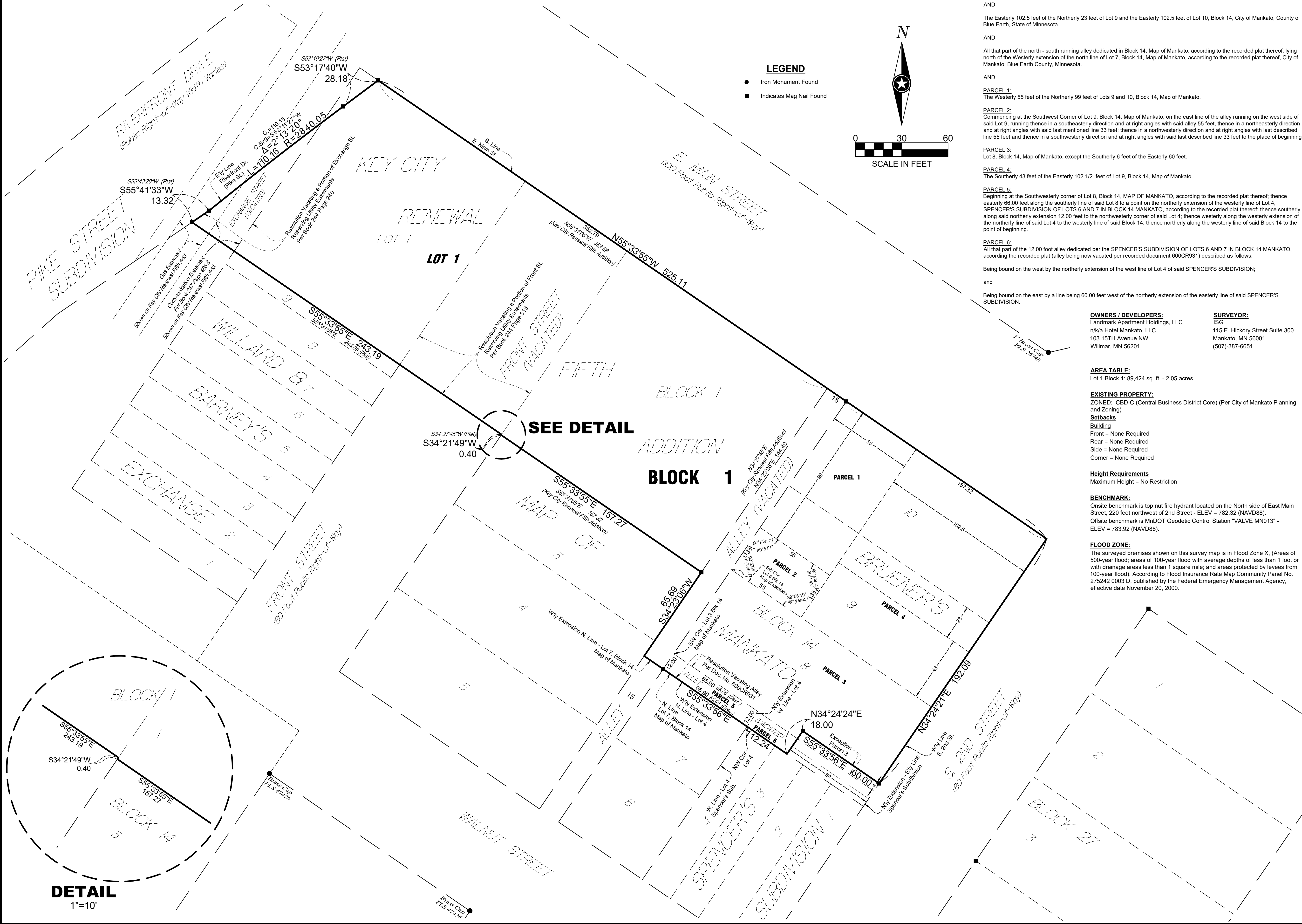
Author:

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.

This aerial map of downtown St. Paul, Minnesota, displays property parcels outlined in purple. A large orange polygon highlights a specific area bounded by N Riverfront Dr, S Riverfront Dr, E Main St, and S 2nd St. The map includes labels for the Minnesota River, Blue Earth County Library, Mayo Clinic Health System Event Center, and various street names like N 2nd St, E Mulberry St, S Broad St, E Walnut St, and S Front St. Numerous parcel numbers are visible throughout the map.

Author:

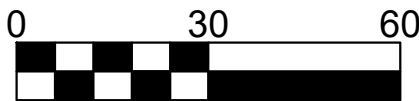
HOTEL MANKATO REDEVELOPMENT



LEGEND

- Iron Monument Found
- Indicates Mag Nail Found

N



SCALE IN FEET

EXISTING LEGAL DESCRIPTION:

(per client)

Lot 1, Block 1, Key City Renewal Fifth Addition, Blue Earth County, State of Minnesota.

AND

The Easterly 102.5 feet of the Northerly 23 feet of Lot 9 and the Easterly 102.5 feet of Lot 10, Block 14, City of Mankato, County of Blue Earth, State of Minnesota.

AND

All that part of the north - south running alley dedicated in Block 14, Map of Mankato, according to the recorded plat thereof, lying north of the Westerly extension of the north line of Lot 7, Block 14, Map of Mankato, according to the recorded plat thereof, City of Mankato, Blue Earth County, Minnesota.

AND

PARCEL 1:

The Westerly 55 feet of the Northerly 99 feet of Lots 9 and 10, Block 14, Map of Mankato.

PARCEL 2:

Commencing at the Southwest Corner of Lot 9, Block 14, Map of Mankato, on the east line of the alley running on the west side of said Lot 9, running thence in a southeasterly direction and at right angles with said alley 55 feet, thence in a northeasterly direction and at right angles with said last mentioned line 33 feet; thence in a northwesterly direction and at right angles with last described line 55 feet and thence in a southwesterly direction and at right angles with said last described line 33 feet to the place of beginning.

PARCEL 3:

Lot 8, Block 14, Map of Mankato, except the Southerly 6 feet of the Easterly 60 feet.

PARCEL 4:

The Southerly 43 feet of the Easterly 102 1/2 feet of Lot 9, Block 14, Map of Mankato.

PARCEL 5:

Beginning at the Southwesterly corner of Lot 8, Block 14, MAP OF MANKATO, according to the recorded plat thereof; thence easterly 66.00 feet along the southerly line of said Lot 8 to a point on the northerly extension of the westerly line of Lot 4, SPENCER'S SUBDIVISION OF LOTS 6 AND 7 IN BLOCK 14 MANKATO, according to the recorded plat thereof; thence southerly along said northerly extension 12.00 feet to the northwesterly corner of said Lot 4; thence westerly along the westerly extension of the northerly line of said Lot 4 to the westerly line of said Block 14; thence northerly along the westerly line of said Block 14 to the point of beginning.

PARCEL 6:

All that part of the 12.00 foot alley dedicated per the SPENCER'S SUBDIVISION OF LOTS 6 AND 7 IN BLOCK 14 MANKATO, according the recorded plat (alley being now vacated per recorded document 600CR931) described as follows:

Being bound on the west by the northerly extension of the west line of Lot 4 of said SPENCER'S SUBDIVISION;

and

Being bound on the east by a line being 60.00 feet west of the northerly extension of the easterly line of said SPENCER'S SUBDIVISION.

OWNERS / DEVELOPERS:

Landmark Apartment Holdings, LLC
n/k/a Hotel Mankato, LLC
103 15TH Avenue NW
Willmar, MN 56201

SURVEYOR:

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

AREA TABLE:

Lot 1 Block 1: 89,424 sq. ft. - 2.05 acres

EXISTING PROPERTY:

ZONED: CBD-C (Central Business District Core) (Per City of Mankato Planning and Zoning)

Setbacks:

Building
Front = None Required
Rear = None Required
Side = None Required
Corner = None Required

Height Requirements:

Maximum Height = No Restriction

BENCHMARK:

Onsite benchmark is top nut fire hydrant located on the North side of East Main Street, 220 feet northwest of 2nd Street - ELEV = 782.32 (NAVD88).
Offsite benchmark is MnDOT Geodetic Control Station "VALVE MN013" - ELEV = 783.92 (NAVD88).

FLOOD ZONE:

The surveyed premises shown on this survey map is in Flood Zone X, (Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood). According to Flood Insurance Rate Map Community Panel No. 275242 0003 D, published by the Federal Emergency Management Agency, effective date November 20, 2000.



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.

DANIEL L. STUEBER

DATE: 6/25/24 LIC. NO. 43110

THIS DOCUMENT IS THE PROPERTY OF I & S GROUP, INC. AND MAY NOT BE USED, COPIED OR DUPLICATED WITHOUT PRIOR WRITTEN CONSENT.

PROJECT

HOTEL MANKATO

Lot 1, Block 1, Key City Renewal Fifth Addition and part of Block 14, Map of Mankato, City of Mankato, Blue Earth County, Minnesota.

REVISION SCHEDULE

DATE	DESCRIPTION	BY
6/25/24	Included full width of entire alley vacation	KH
	Removed easement in vacated Front Street	

PROJECT NO. 23-30180

FILE NAME 30180 PPLAT

DRAWN BY KH

DESIGNED BY ---

REVIEWED BY ---

ORIGINAL ISSUE DATE 6/17/24

CLIENT PROJECT NO. -

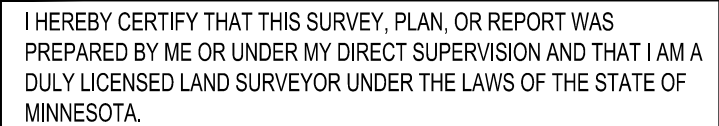
TITLE

PRELIMINARY PLAT

SHEET

1

OF 2



DATE 6/25/24 LIC. NO. 43110

SHEET NOT VALID UNLESS THIS TEXT IS COLOR.

THIS DOCUMENT IS THE PROPERTY OF I & S GROUP, INC. AND MAY NOT BE USED, COPIED OR DUPLICATED WITHOUT PRIOR WRITTEN CONSENT.

PROJECT

Lot 1, Block 1, Key City Renewal Fifth Addition and part of Block 14,
Map of Mankato, City of Mankato, Blue Earth County, Minnesota.

REVISION SCHEDULE		
DATE	DESCRIPTION	BY
6/25/24	Included full width of entire alley vacation	KH
	Removed easement in vacated Front Street	

PROJECT NO.	23-30180
-------------	----------

FILE NAME	30180 PPLAT
-----------	-------------

DRAWN BY KH

DESIGNED BY	
-------------	--

REVIEWED BY _____

ORIGINAL ISSUE DATE 6/17/24

TITLE

SHEET

HOTEL MANKATO REDEVELOPMENT

INSTRUMENT OF DEDICATION

KNOW ALL PERSONS BY THESE PRESENTS: That Landmark Apartment Holdings, LLC n/k/a Hotel Mankato, LLC, a Minnesota limited liability company, owner of the following described property:

Lot 1, Block 1, Key City Renewal Fifth Addition, Blue Earth County, State of Minnesota.

AND

All that part of the north - south running alley dedicated in Block 14, Map of Mankato, according to the recorded plat thereof, lying north of the Westerly extension of the north line of Lot 7, Block 14, Map of Mankato, according to the recorded plat thereof, City of Mankato, Blue Earth County, Minnesota.

AND

The Easterly 102.5 feet of the Northerly 23 feet of Lot 9 and the Easterly 102.5 feet of Lot 10, Block 14, City of Mankato, County of Blue Earth, State of Minnesota.

AND

The Westerly 55 feet of the Northerly 99 feet of Lots 9 and 10, Block 14, Map of Mankato.

AND

Commencing at the Southwest Corner of Lot 9, Block 14, Map of Mankato, on the east line of the alley running on the west side of said Lot 9, running thence in a southeasterly direction and at right angles with said alley 55 feet, thence in a northeasterly direction and at right angles with said last mentioned line 33 feet; thence in a northwesterly direction and at right angles with last described line 55 feet and thence in a southwesterly direction and at right angles with said last described line 33 feet to the place of beginning.

AND

Lot 8, Block 14, Map of Mankato, except the Southerly 6 feet of the Easterly 60 feet.

AND

The Southerly 43 feet of the Easterly 102 1/2 feet of Lot 9, Block 14, Map of Mankato.

AND

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AND

All that part of the 12.00 foot alley dedicated per the SPENCER'S SUBDIVISION OF LOTS 6 AND 7 IN BLOCK 14 MANKATO, according to the recorded plat (alley being now vacated per recorded document 600CR931) described as follows:

Being bound on the west by the northerly extension of the west line of Lot 4 of said SPENCER'S SUBDIVISION;

and

Being bound on the east by a line being 60.00 feet west of the northerly extension of the easterly line of said SPENCER'S SUBDIVISION.

Has caused the same to be surveyed and platted as **HOTEL MANKATO REDEVELOPMENT**.

In witness whereof said Landmark Apartment Holdings, LLC n/k/a Hotel Mankato, LLC, a Minnesota limited liability company, has caused these presents to be signed by its proper officer this _____ day of _____, 20____.

Signed: Landmark Apartment Holdings, LLC n/k/a Hotel Mankato, LLC

Bryan Sowers, Vice President

State of _____

County of _____

This instrument was acknowledged before me on _____, 20____ by Bryan Sowers, Vice President, of Landmark Apartment Holdings, LLC n/k/a Hotel Mankato, LLC, a Minnesota limited liability company.

(sign)

(print)

Notary Public _____

My Commission Expires _____

SURVEYOR'S CERTIFICATE

I, Daniel L. Stueber, 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____.

Daniel L. Stueber, Licensed Land Surveyor
Minnesota License No. 43110

State of Minnesota
County of Blue Earth

This instrument was acknowledged before me on _____, 20____ by Daniel L. Stueber, Licensed Land Surveyor.

Kent A. Hays
Notary Public, Minnesota
My Commission Expires Jan. 31, 2025

MANKATO PLANNING COMMISSION

Be it known that on this _____ day of _____, 20____, the Planning Commission of the City of Mankato did duly review this plat of **HOTEL MANKATO REDEVELOPMENT**.

Chair Person Secretary

CITY COUNCIL, CITY OF MANKATO, MINNESOTA

This plat of **HOTEL MANKATO REDEVELOPMENT**, was approved and accepted by the City Council of the City of Mankato, Minnesota at a regular meeting thereof held this _____ day of _____, 20____, and said plat is in compliance with the provisions of Minnesota Statutes, Section 505.03, Subd. 2.

Mayor Clerk

TITLE OPINION

I, Abbie S. Olson, Licensed Attorney, State of Minnesota, do hereby certify that the owners as indicated hereon represent all ownership interest in the land encompassed by this plat.

Abbie S. Olson, 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 ben paid and that the transfer has been entered on the land described herein on the _____ day of _____, 20____.

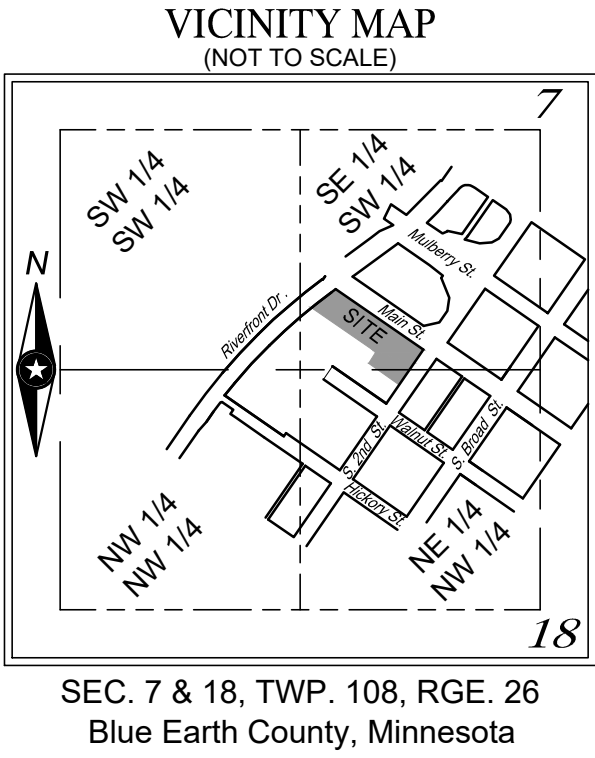
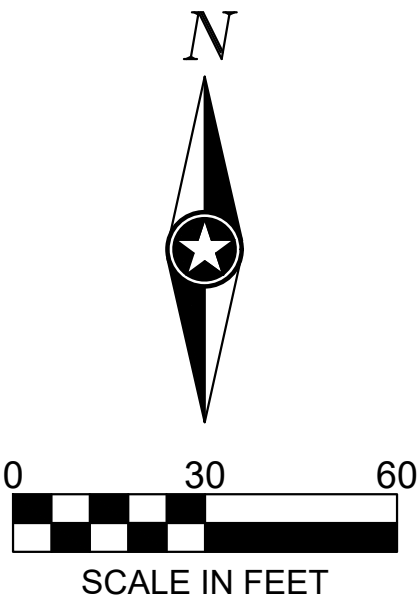
Blue Earth County Property and Environmental Resources

COUNTY RECORDER, BLUE EARTH COUNTY, MINNESOTA

I hereby certify that this plat of **HOTEL MANKATO REDEVELOPMENT** was filed in the office of the County Recorder for public record on this _____ day of _____, 20____, at _____ o'clock _____.M. and was duly filed in Book _____ of Plats, page _____, as Document No. _____.

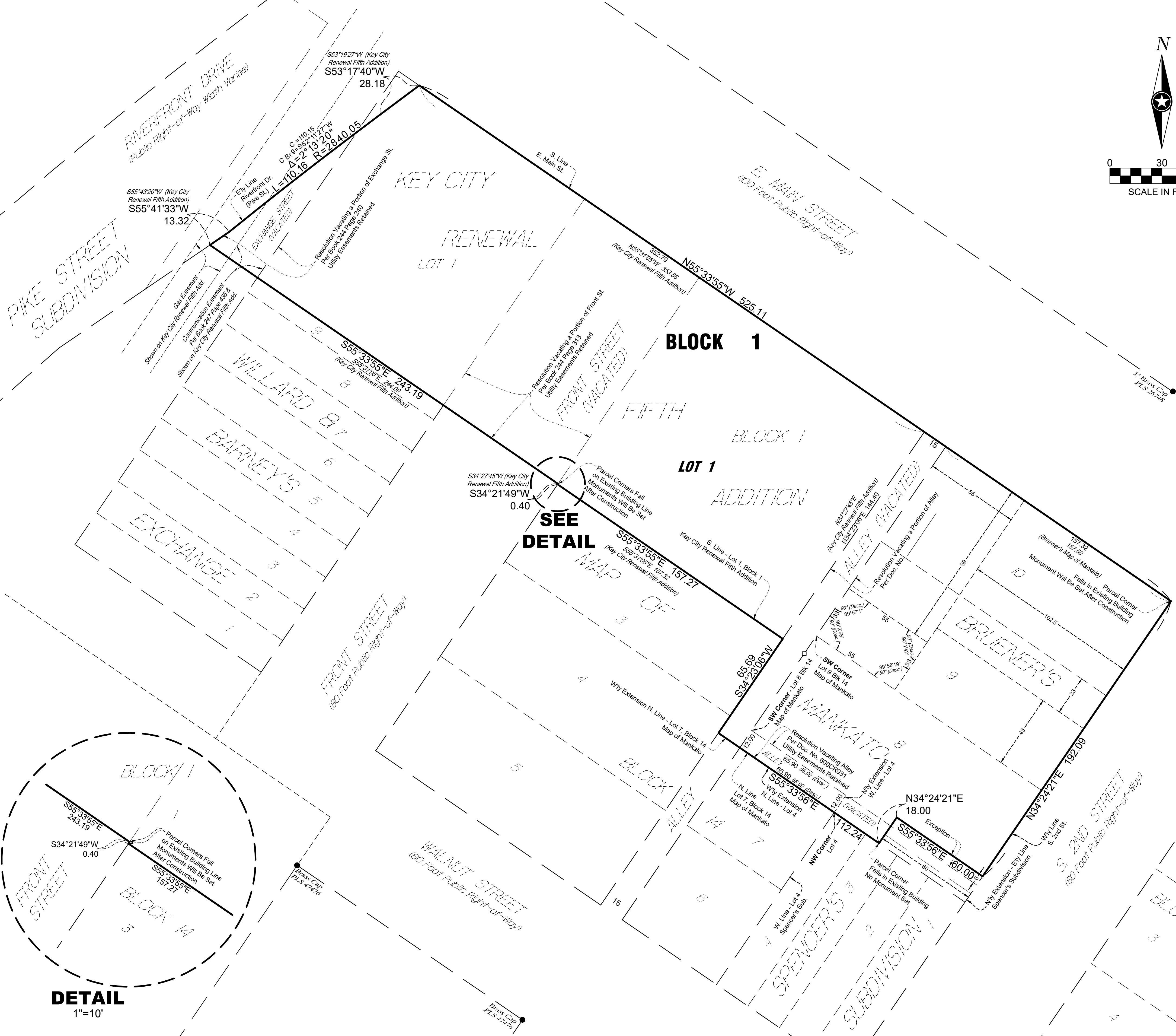
Blue Earth County, County Recorder

HOTEL MANKATO REDEVELOPMENT



- LEGEND**
- Iron Monument Found
 - Mag Nail Found
 - Indicates Mag Nail Set

BEARING NOTE:
The orientation of this bearing system is based on the south line of East Main Street. Said line bears North 55 degrees 33 minutes 55 seconds West.



Meeting Date: 08/28/2024

Title

CY35-24

Request by Jacob Hummer to rezone a property to R-T, Residential Transition, from B-1, Community Business District. The subject property is described as the south 80 feet of lot 13 and the east 10 feet of the south 68 feet of lot 14, Block 175, Plan of West Mankato subdivision).

The anticipated date of City Council action is October 15, 2024.

Applicant

The applicant is Jacob Hummer.

Request

The applicant is proposing to rezone the property from B-1, Community Business District, to R-T, Residential Transition District.

Location

The property is described as the south 80 feet of lot 13 and the east 10 feet of the south 68 feet of lot 14, Block 175, Plan of West Mankato Subdivision (1918 S. Riverfront Drive).

Existing Land Use

There is currently a single-family dwelling on the property.

Zoning

The property is zoned B-1, Community Business District. The Land Use Plan designates the property as Commercial.

Environmentally Sensitive Areas

There are no known environmentally sensitive areas on the site.

Public Utilities

Public Utilities currently serve the primary dwelling unit on site.

City Code

The RT, Residential Transition District standards can be found at the link below:

https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=CH10LAUSZO_PTIREDI_S10.17RETRDI

The Mankato City Code for Amendment to the Zoning Map can be found at the link below:

https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=CH10LAUSZO_PTXADEN_S10.98AM

Site Plan Review Comments

The Site Plan and Traffic Advisory Committee reviewed the item on August 13th, 2024 and submitted no comments regarding the request.

Review

The property located at 1918 S. Riverfront Drive has a zoning designation of B-1, Community Business District. However, the current use of the property is a single-family residence. The property owner is seeking a rezoning of the property from the current B-1, Community Business District, to R-T, Residential Transition, to be more in line with the current use. The rezoning to R-T is intended to serve as an area of transition between residential development and commercial and industrial development and the uses that are allowed in the district are limited to existing one- and two-family dwellings. The change in zoning will allow limited future residential improvement on the property.

The rezoning of the subject parcel from B-1 to R-T has occurred in this neighborhood before. Just to the Northeast of the subject property, nearby properties, located at 521 and 523 Park Lane have also been rezoned from B-1 to R-T. This occurred in 2002 and also served as the catalyst for the rezoning of six other adjacent lots on Block 183 of the Plat of West Mankato from Commercial to Residential zones. Despite all this rezoning in the neighborhood, none of the real land uses changed. The subject parcel, aforementioned lots, and adjacent lots have continued to operate as single-family homes since at least the 1890s - early 1900s. Therefore, the rezoning of the subject parcel would not impact the overall character of existing developments in the immediate vicinity. This also demonstrates that the proposed rezoning is consistent with the goals, objectives, and policies of the Comprehensive Land Use Plan, as it has been judged so in the past.

As previously stated, the change in zoning from commercial to residential would allow for limited future residential improvement on the property, particularly a garage.

Findings

Staff respectfully submits the following findings of fact:

1. The proposed zoning classification change conforms to the land use plan for the City of Mankato.
2. The continued use of the property as a single-family dwelling conforms to the standards set forth in the Residential Transition Zoning District.
3. The proposed RT, Residential Transition zoning classification is consistent with adjacent properties and promotes areas of transition between adjacent land uses.

Recommendation

Staff recommends approval of the rezoning of the subject property from B-1, Community Business District, to R-T, Residential Transition District.

Attachments

General Location Map
Aerial Map
Existing Land Use Map
Existing Zoning Map

General Location Map

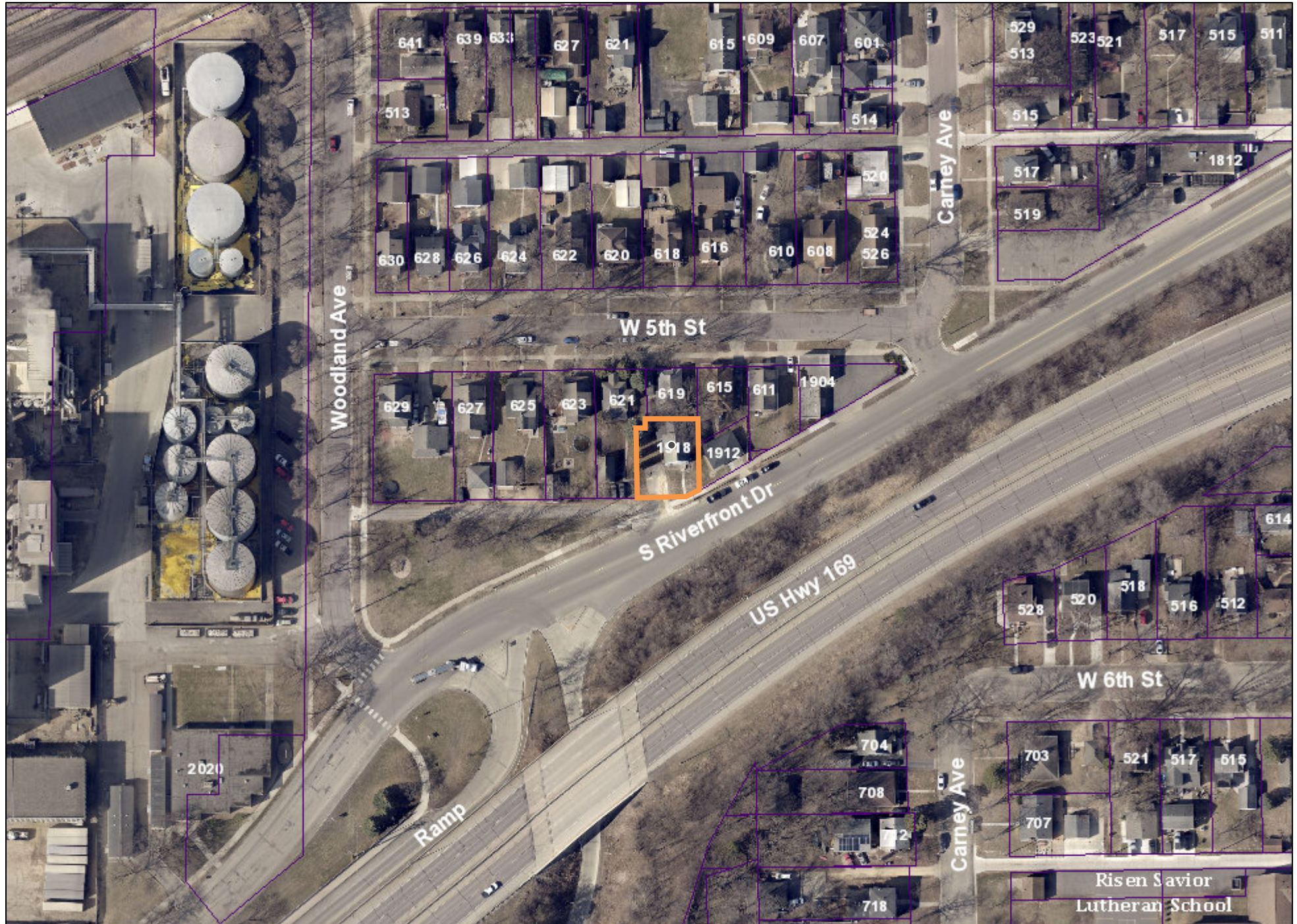


Date: July 2024

Author:

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Aerial Map



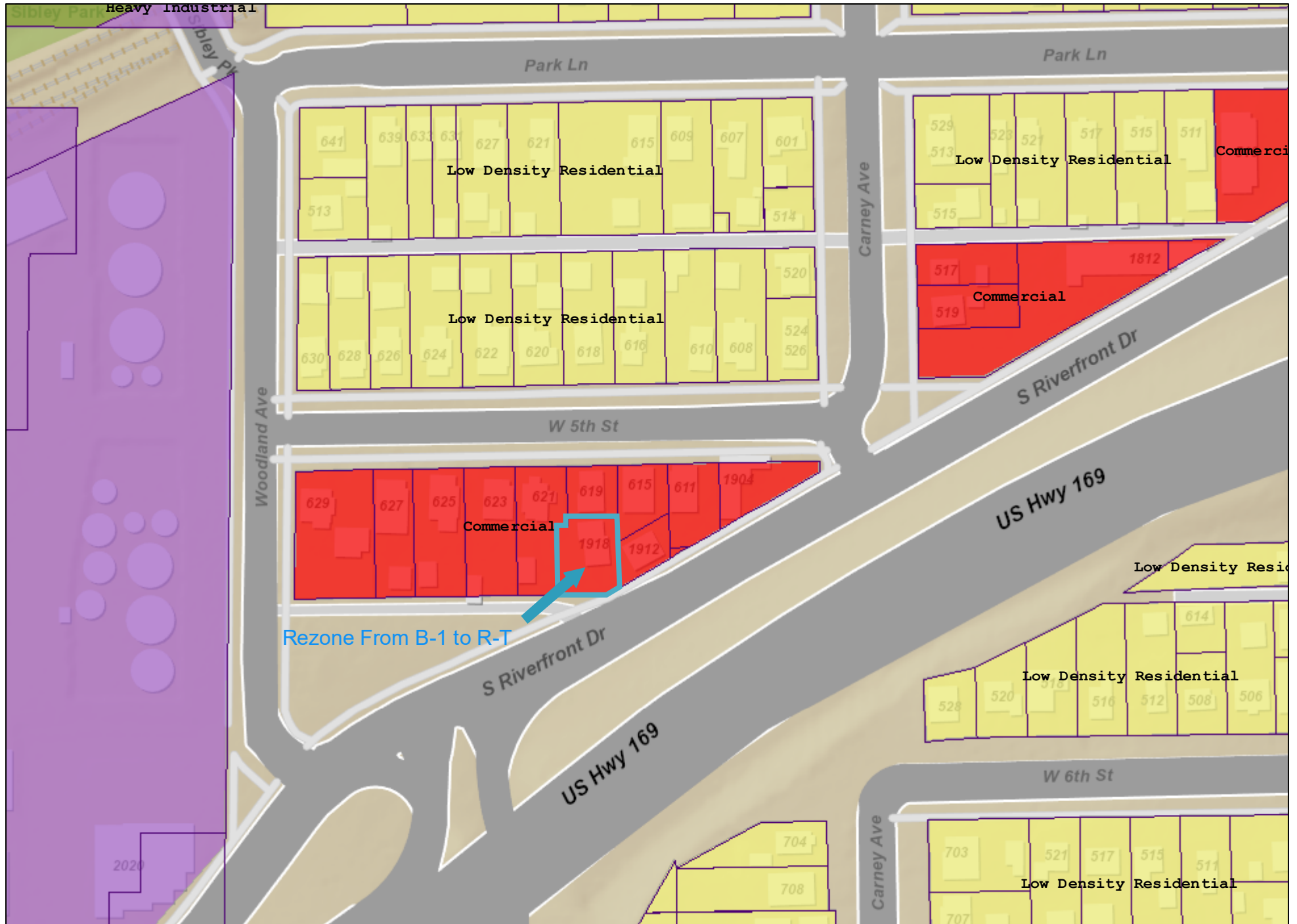
Date: July 2024

Author:

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Rezone - Existing Land Use Map

Proposed Rezoning Request



Date: August 2024

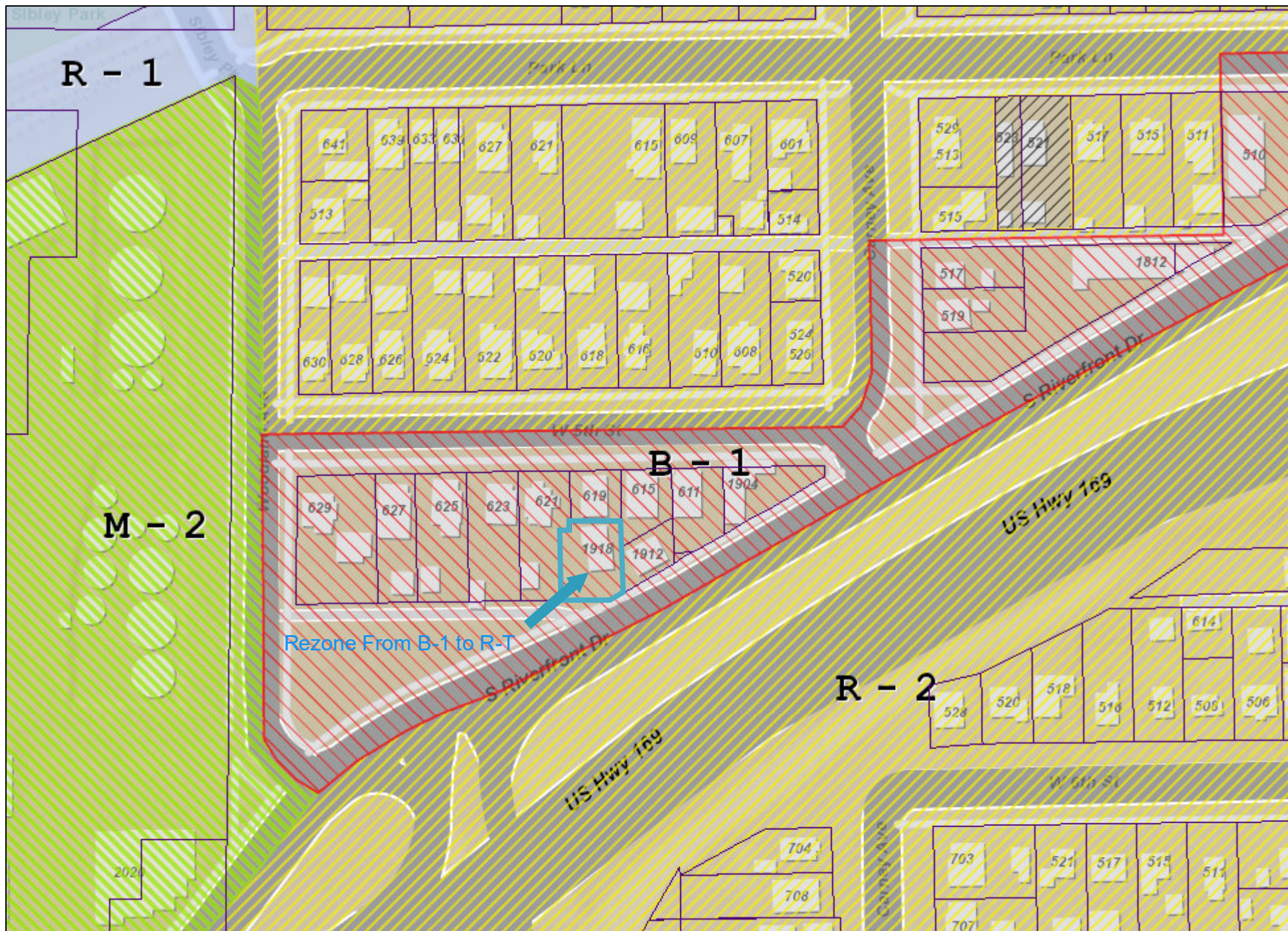
Author:

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Rezone - Existing Zoning Map

Proposed Rezoning Request



Date: August 2024

Author:

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Meeting Date: 08/28/2024

Title

CY36-24

Request of Orthopaedic and Fracture Clinic for an amendment to the Planned Unit Development to allow for a use to operate outside the completely enclosed structure for an outdoor physical therapy area at the existing building within the medical campus. The subject property is described as Lot 1, Block 1, Mankato Clinic First Addition, etal (1431 Premier Drive).

The anticipated date of City Council action is September 9, 2024.

Applicant

The applicant is the Orthopaedic and Fracture Clinic.

Request

The applicant is requesting an amendment to the Planned Unit Development to allow for a use to operate outside the completely enclosed structure for an outdoor physical therapy area at the existing building within the medical campus.

Location

The subject property is described as Lot 1, Block 1, Mankato Clinic First Addition, etal (1431 Premier Drive).

Existing Land Use

The property is currently used for The Orthopaedic & Fracture Clinic.

Zoning

The property is zoned OR, Office Residential District.

Other Board or Commission

The following items directly pertain to previous actions taken on the subject site:

Mankato Clinic, LTD, requested annexation, a planned unit development, rezoning, and a final plat on November 6, 2000. These requests were presented to and approved by the City Council on this date. The final plat was CY 41-00.

CY 48-02: A Preliminary and Final Plat Review for Amended Planned Unit Development of the Wickersham Addition was presented to and approved by the City Council on October 9th, 2002.

CY 11-13: A resolution amending Planned Unit Development and approved Certificate of Design compliance and Vacating Utility easements for the expansion of Wickersham Health Campus was presented to the planning commission and approved on April 8th, 2013. A final plat review of Mankato Clinic Second Addition was also approved on this date.

*CY 25-24: A resolution amending the Planned Unit Development to allow for an approximately 5,000 square foot addition to an existing building within the medical campus and for a certificate of design compliance for the proposed modifications to the property located within the Highway Gateway Overlay District was approved by the Planning Commission on 06/26/2024 and was later approved by City Council on 07/08/2024.
- The amendment being proposed was originally part of this item but was removed shortly before the PC meeting.*

Environmentally Sensitive Areas

There are no known environmentally sensitive areas on the site. There are two delineated wetlands to the south of the project site on the parcel owned by Mankato Clinic.

Public Utilities

The site is currently served by Public Utilities.

City Code

Mankato City Code section 10.42 related to O - Office District can be found here:

https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=CH10LAUSZO_PTVCODI_S10.42FIDI

Mankato City Code section 10.93 related to Planned Unit Developments can be found

here: https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=CH10LAUSZO_PTXADEN_S10.93PLUNDE

Site Plan Review Comments

The Site Plan and Traffic Advisory Committee reviewed the item on August 13th, 2024 and submitted no comments regarding the request.

Review

The applicant is requesting an amendment to the previously issued Planned Unit Development. The amendment would allow for a use to operate outside of a completely enclosed structure for an outdoor physical therapy area at the existing Orthopaedic and Fracture Clinic building within the Wickersham medical campus in the OR Zoning District.

The planned unit development provisions in City Code allow the City Council the authority in approving any planned unit development to change, alter, modify, or waive any portion of the applicable standards as they apply to the proposed planned unit development. In allowing flexibility, the City Council shall find that the proposed planned unit development will achieve the purpose of a planned unit development and will not violate the general purpose, goals, and objectives of this chapter and of any plans adopted by the Planning Agency or the City Council.

The applicant is requesting that the Planned Unit Development be amended to allow for flexibility to Mankato City Code Sec. 10.42. Subd. 2. Permitted Uses, which states: "*Except as specifically limited herein, the following uses are permitted in the O-Office District. Every use shall be operated in its entirety, within a completely enclosed structure, including the storage of all materials, products, and equipment*". The use of the property as a medical clinic is considered a Permitted Use in the OR Zoning District, although this only applies to those uses that operate entirely within a completely enclosed structure. The aforementioned code flexibility, despite its relation to a permitted use in a Planned Unit Development, could be viewed as conforming on the basis that 'Sec 10.93. Subd. 4. B. Uses Allowed,' of the Mankato City Code be considered applicable in this context. The language of this ordinance, as it pertains to use, reads: "... Uses not listed as permitted or conditional in a specific district shall not be allowed in a Planned Unit Development unless it is found that the use is complementary to the functionality of the development and the other uses found therein -". The applicant's narrative states that the operation of physical therapy on a dedicated exterior turf area would be complementary to the functionality of the development as a medical clinic and physical therapy operations. This is not dissimilar to outdoor operations for child-care facilities or restaurants.

The applicant makes a case for its complimentary use in their narrative, stating that: "*The amendment is to accommodate a new synthetic turf area for the benefit of OFC patients. The added exterior turf area allows for enhanced on-campus rehabilitation opportunities by mimicking an actual outdoor experience. A combined indoor/outdoor therapy setting enhances rehabilitation efforts and results for patients. The goal of this request is to provide a more comprehensive rehabilitation experience with a connection to the outdoors, allowing patients to learn to adapt to the external conditions they will face when they have completed their physical therapy. Different surfaces allow patients to simulate navigation of the many terrains they will encounter, such as sidewalks, curbs, pavement, natural grass, and synthetic turf. Due to the unique medical use of this property, special considerations for spaces and materials must be made to accommodate the therapy setting for recovering patients. The outdoor synthetic turf area is meant to simulate outdoor environmental conditions as a rehabilitative therapy tool. This indoor/outdoor therapy experience better prepares rehabilitation patients for life after recovery.*"

As previously stated, the applicant's submission states that the code allows for unlisted uses that are complimentary to the functionality of the planned unit development. The applicant states that the outdoor turf area to be used for enhanced physical therapy should be considered as complimentary to the development's function as an Orthopaedic and Fracture Clinic. This modification would be allowed as an amendment to the Planned Unit Development on the basis that the modification of the regulation will achieve the purpose for which a planned unit development may be approved pursuant to this section, and that it will not violate the general purpose, goals, and objectives of this chapter and of any plans adopted by the Planning Agency or the City Council. The Code also offers the limitation that no change can be made unless the regulation expressly authorizes such a change, alteration, modification or waiver. The aforementioned excerpt from the section regarding 'uses allowed', which permits unlisted uses to be approved if they are found to be complimentary to the functionality of the development.

The applicant's narrative states that the outdoor turf will be for patient use and that it will provide a more comprehensive rehabilitation experience with a connection to the outdoors, allowing patients to learn to adapt to the external conditions they will face when they have completed their physical therapy. They explain that different surfaces allow patients to simulate navigation of the many terrains they will encounter, such as sidewalks, curbs, pavement, natural grass, and synthetic turf. They stated that the added exterior turf area allows for enhanced on-campus rehabilitation opportunities by mimicking an actual outdoor experience. A combined indoor/outdoor therapy experience enhances rehabilitation efforts and results for patients. This enhanced physical therapy experience is something they believe is not currently available in the Mankato area. They also believe that synthetic turf, in lieu of sod, would provide better performance under expected use by patients during their rehabilitation activities. The proposed hours of operation for the outdoor area are from 8:00am to 8:00pm and would be based on pre-scheduled appointments. It is expected there will be no increased noise levels or impacts to surrounding properties. During intensely cold temperatures and inclement weather, the outdoor turf space will not be utilized on a frequent basis. However, the clinic advocates for allowing patients the opportunity to train for maneuvering in adverse weather, with the intention that this will also provide benefits to their rehabilitation and recovery efforts.

Lighting of the area will be indirect and minimal, as the only exterior lighting of the area will come from the previously approved lighting, located above the entrance door to the south of the turf area. No additional lighting of any kind is proposed in or for the outdoor turf area.

A condition will be included that prohibits the storage of all materials, products, and equipment used in the operation of physical therapy in the outdoor synthetic turf area. The applicant confirmed that there will be "no storage of materials, products, or equipment on the exterior turf area" in the originally provided narrative.

Regarding physical changes proposed in the amendment, the creation of an outdoor area of synthetic turf is shown on the site plan and other associated documents. The synthetic turf area is shown to be 60-feet long by 14' wide, or 840 square feet. The area projects out of the Northeastern corner of the recently approved addition to the physical therapy area of the Orthopaedic and Fracture Clinic toward the new parking area. All this is shown in the rendering provided.

The applicant is proposing to screen the outdoor turf area from the parking area using landscaping and a 4' ornamental fence. The fence will fully enclose the outdoor turf area and limit access to the area. Access to the turf area will only be available from the garage-type door of the physical therapy. Therefore, access to the external use (physical therapy) will only be provided in conjunction with the internal, complementary use (physical therapy).

Findings

Staff respectfully submits the following findings of fact:

1. The operation of the outdoor physical therapy space, as proposed, is complementary to the operation of the site as a medical clinic that provides physical therapy services.
2. The proposal does not interfere with or diminish the use of the property in the immediate vicinity.
3. To the extent known, the property conforms with all other applicable regulations of the district, and other applicable ordinances.
4. The proposal will not jeopardize the public's health, safety, or general welfare.
5. It is in keeping with the comprehensive planning policies of the City as amended from time to time.
6. The development of the planned unit development will conform to the approved development plan; including all proposed covenants, easements, conditions of approval, and other provisions relating onto the bulk, location, and density of permitted structures, accessory structures, parking, and other public facilities.

Recommendation

Staff recommends approval of the amended Planned Unit Development with the following conditions:

1. Storage of all materials, products, and equipment used in the operation of physical therapy within the outdoor synthetic turf area shall be prohibited. They must be returned to and stored entirely within an enclosed structure when not actively in use, during stated operating hours.
2. The applicant shall provide a snow removal plan for the outdoor turf area, in conjunction with the building permit.
3. If additional lighting is proposed for the outdoor turf area in the future, it shall conform to Mankato City Code, including full-cut, fully shielded light fixtures and a lighting level of no more than 1/2-foot candle at the property line.
4. The landscaping and screening, as per the landscaping plan, shall be installed prior to operation of the outdoor turf area.
5. Conditions and recommendations from the previously approved amendment to the Planned Unit Development that was approved on 07/08/2024 will continue to apply.

Attachments

General Location Map

Aerial Map

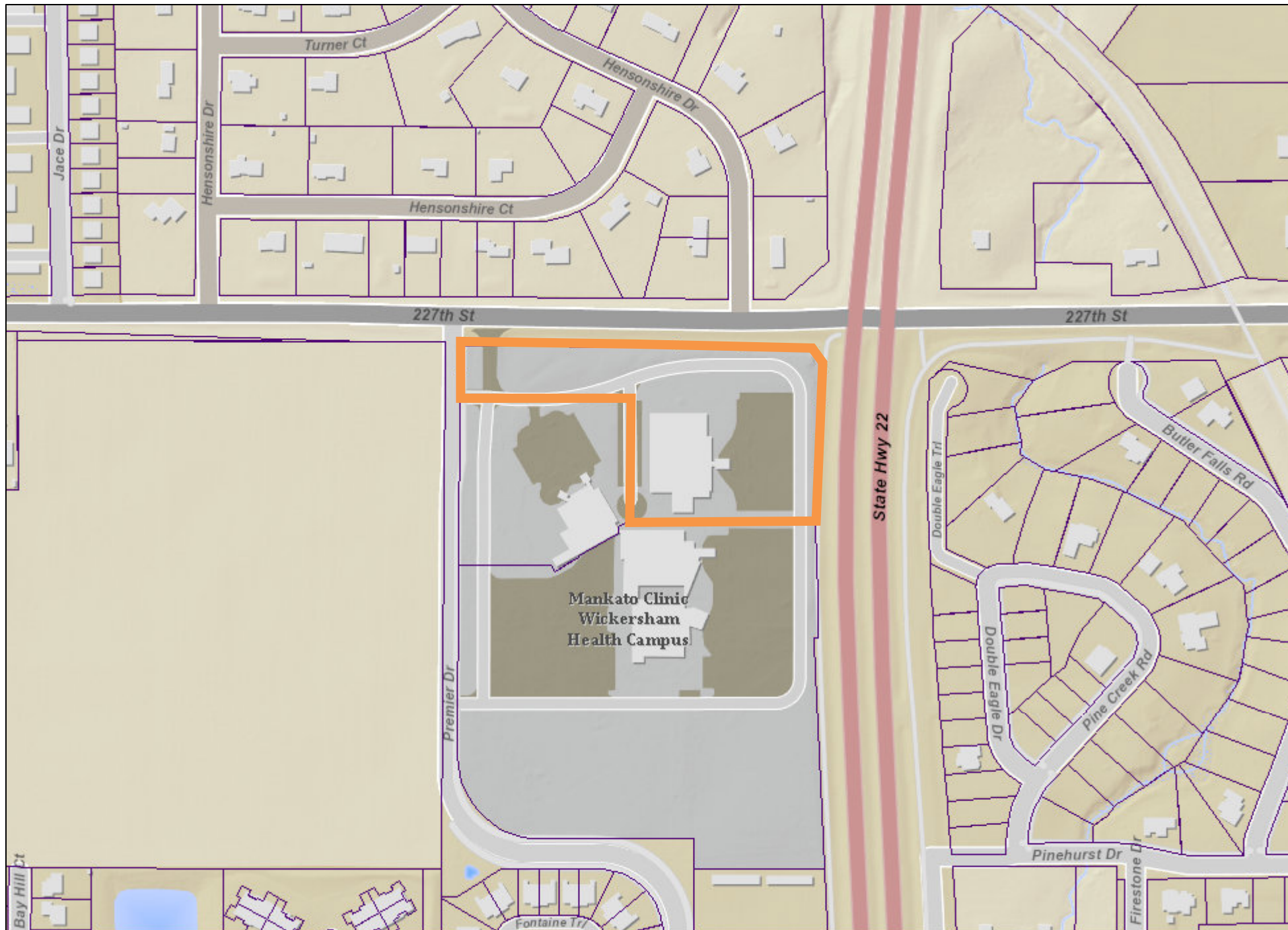
Site Plan

Rendering

Landscaping Plan

Narrative

General Location Map



Date: July 2024

Author:

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Aerial Map



Date: July 2024

Author:

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BRYAN M. PETZEL

DATE: _____ LIC. NO. 53191

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PROJECT

**WICKERSHAM
HEALTH CAMPUS**

**OFC RENOVATION
AND ADDITION**

MANKATO MINNESOTA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO. 24-30313
FILE NAME 30313-C3-SITE
DRAWN BY LHH
DESIGNED BY LHH
REVIEWED BY BMP
ORIGINAL ISSUE DATE -/-/-/-
CLIENT PROJECT NO. -

TITLE

**SITE AND UTILITY
PLAN**

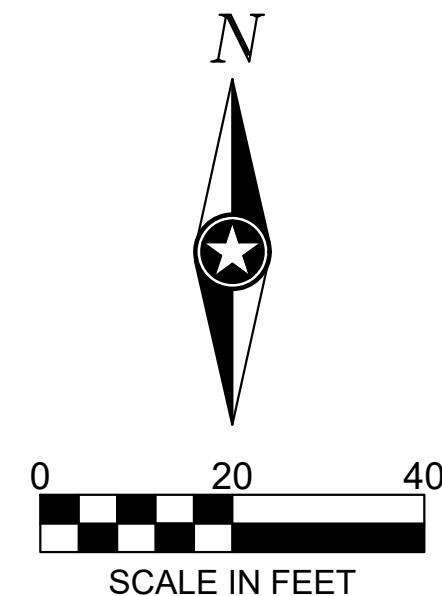
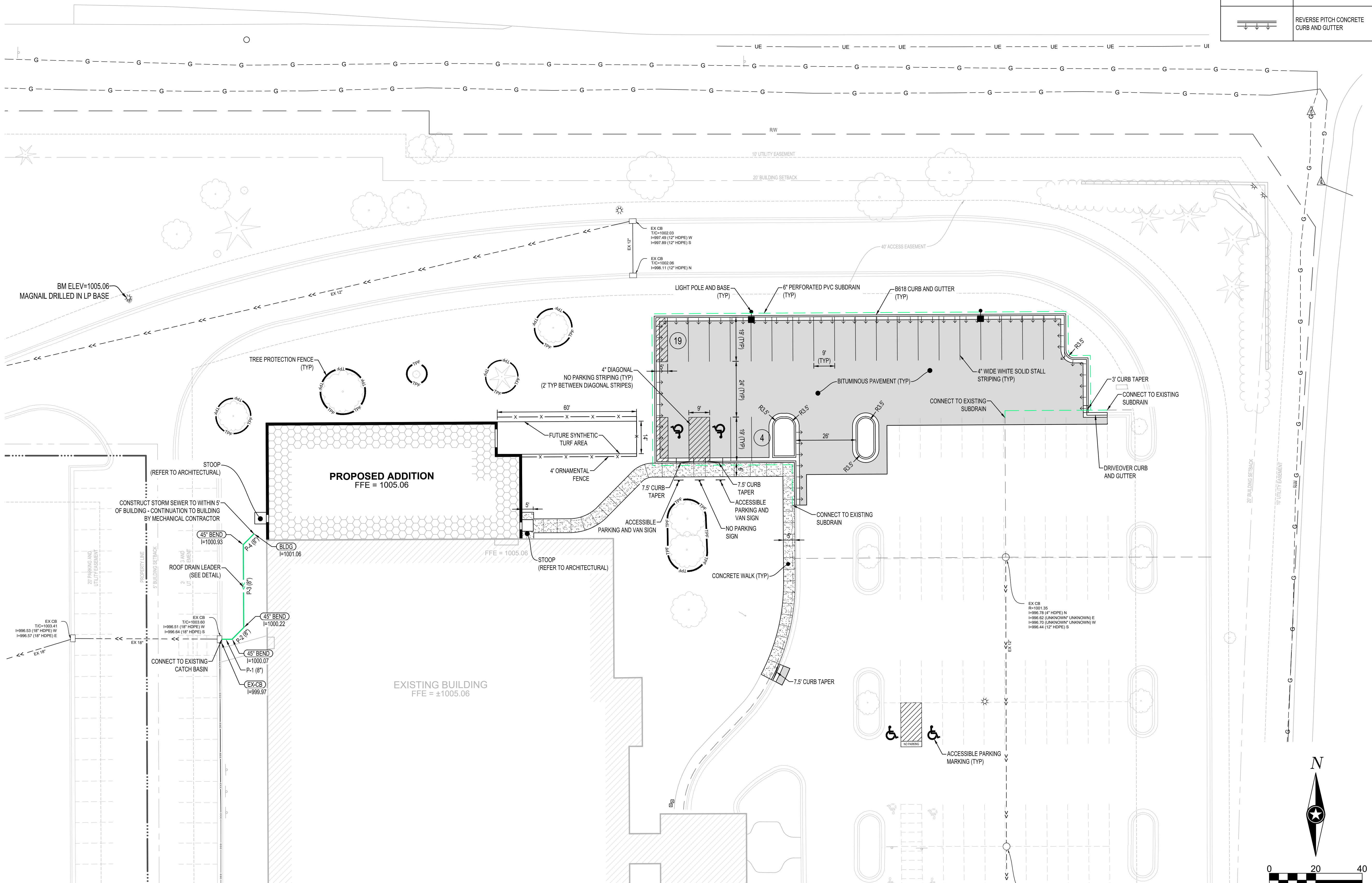
SHEET

C3-10

STORM DRAIN PIPE SCHEDULE									
PIPE NO.	DRAIN FROM	INLET ELEVATION	DRAIN TO	OUTLET ELEVATION	PIPE SIZE (IN)	MATERIAL	PIPE CLASS	PIPE GRADE	PIPE LENGTH (FT)
P-1	45° BEND	1000.07	EX-CB	999.97	8	PVC	SCH 40	2.00%	5
P-2	45° BEND	1000.22	45° BEND	1000.07	8	PVC	SCH 40	2.00%	7
P-3	45° BEND	1000.93	45° BEND	1000.22	8	PVC	SCH 40	2.00%	36
P-4	BLDG	1001.06	45° BEND	1000.93	8	PVC	SCH 40	2.00%	7

SYMBOL	DESCRIPTION
	BITUMINOUS PAVEMENT
	HEAVY DUTY CONCRETE PAVEMENT
	CONCRETE WALK
	REVERSE PITCH CONCRETE CURB AND GUTTER

COUNTY ROAD 26





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ORTHOPAEDIC & FRACTURE CLINIC

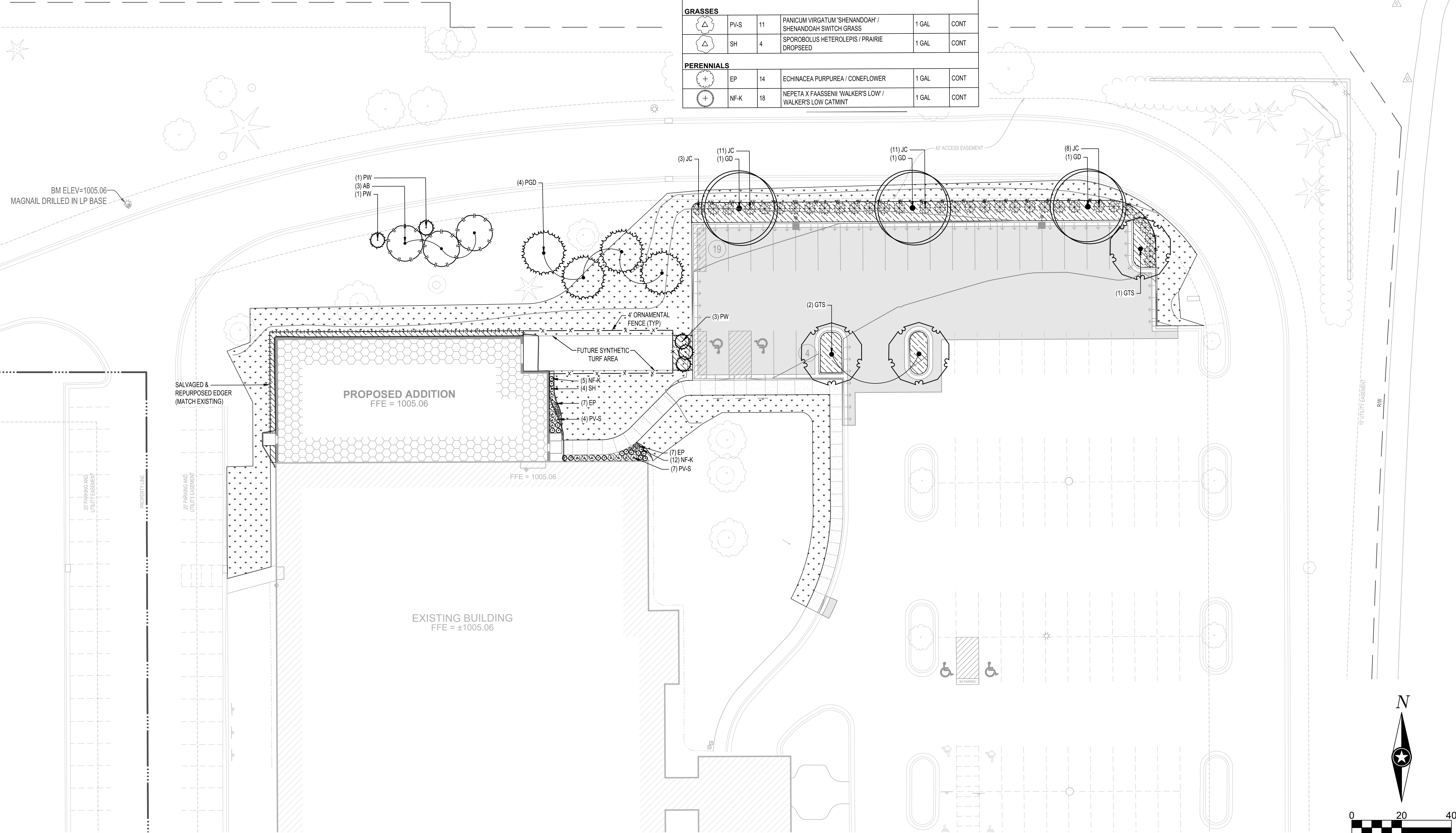
Mankato, MN | 2024-08-05 | ISG Project #30313



LANDSCAPE CODE SUMMARY	
ZONING	OR- OFFICE RESIDENTIAL / OFFICE
PARKING LOT PERIMETER LANDSCAPING SHADE TREES REQUIRED / PERIMETER LANDSCAPING TREES PROVIDED	1 SHADE TREE/ 50 LF OF PARKING PERIMETER LENGTH, 290 LF = 6 SHADE TREES REQUIRED/ 6 SHADE TREES PROPOSED
PARKING LOT PERIMETER LANDSCAPING EVERGREEN TREES REQUIRED / PERIMETER LANDSCAPING TREES PROVIDED	1 EVERGREEN SHRUB/ 25 LF OF PARKING PERIMETER LENGTH, 290 LF = 12 EVERGREEN SHRUBS REQUIRED / 12 EVERGREEN SHRUBS PROPOSED
LANDSCAPE SIZING REQUIREMENTS	
MINIMUM OVERSTORY TREE SIZE	2.5" CALIPER
MINIMUM EVERGREEN TREE SIZE	6' HEIGHT

RESTORATION SCHEDULE		
SYMBOL	QTY	DESCRIPTION
MULCH		
	2,481 SF	RIVER ROCK MULCH (MATCH EXISTING)
SEEDING		
	8,736 SF	TURF SOD
EDGER		
	215 LF	USE CONCRETE PAVER EDGER (MATCH EXISTING)
	150 LF	SALVAGED AND REPURPOSED EDGER

PLANT SCHEDULE					
SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	ROOT
EVERGREEN TREES					
	AB	3	ABIES BALSAMEA / BALSAM FIR	6' HT MIN	
	PGD	4	PICEA GLAUCA 'DENSATA' / BLACK HILLS SPRUCE	6' HT MIN	B & B
	PW	5	PINUS CEMBRA 'HERMAN' TM / PRAIRIE STATESMAN SWISS STONE PINE	6' HT MIN	B & B
SHADE TREES					
	GTS	3	GLEDITSIA TRIACANTHOS 'SKYLINE' / SKYLINE HONEYLOCUST	2.5" CAL	B & B
	GD	3	GYMNOCLADUS DIOICA / KENTUCKY COFFEETREE	2.5" CAL	B & B
EVERGREEN SHRUBS					
	JC	33	JUNIPERUS CHINENSIS 'SEA GREEN' / SEA GREEN JUNIPER	5 GAL	CONT
GRASSES					
	PV-S	11	PANICUM VIRGATUM 'SHENANDOAH' / SHENANDOAH SWITCH GRASS	1 GAL	CONT
	SH	4	SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED	1 GAL	CONT
PERENNIALS					
	EP	14	ECHINACEA PURPUREA / CONEFLOWER	1 GAL	CONT
	NF-K	18	NEPETA X FAASSENII 'WALKER'S LOW' / WALKER'S LOW CATMINT	1 GAL	CONT



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MITCHELL R. WORKMON

DATE: LIC. NO. 53748

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PROJECT

**WICKERSHAM
HEALTH CAMPUS**

**OFC RENOVATION
AND ADDITION**

MANKATO MINNESOTA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

PROJECT NO.	24-30313
FILE NAME	30313-CS-LAND
DRAWN BY	LHH
DESIGNED BY	LHH
REVIEWED BY	BMP
ORIGINAL ISSUE DATE	-/-/-
CLIENT PROJECT NO.	-

TITLE

**PLANTING AND
RESTORATION
PLAN**

SHEET

C5-10

PRELIMINARY NOT FOR CONSTRUCTION



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PROJECT

**WICKERSHAM
HEALTH CAMPUS
OFC RENOVATION
AND ADDITION**

MANKATO MINNESOTA

REVISION SCHEDULE		
DATE	DESCRIPTION	BY

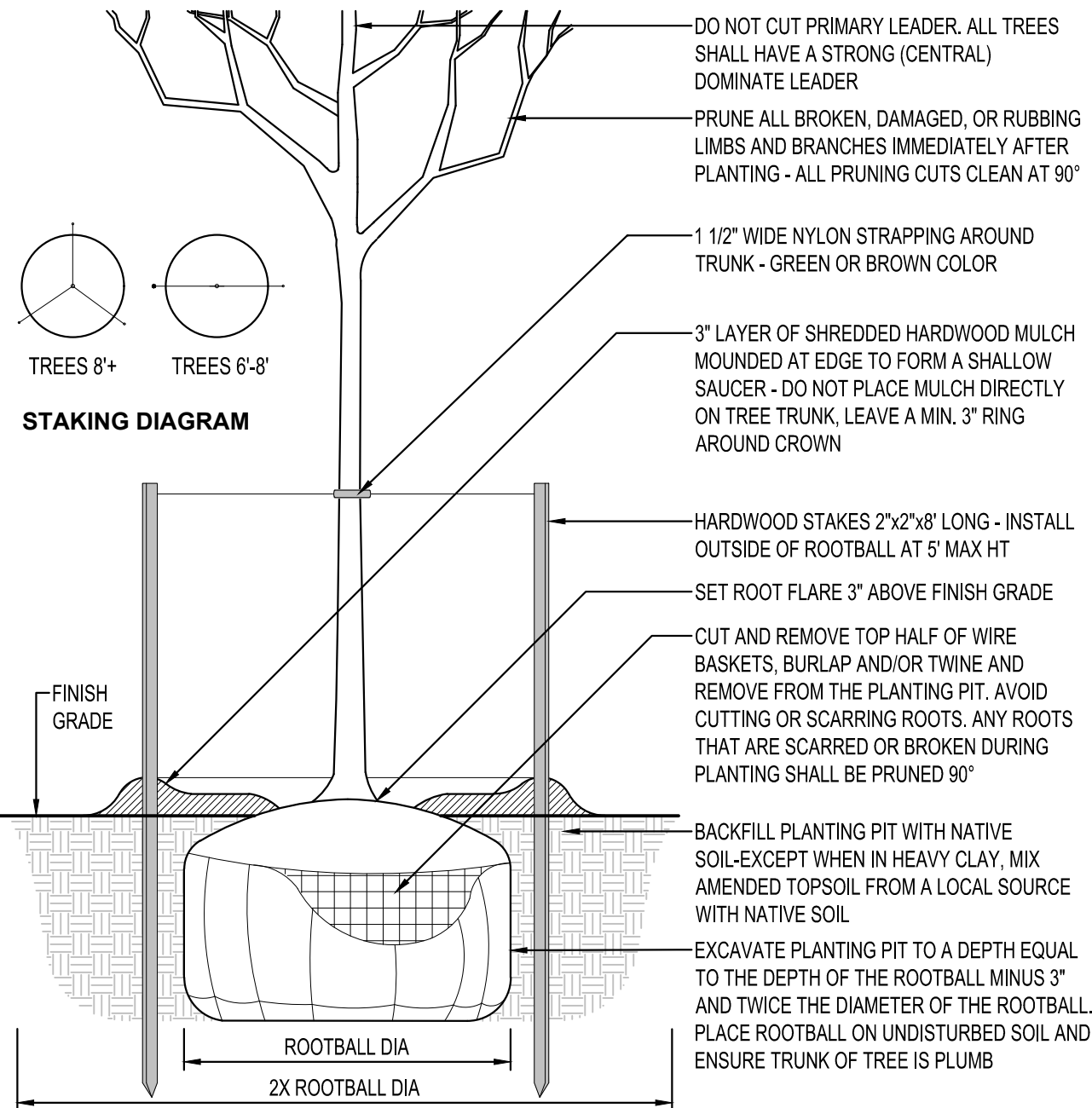
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FILE NAME	30313-C5-LAND
DRAWN BY	LHH
DESIGNED BY	LHH
REVIEWED BY	BMP
ORIGINAL ISSUE DATE	--/--
CLIENT PROJECT NO.	-

TITLE

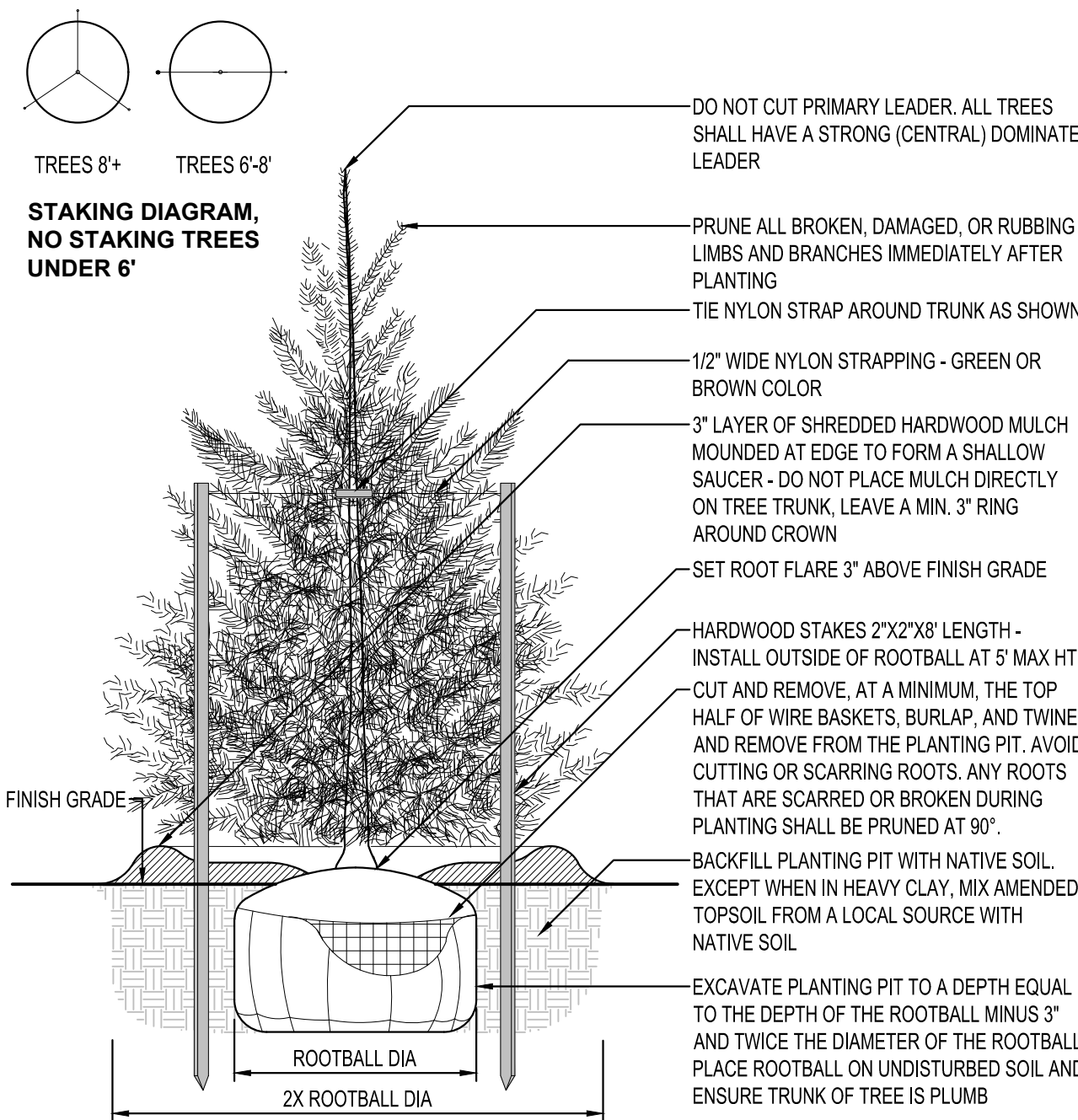
**PLANTING NOTES
AND DETAILS**

SHEET

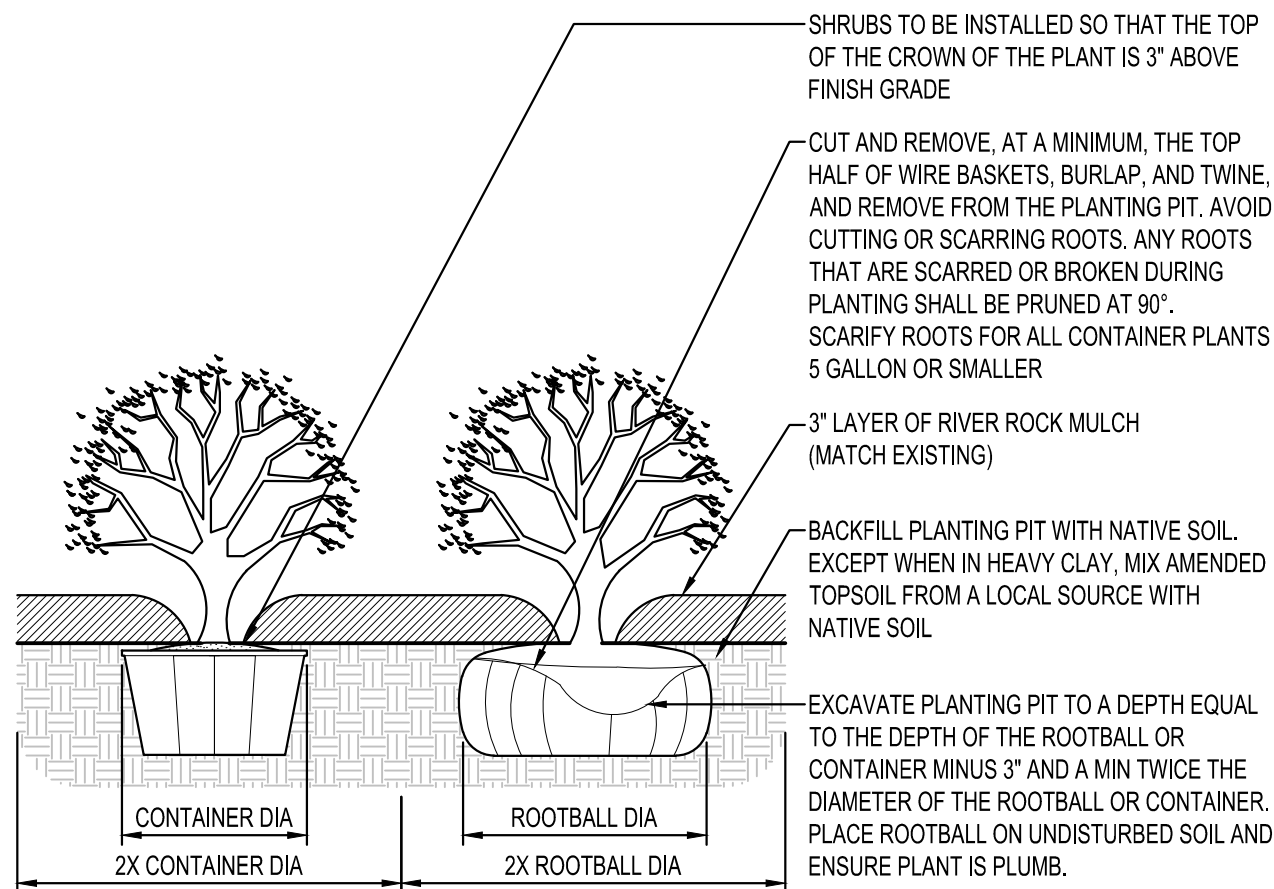
C5-30



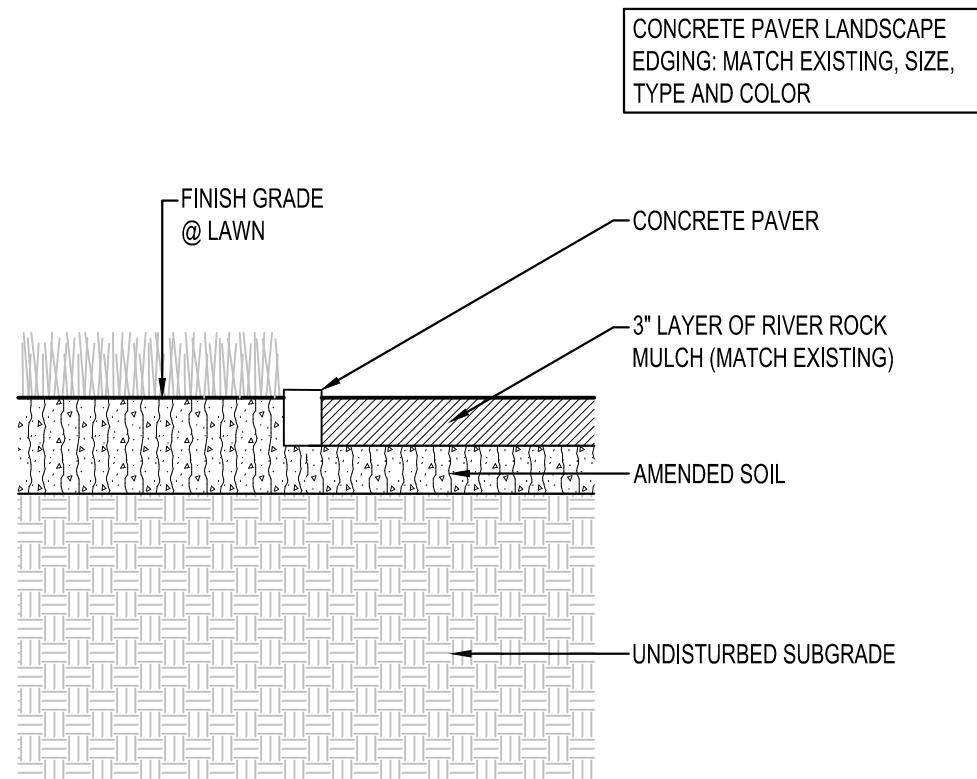
DECIDUOUS TREE PLANTING
NTS



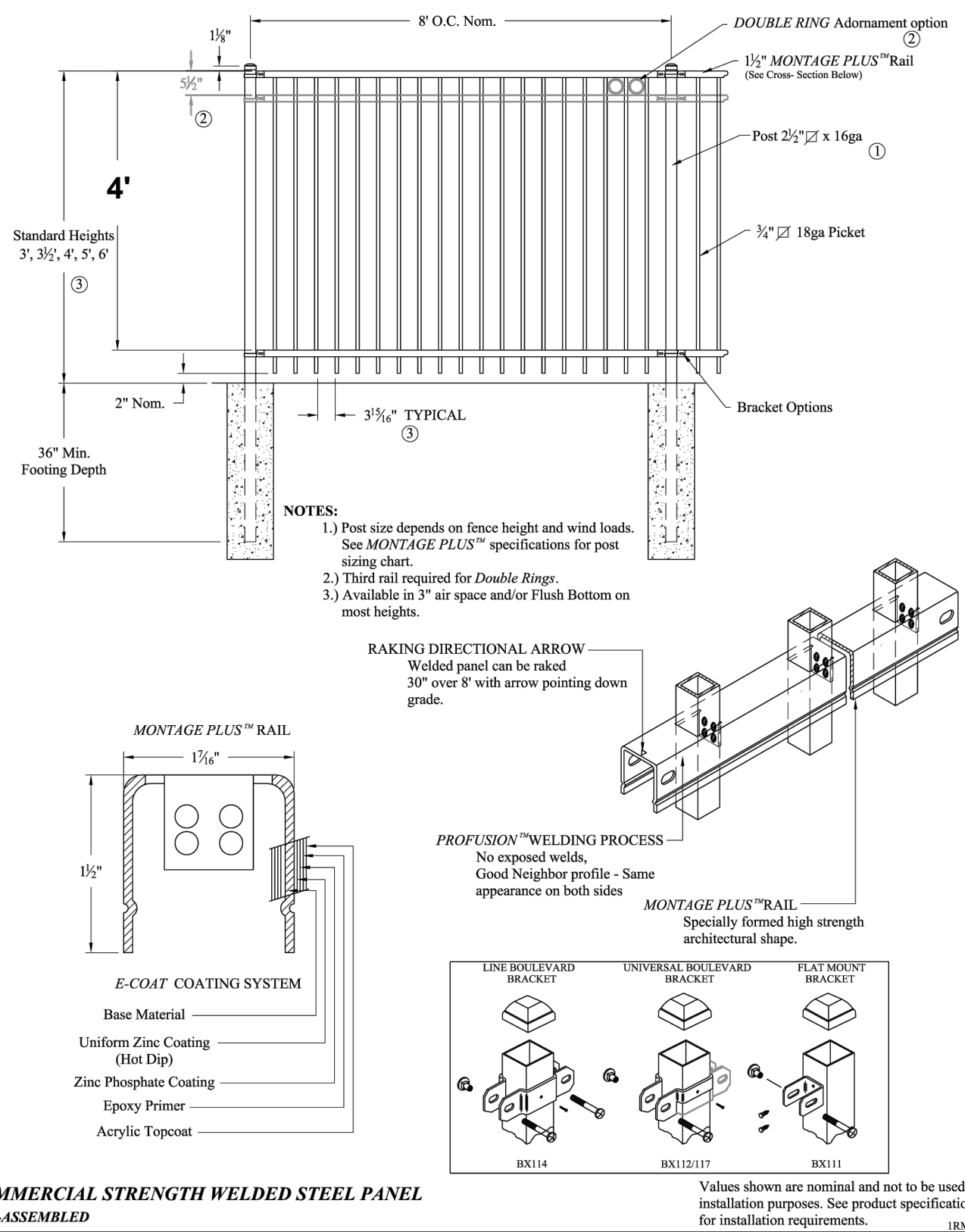
EVERGREEN TREE PLANTING
NTS



SHRUB PLANTING
NTS



LANDSCAPE EDGING
NTS



COMMERCIAL STRENGTH WELDED STEEL PANEL
PRE-ASSEMBLED

4' ORNAMENTAL FENCE
NTS

- PLANTING NOTES**
- 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.
 - SAVE AND PROTECT ALL EXISTING TREES NOT NOTED TO BE REMOVED.
 - REMOVE ALL CONSTRUCTION DEBRIS AND MATERIALS INJURIOUS TO PLANT GROWTH FROM PLANTING PITS AND BEDS PRIOR TO BACKFILLING WITH PLANTING MIX.
 - REFER TO PLANTING DETAILS FOR AMENDED SOIL DEPTH IN PLANTING BEDS AND SURROUNDING TREES.
 - 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.
 - ALL PLANT MATERIALS SHALL BE TRUE TO THEIR SCIENTIFIC NAME AND SIZE AS INDICATED IN THE PLANT SCHEDULE.
 - 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.
 - 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.
 - 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.
 - 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.
 - ALL TREES SHALL HAVE A STRONG CENTRAL LEADER. ANY TREES DEEMED NOT TO HAVE A STRONG CENTRAL LEADER SHALL BE REJECTED.
 - 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.
 - PROVIDE RIVER ROCK MULCH (MATCH EXISTING) 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.
 - MULCHING MATERIAL SHALL BE SHREDDED HARDWOOD 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.
 - CONTRACTOR SHALL PROVIDE SAMPLE OF MULCH TO BE APPROVED BY THE LANDSCAPE ARCHITECT.
 - INDICATED QUANTITIES ARE ESTIMATES AND SHALL BE CONFIRMED BY THE CONTRACTOR.
 - ADJUST SPACING OF PLANT MATERIALS AROUND ADJACENT UTILITY STRUCTURES.

AUGUST 9, 2024

Molly Westman
Planning Coordinator
City of Mankato
10 Civic Center Plaza
Mankato, MN 56002
mwestman@mankatomn.gov



RE: PUD AMENDMENT NARRATIVE
ORTHOPAEDIC AND FRACTURE CLINIC (OFC) - 1431 PREMIER DRIVE, MANKATO, MN 56001

Molly,

Thank you for reviewing the PUD Amendment Application and associated materials in support of the Orthopaedic and Fracture Clinic Project. The PUD Amendment request is outlined in further detail within the following narrative.

The amendment is to accommodate a new synthetic turf area for the benefit of OFC patients. The added exterior turf area allows for enhanced on-campus rehabilitation opportunities by mimicking an actual outdoor experience. A combined indoor/outdoor therapy setting enhances rehabilitation efforts and results for patients.

The goal of this request is to provide a more comprehensive rehabilitation experience with a connection to the outdoors allowing patients to learn to adapt to the external conditions they will face when they have completed their physical therapy. Different surfaces allow patients to simulate navigation of the many terrains they will encounter, such as sidewalks, curbs, pavement, natural grass, and synthetic turf.

Due to the unique medical use of this property, special considerations for spaces and materials must be made to accommodate the therapy setting for recovering patients. The outdoor synthetic turf area is meant to simulate outdoor environmental conditions as a rehabilitative therapy tool. This indoor/outdoor therapy experience better prepares rehabilitation patients for life after recovery.

The space will be utilized for a variety of rehabilitation activities to be determined based on the individual OFC treatment plan developed for each patient. Synthetic turf is being proposed in lieu of sod. The durability of the synthetic turf will perform better under the expected use by patients during their rehabilitation activities. There will be no storage of materials, products, or equipment on the exterior turf area. It will serve as open area for rehabilitation activities and any items required for appointments will be removed upon completion of that appointment. The turf area will be enclosed by a 4-foot ornamental fence to screen the area. The proposed fence is illustrated on the attached rendering.

Typical hours of operation will be from 8:00am-8:00pm based on scheduled appointments. It is expected there will be no increased noise levels or impacts to surrounding property. The required safety and security lighting was provided within the scope of work for the addition and will be located above the entrance door south of the turf area. No additional lighting of any kind is proposed at the turf area.

The turf will be available as weather permits. During extremely cold temperatures and inclement weather, this space will not be utilized as frequently. However, allowing patients the opportunity to learn to maneuver during times of adverse weather will also provide benefits to their rehabilitation and recovery efforts.

This request complements the previously approved PUD Amendment for an interior renovation of approximately 1,900 SF to improve the existing clinical and scheduling spaces and an approximately 5,000 SF physical therapy addition to the existing clinic to expand the physical therapy patient care area.

Thank you again for your consideration of this PUD Amendment request. 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

Meeting Date: 08/28/2024

Title

CY37-24

Request of Civil Site Group, on behalf of the property owner for a certificate of design compliance for the construction of a new, approximately 5,200 square foot structure in the Highway Gateway Overlay District. The subject property is described as Lot 8, Block 1, River Hills Mall Addition (1896 Adams Street).

The anticipated date of City Council action is September 9, 2024.

Applicant

The applicant is Civil Site Group, on behalf of the property owner.

Request

The applicant is requesting a certificate of design compliance for the construction of a new, approximately 5,200 square foot structure in the Highway Gateway Overlay District. The applicant's initial request included a request for a conditional use permit, however after evaluation, the drive-thru area is located such that the standards in the code are achieved and, thus, not requiring a conditional use permit.

Location

The subject property is located 1896 Adams Street, and is legally described as Lot 8, Block 1, River Hills Mall Addition.

Existing Land Use

An existing building located on the site, and is proposed for demolition with the current proposal.

Zoning

The property is zoned B-3, Highway Commercial District.

Environmentally Sensitive Areas

There are no known environmentally sensitive areas on the site.

Public Utilities

Public utilities currently serve the site, and are proposed to serve the new structures.

City Code

Mankato City Code pertaining to the B-3, Highway Commercial Business District can be found

here: https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=CH10LAUSZO_PTVCODI_S10.47HICODI

Mankato City Code pertaining to the Highway Gateway Overlay District can be found

here: https://library.municode.com/mn/mankato/codes/code_of_ordinances?nodeId=CH10LAUSZO_PTVCODI_S10.48GTGAOVDI

Site Plan Review Comments

The submission was reviewed by the Site Plan and Traffic Advisory Committee at their August 13, 2024 meeting. Below are the comments as presented, along with the applicant's responses.

1. Applicant shall fill out a SIU (significant Industrial User) application which is attached. Connection charges will be evaluated upon submittal of SIU. The application shall be submitted as soon as possible.
CSG RESPONSE: This has been filled out and submitted
2. Location will retain 1896 Adams St. Address.*CSG RESPONSE: Noted*
3. Applicant shall clarify the intended conditional use request. As reviewed, a conditional use permit may not be necessary if the drive-through area is not located in front of the primary structure.
CSG RESPONSE: We will rescind our application for a conditional use permit, as there is no drive-through going in front of the primary structure and front lot line.
4. The lighting levels at the property line exceed the Code allowable standard of ½ foot candle. Adjustments will be necessary in order to achieve the City Code standards.
CSG RESPONSE: An updated photometric plan meeting City Code will be submitted with the building permit set.
5. Exterior finishes allowable in the Highway Gateway Overlay district are as follows. Please provide a drawing that represents the percentage of materials, in particular, the concrete block, on each elevation. *CSG RESPONSE: Exterior finishes have been revised, and material percentage calculations have been included on the elevations sheet. Note: the pump house and trash enclosure show CMU as the material, but the final drawings will be revised to be BRK-2 to match the main building and comply with the overlay district material finish standards.*
6. All exterior light fixtures shall achieve Mankato City Code standards including, but not limited to, full-cut, fully shielded fixtures. Lighting cut sheets shall be provided. *CSG RESPONSE: Lighting cut sheets will be provided with building permit set.*
7. Noise data confirming that the proposed use conforms to Minnesota Rule 7030 standards shall be provided.
CSG RESPONSE: A full sound study report is included with this submittal.

Review

Civil Site Group, on behalf of the property owner, is seeking consideration for a certificate of design compliance for the construction of a new, approximately 5,200 square foot structure in the Highway Gateway Overlay District.

The subject property is located at 1896 Adams Street and is legally described as Lot 8, Block 1, River Hills Mall Addition.

The applicant is seeking a Certificate of Design compliance for the construction of a new structure in the Highway Gateway Overlay District, HGT. The HGT is intended to promote high quality design in Mankato's gateways. The areas included within this district are located at major entryways into the City and are located in commercial and office zoning districts. The design features and standards included in the City's ordinance are not only to create a positive first impression upon entering the City, but also to establish an image and character that is uniquely Mankato's.

Removals plans submitted by the applicant show the removal of the existing structure on the lot located on the easterly side of River Hills Mall adjacent to Highway 22.

The site plan shows access to the previously platted lot from the mall ring road, a private road. River Hills Mall Realty Holdings, LLC, the mall property owner, has submitted a letter of approval providing their formal consent to the proposed project and site plan as submitted. There are two access points to the subject lot; one access point on the southerly side of the lot for both ingress and egress to this site and one access point on the northerly side of the lot for egress only from the subject site. The site plans depict two car wash drive-thru lanes accessing the car wash structure, along with a by-pass lane for the drive-thru area. The location of the drive-thru conforms to the Highway Gateway Overlay standards. While the original submission included a request for a conditional use permit for the location of the drive-thru, upon further review, the location of the drive-thru conforms to the Code standards without the need for a conditional use permit, as the drive-thru is not located between the building and the primary frontage.

Proposed construction includes a new, approximately 5,200 square foot car wash building. The main building on the site, which is located on the easterly side of the lot, achieves the Highway Gateway Overlay District setback standards. On interior lots, the minimum front yard building setback shall be fifteen (15) feet and the maximum shall be one hundred and fifty (150) feet from the right-of-way or roadway easement, and as proposed, the setback is 16' from the Highway 22 property line. The proposal also achieves the rear and side yard setbacks of three (3) foot side yard or rear yard setback to an impervious parking or storage surface and a six (6) foot setback to any portion of a building.

The site contains 19 surface parking lot parking stalls in the new parking lot area, along with sufficient room for 3 stacking stalls in each of the car wash drive-thru lanes, which achieves Mankato City Code parking standards. Mankato City Code section 10.85 outlines that carwash uses shall provide three (3) off-street vehicle stacking spaces per wash stall and one (1) off-street parking space per employee on a major shift. The narrative provided with the submission indicates that on the largest shift there will be 3 employees maximum. The narrative indicates that there will be 9 vacuums serving the parking stalls and that the vacuums will be free for use during regular business hours. A slightly larger parking stall is designed to accommodate the vacuums and the vacuums are aligned with one vacuum post serving two parking stalls. Each vacuum has (2) hoses that are attached to a central vacuum system that routes to either the main building or the detached pump house at the southeast corner of the site. Each vacuum station is also equipped with a trash bin, a mat clip for easy vacuuming, and a central blower system to help clean those hard-to-reach places. The color of the exterior vacuum hoses and components will need to achieve the City's franchise coloring standards, and a condition is included herein.

The City Code allows a maximum ground coverage of 75% and the proposed development achieves the code criteria at 12.6% structure coverage.

A new, cast in place concrete retaining wall is proposed on the eastern side of the site. The site plans include that the new wall will be tied into the existing wall and the top of the new retaining wall will match the existing wall on both the north and south end of the property.

In addition to the main carwash building, the applicant's site plan also shows accessory structures including a sales booth, and a pump house structure, each of which achieve the Code setback criteria and the design criteria as having a proposed finish similar to the primary structure. A trash enclosure is shown on the northern side of the site, and the materials are depicted as structural brick to match the primary structure, which is keeping with Mankato City Code.

The Highway Gateway Overlay District building design and construction standards are achieved with the proposal. The proposed building will be constructed of a mixture of brick, cast stone, split face concrete masonry units, CMU, a stucco-like product, EIFS, metal and aluminum storefront window systems. The applicant has submitted the exterior wall material elevation percentages, which confirm that the proposal achieves the allowable 20% maximum usage of each elevation of CMU. Exterior wall coloring achieves the franchise coloring standards as gray is an earth tone color.

The applicant has submitted a photometric plan that will require slight modifications in order to achieve the City Code requirement of a maximum lighting level at the property line of 1/2 foot candle. A condition is included herein that requires that, in conjunction with the building permit submission, all light fixture cut sheets be provided to demonstrate conformance with Mankato City Code section 10.89 standards, which include, but are not limited to, light fixtures that are full-cut, fully-shielded style, and that a conforming photometric plan shall be provided.

The applicant has conducted a preliminary noise study for the proposal. The applicant is working on adjustments to the findings in order to achieve Minnesota Rule 7030 noise standards. A condition is included herein that requires that at the time of building permit submission the applicant will provide a noise study that demonstrates conformance to the noise standards in Minnesota Rule 7030.

The applicant's plans indicated that their snow removal plan entails that all snow will be stored onsite outside the parking lot. When full, a snow removal company will be hired to remove the excess snow from the site. The applicant's plans do not show an off-street loading area, and the applicant has indicated that deliveries will occur at the front door by standard commercial delivery vehicles such as UPS, Fed-Ex, or USPS. The applicant does not anticipate deliveries which would require the use of a semi-truck or a loading dock.

A landscaping plan has been provided with the submission. The Highway Gateway Overlay standards require that wherever a parking surface faces a street frontage, the parking area shall be screened from the street with a wall, fence or hedge to a minimum of 4', but not more than 8', nor be less than eighty percent opaque. The applicant will be required to demonstrate that this standard is achieved with the height of the proposed retaining wall along with the proposed plantings. In addition, the general landscaping standards including one, six-foot evergreen tree for every 25' lineal feet or parking area, and one, 2.5 include caliper shade tree for every 50 feet of parking area will be required. A condition is included herein that a landscaping plan verifying conformance with Mankato City Code shall be provided at the time of building permit submission.

The location will be for the operation of Tsunami Express Car Wash, which is allowed in the B-3 zoning district. The applicant's narrative states that regular business hours will be from 7:00 a.m. to 8:00 p.m. daily and that there will be attendants on duty for the full duration of the operating hours. Tsunami expects to service 200-400 customers per day, according to the narrative.

Findings

Staff respectfully submits the following findings of fact for the requested certificate of design compliance:

1. The property is located in the Highway Gateway Overlay District and the proposed value of the project exceeds \$500,000.
2. The design of building elevations conforms to the guidelines when considered with the proposed approving conditions in the underlying district as the use of brick, CMU, EIFS, glass, and metal accents as a minor part of the overall design conforms to the standards. All sides of the building visible to the public will be treated consistently with quality materials and finishes.

Recommendation

Staff recommends approval of the certificate of design compliance with the following conditions:

1. At the time of building permit submission, all lighting cut sheets shall be provided. All lighting shall achieve Mankato City Code section 10.89 standards.
2. At the time of building permit submission, the applicant shall provide a photometric plan that demonstrates conformance with Mankato City Code.
3. The site shall achieve Mankato City Code franchise coloring standards. This shall include all exterior components including, but not limited to, the exterior vacuum hoses and components.
4. Bicycle parking stalls shall be provided in conformance with Mankato City Code.
5. At the time of building permit submission, the applicant shall provide a noise study that demonstrates conformance with Minnesota Rule 7030 noise standards.
6. A landscaping plan conforming to Mankato City Code shall be provided at the time of building permit submission.
7. Prior to the fabrication or procurement of signage, the applicant shall submit sign permits for review and approval. All signage shall adhere to the City Code standards.

Attachments

General Location Map
Aerial Plan
Civil Plans
Architectural Plans
Landscaping Plan
Photometric Plan
Noise Study Compliance
Narrative

General Location Map



Date: July 2024

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.

Aerial Map



Date: July 2024

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 misuser misinterpretation.

MANKATO, MINNESOTA
ISSUED FOR: CITY SUBMITTAL



ATION

ALL PROJECT WORK SHALL CONFORM TO THE CITY OF MANKATO STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2011 EDITION, AND THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM) "STANDARD UTILITY SPECIFICATIONS" (CURRENT EDITION, AND MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT) STANDARD SPECIFICATIONS FOR "CONSTRUCTION" CURRENT EDITION IN THAT ORDER. IMMEDIATELY NOTIFY ENGINEER FOR CLARIFICATION PRIOR TO CONSTRUCTION.

PROJECT CONTACTS		
	NAME & ADDRESS	CONTACT
CIVIL ENGINEER	500 GLENWOOD AVE SUITE 500 DENVER, CO 80202	1141-500 GLENWOOD SUITE 500 DENVER, CO 80202
LANDSCAPE ARCHITECT	500 GLENWOOD AVE SUITE 500 DENVER, CO 80202	1141-500 GLENWOOD SUITE 500 DENVER, CO 80202
DRILLER/OPER	10000 POWERS CIRCLE UNIT 110 DENVER, CO 80231	1141-10000 POWERS CIRCLE UNIT 110 DENVER, CO 80231
PROPERTY OWNER	TECHNO EXPRESS CORP. WASH. LLC 10000 POWERS CIRCLE, SUITE 500 DENVER, CO 80231	1141-10000 POWERS CIRCLE SUITE 500 DENVER, CO 80231
ARCHITECT	THE HERMANN COMPANY 10000 POWERS CIRCLE, SUITE 500 DENVER, CO 80231	1141-10000 POWERS CIRCLE SUITE 500 DENVER, CO 80231
SURVEYOR	500 N. SYLVESTER SUITE 100 AURORA, CO 80015	1141-500 N. SYLVESTER SUITE 100 AURORA, CO 80015
GEOTECHNICAL ENGINEER	500 N. SYLVESTER SUITE 100 AURORA, CO 80015	1141-500 N. SYLVESTER SUITE 100 AURORA, CO 80015

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
C001	TITLE SHEET
C002	GENERAL NOTES
C003	GRADING PLAN
C004	GRADING PLAN
C005	GRADING PLAN
C006	UTILITY PLAN
C007	UTILITY PLAN
C008	CIVIL DETAILS
C009	CIVIL DETAILS
C010	CIVIL DETAILS
C011	LANDSCAPE PLAN
C012	NOTES & DETAILS
C013	SWPPP - EXISTING CONDITIONS
C014	SWPPP - PROPOSED CONDITIONS
C015	SWPPP - DETAILS
C016	SWPPP - ATTACHMENTS
C017	SWPPP - ATTACHMENTS
C018	SWPPP - ATTACHMENTS

ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (551-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS. 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.



Know what's below.
Call before you dig.

- C5.3 CIVIL DETAILS
 - L1.0 LANDSCAPE PLAN
 - L1.1 LANDSCAPE PLAN NOTES & DETAILS
 - SW1.0 SWPPP - EXISTING CONDITIONS
 - SW1.1 SWPPP - PROPOSED CONDITIONS
 - SW1.2 SWPPP - DETAILS
 - SW1.3 SWPPP - NARRATIVE
 - SW1.4 SWPPP - ATTACHMENTS
 - SW1.5 SWPPP - ATTACHMENTS

CO.0.

PRELIMINARY:
NOT FOR
CONSTRUCTION

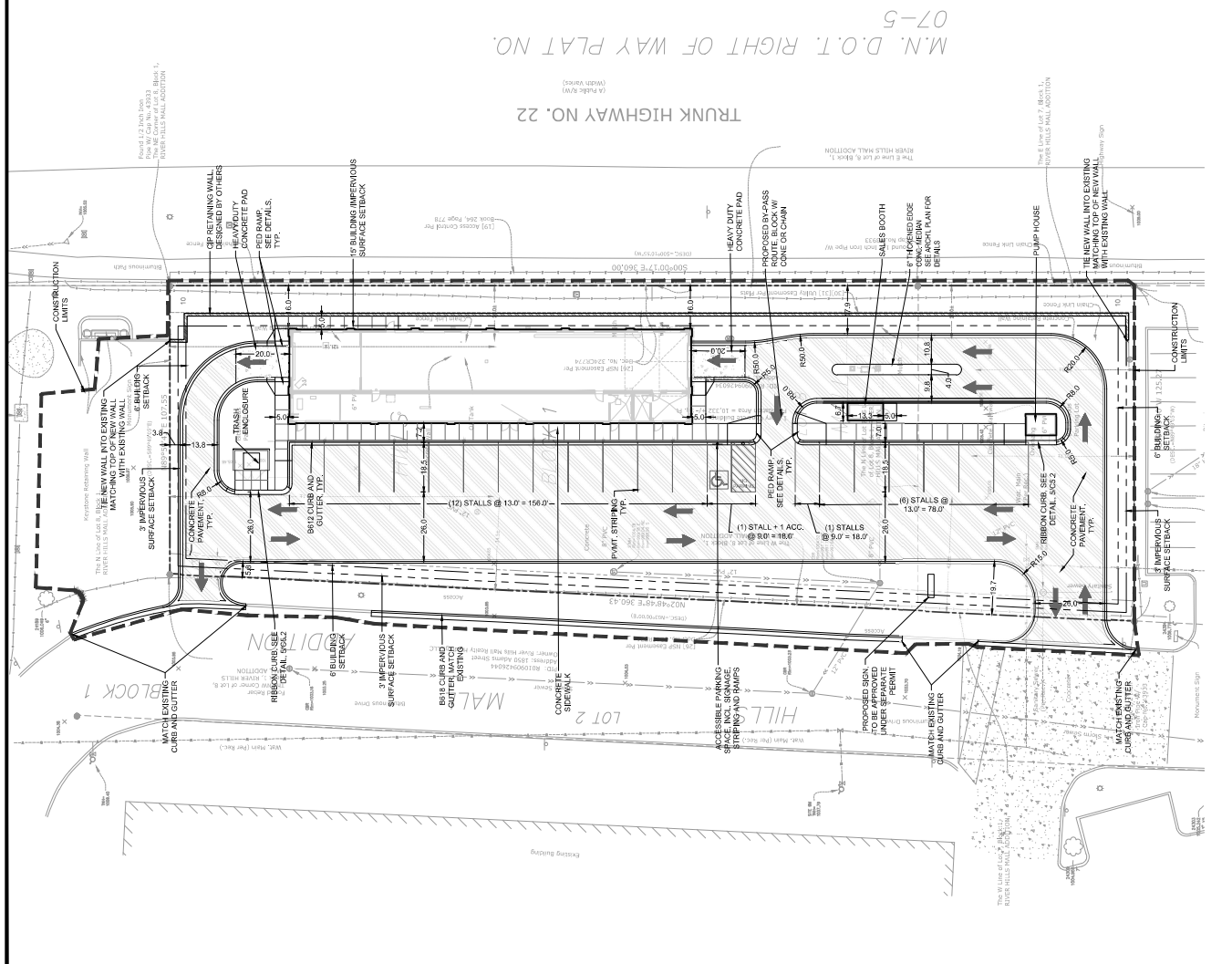
TSUNAMI EXPRESS CAR WASH, LLC.
4800 MEDFORD ROAD, #200, LAKE OSWEGO, OREGON 97030

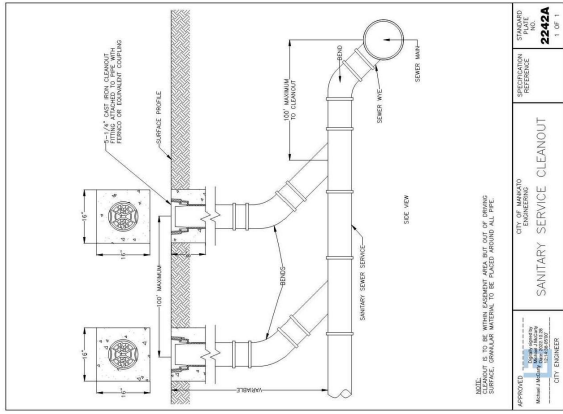
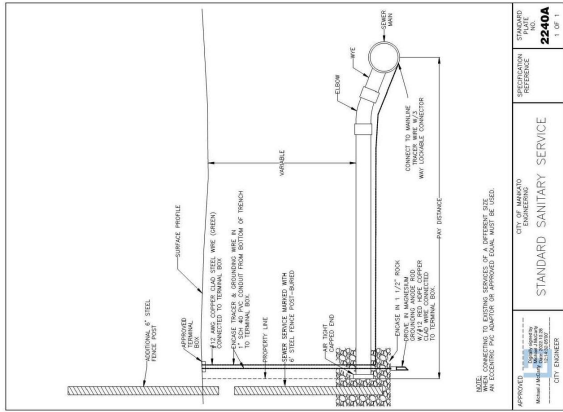
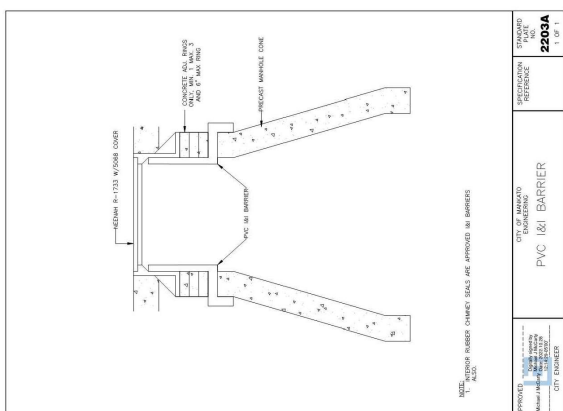
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

David J. Knecht

David J. Knecht
DATE: 07/23/24 LICENSE NO. 48278

[illegible]

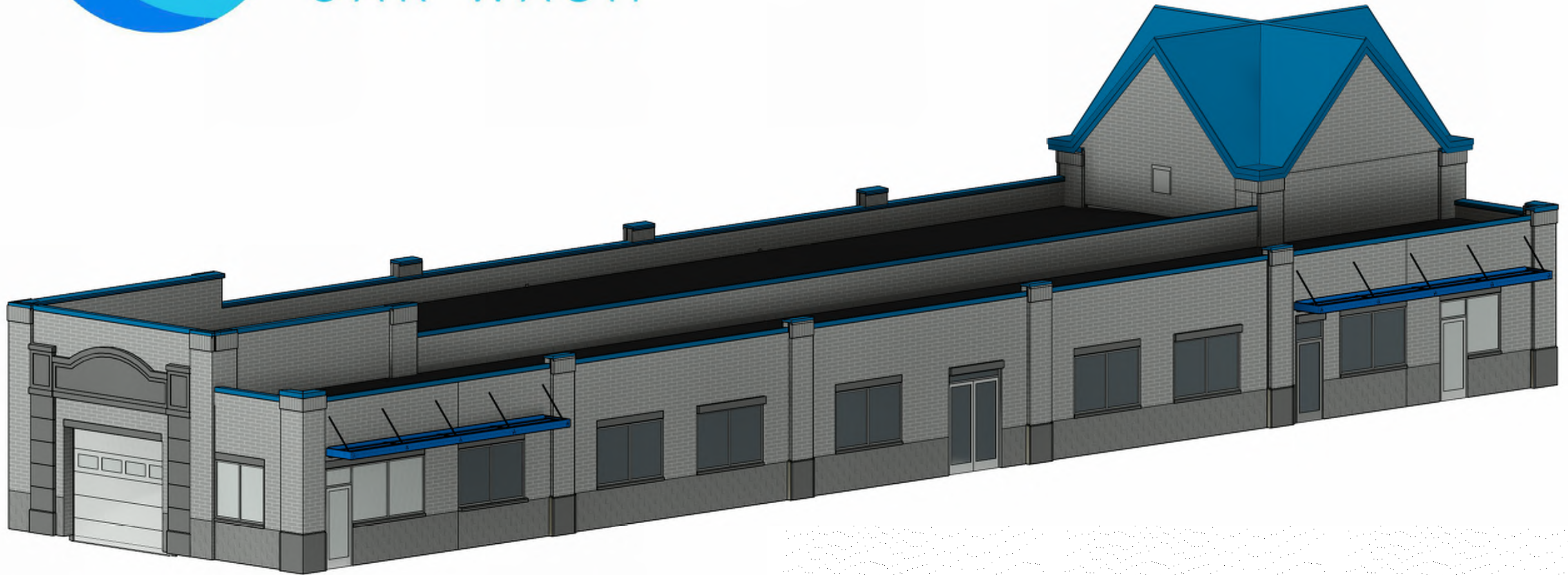








**TSUNAMI
EXPRESS**
CAR WASH



Tsunami Express Car Wash

Cover Sheet



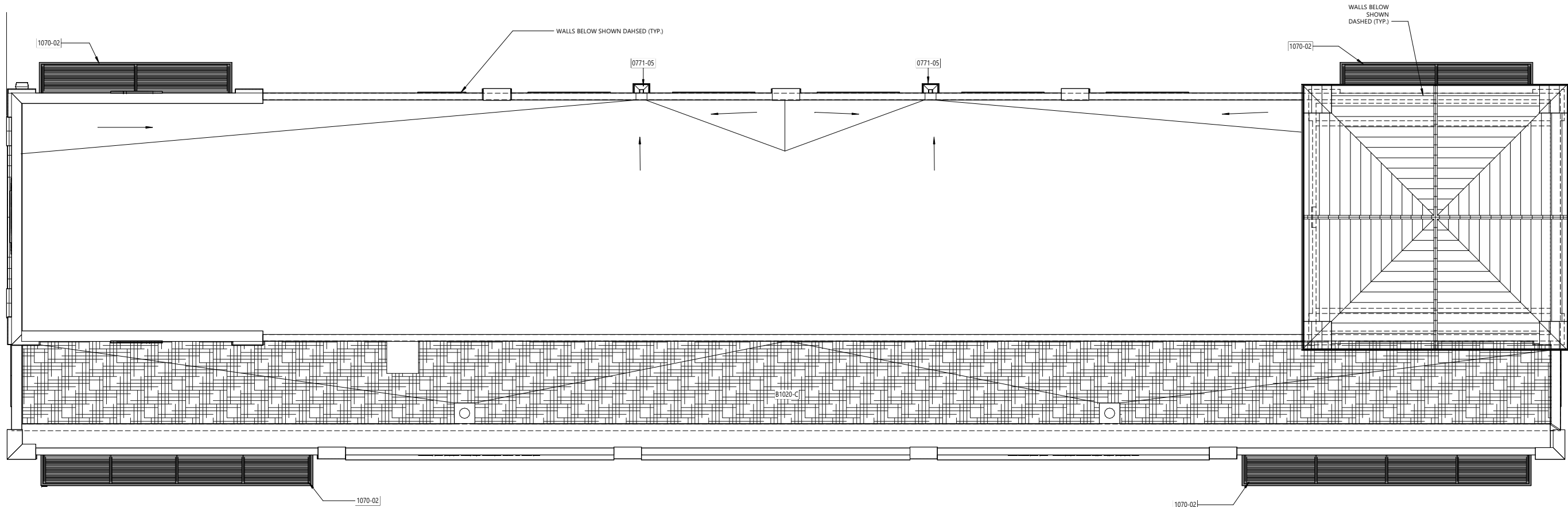
24032

06.11.2024

© 2021 The Redmond Company

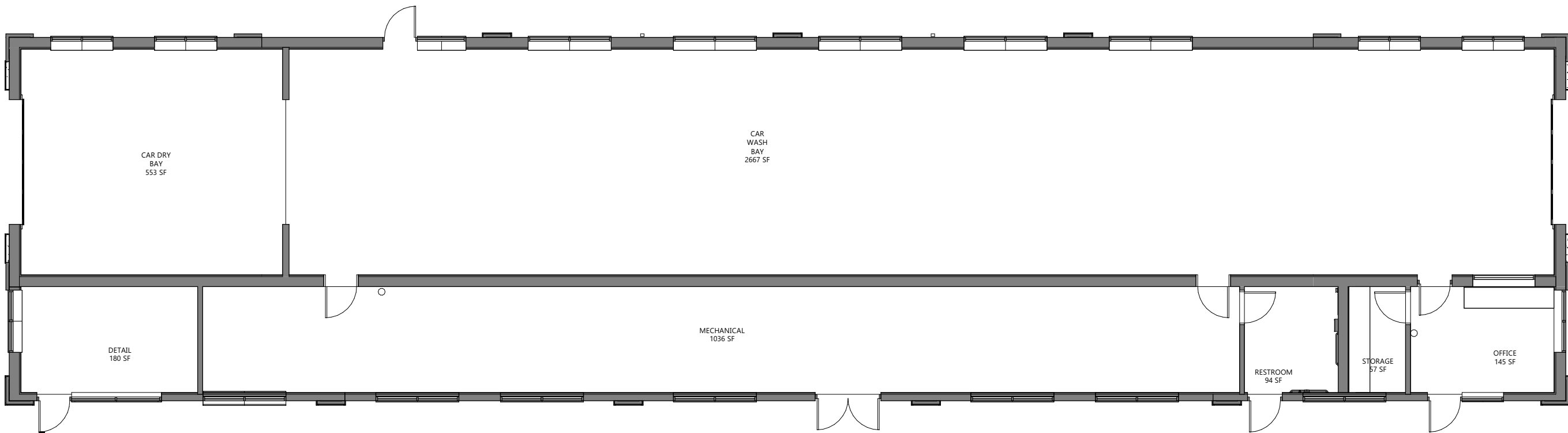


Tsunami Express Car Wash



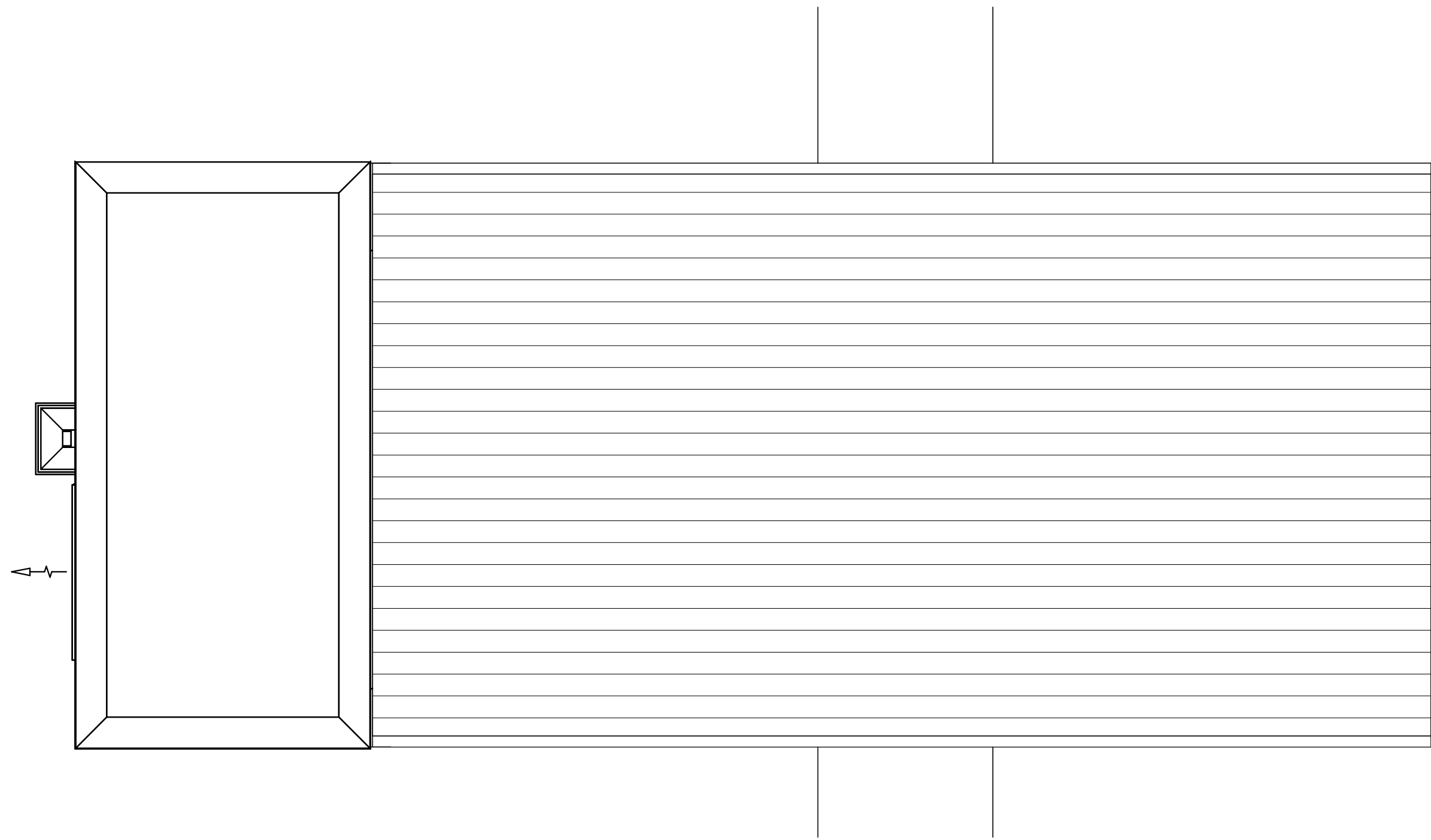
KEYNOTES PER SHEET	
0771-05	PREFINISHED ALUMINUM SCUPPER W/ DOWNSPOUT (TYP.) SEE EXTERIOR MATERIAL LEGEND FOR COLOR. CONNECT TO STORM SEWER; SEE CIVIL DRAWINGS.
1070-02	PREFABRICATED ALUMINUM CANOPY
B1020-C	FULLY ADHERED 60 MIL EPDM MEMBRANE ROOFING OVER 4" (R-30) MIN POLYISOCYANURATE RIGID INSULATION (FORMED FROM 2 LAYERS, WITH JOINTS OFFSET, BOTTOM LAYER MECHANICALLY ATTACHED, TOP LAYER ADHERED). OVER STRUCTURAL METAL DECK. PROVIDE CRICKETS AND SADDLES FROM XPS RIGID INSULATION TO MAINTAIN 1/4" PER FOOT (MIN.) POSITIVE DRAINAGE TO ROOF DRAINS.

2 H 150 EN DE ROOF PLAN PRESENTATION
3/16" = 1'-0"

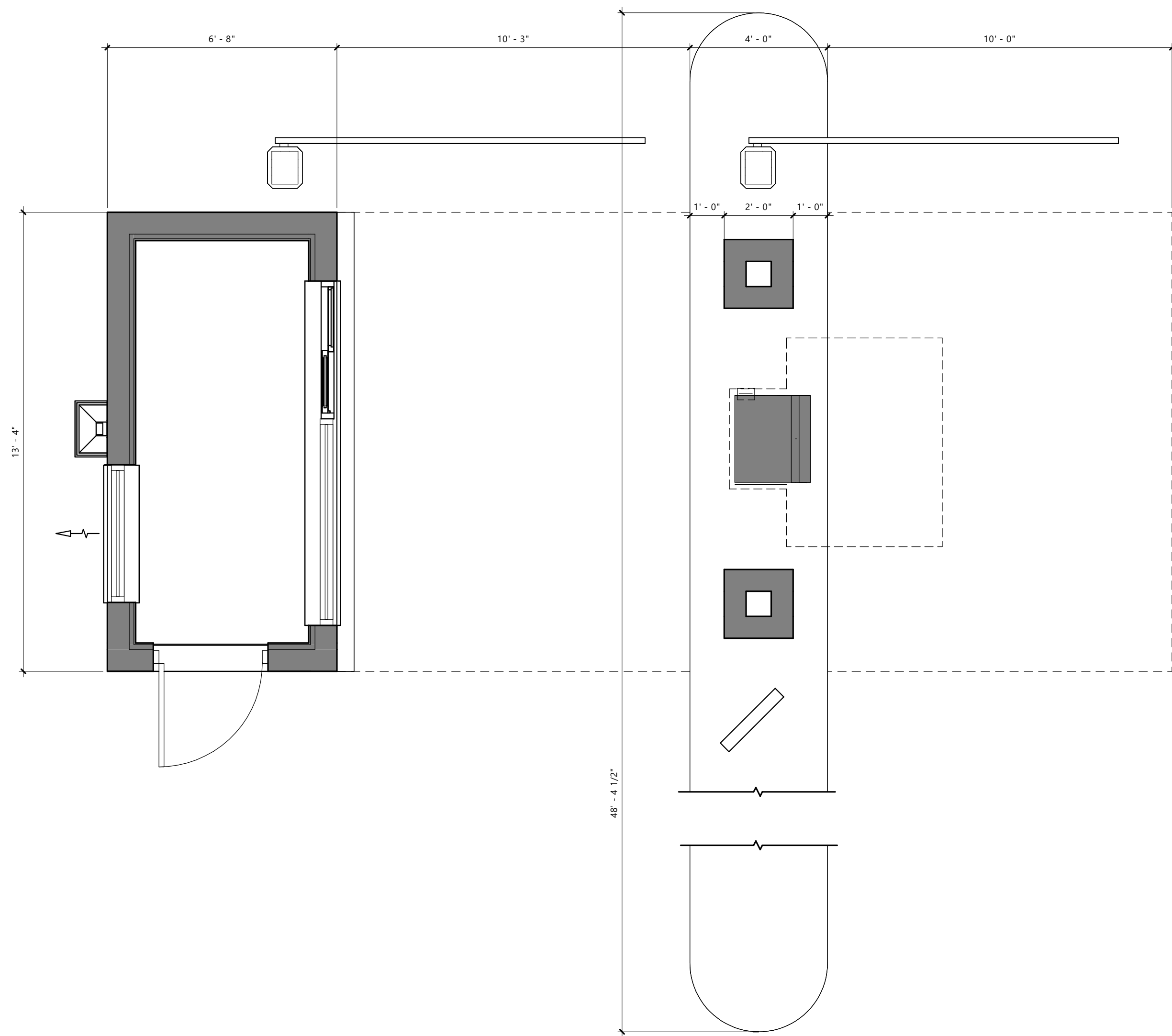


1 H 150 EN DE FLOOR PLAN PRESENTATION
3/16" = 1'-0"

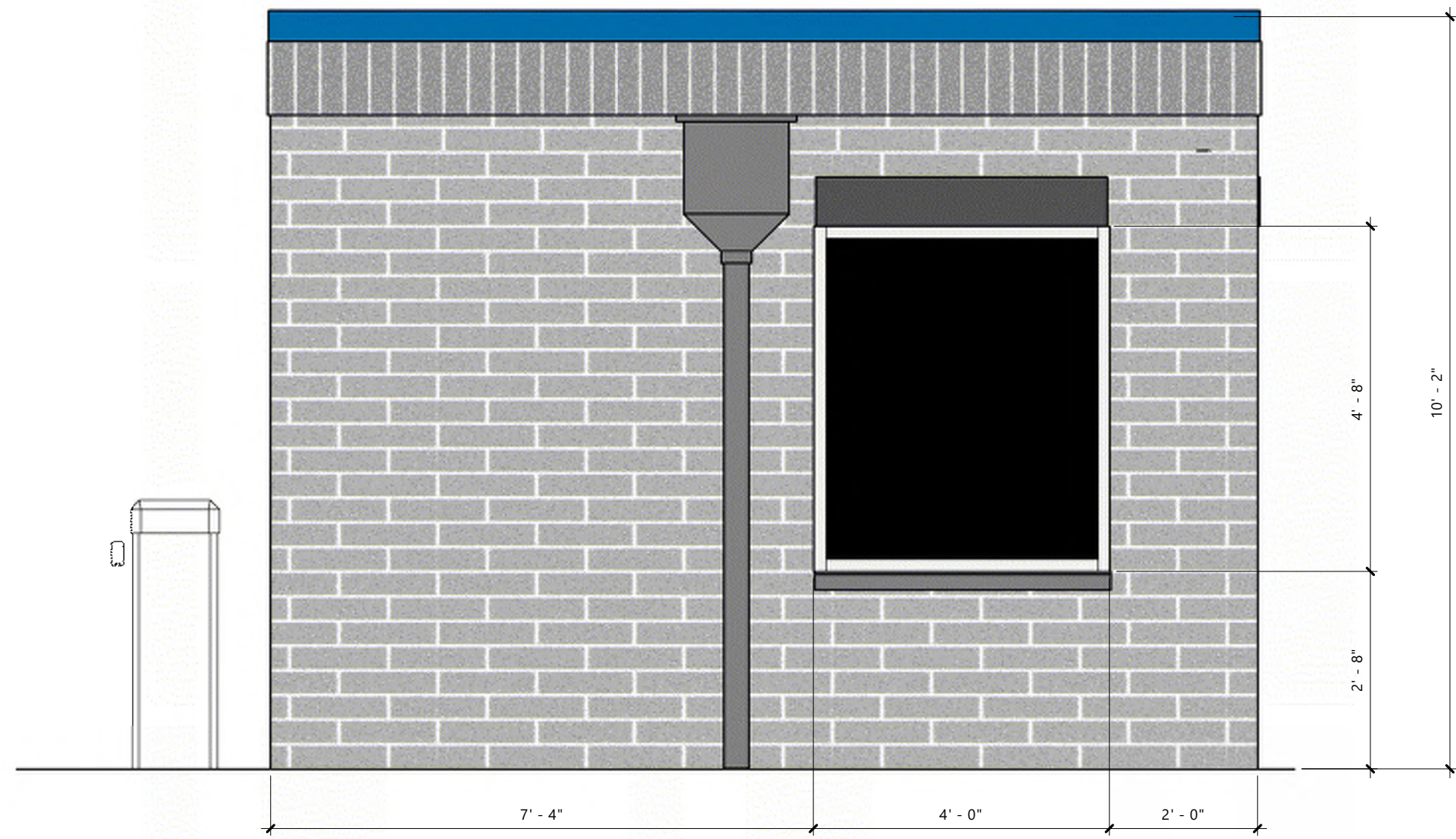
Tsunami Express Car Wash



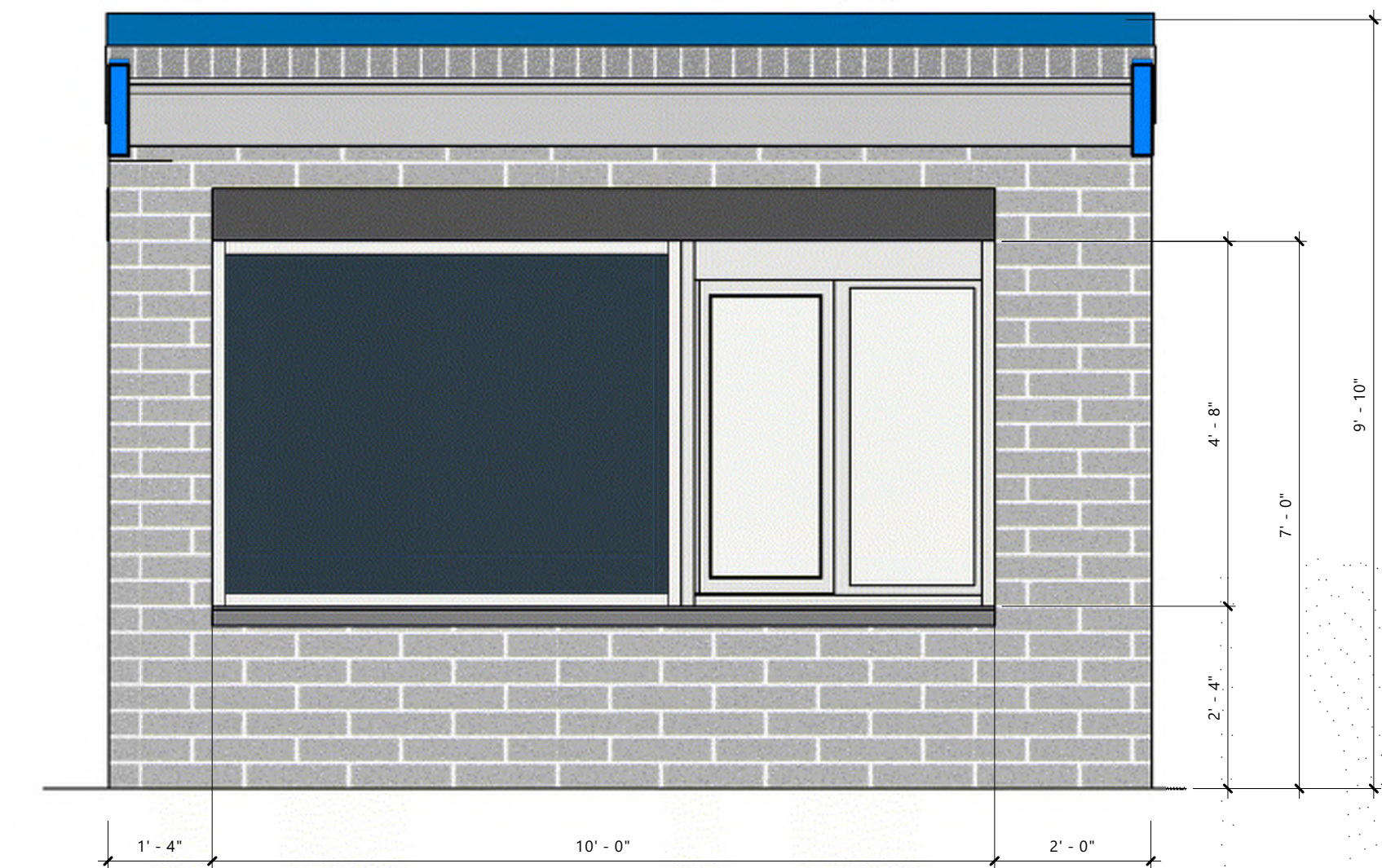
2 SALES BOOTH - ROOF PLAN
3/8" = 1'-0"



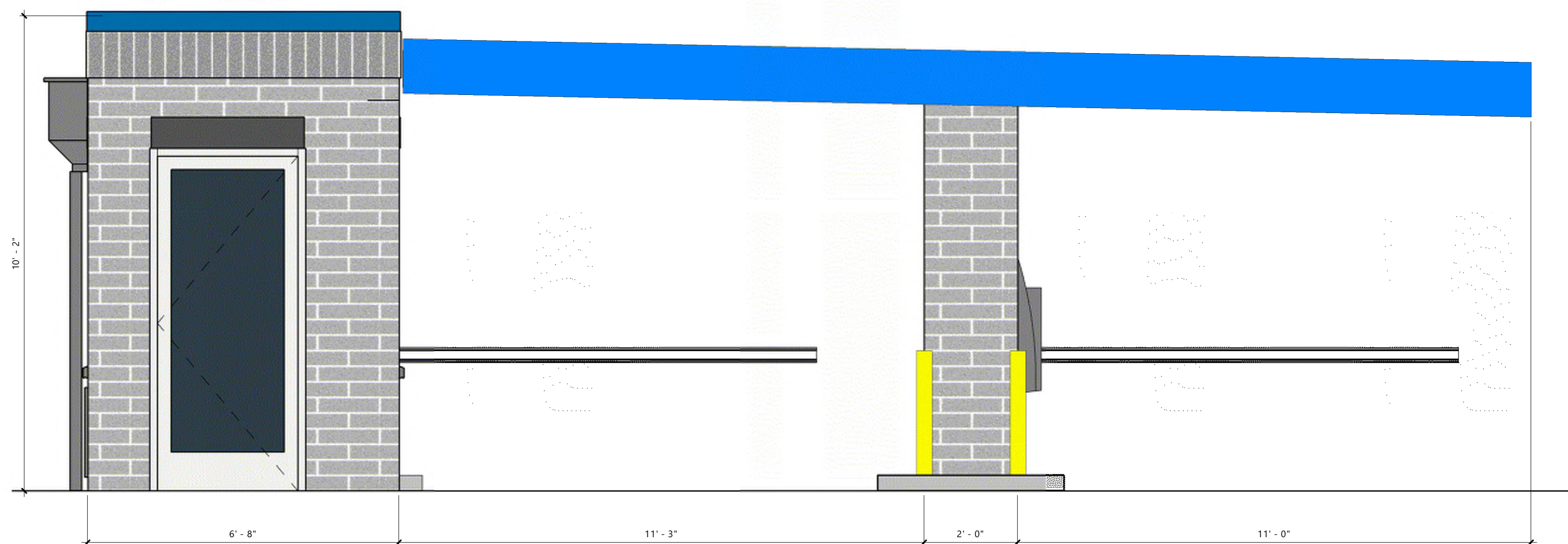
1 SALES BOOTH - FLOOR PLAN
3/8" = 1'-0"



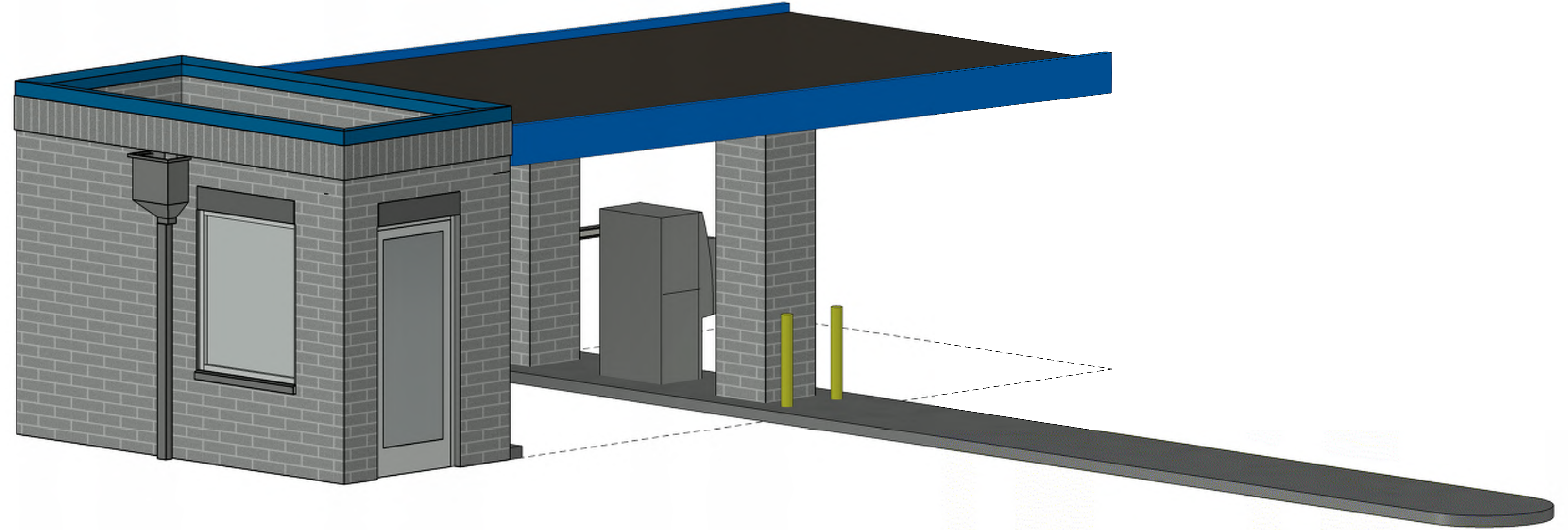
4 SALES 2 LANE - BACK ELEV
1/2" = 1'-0"



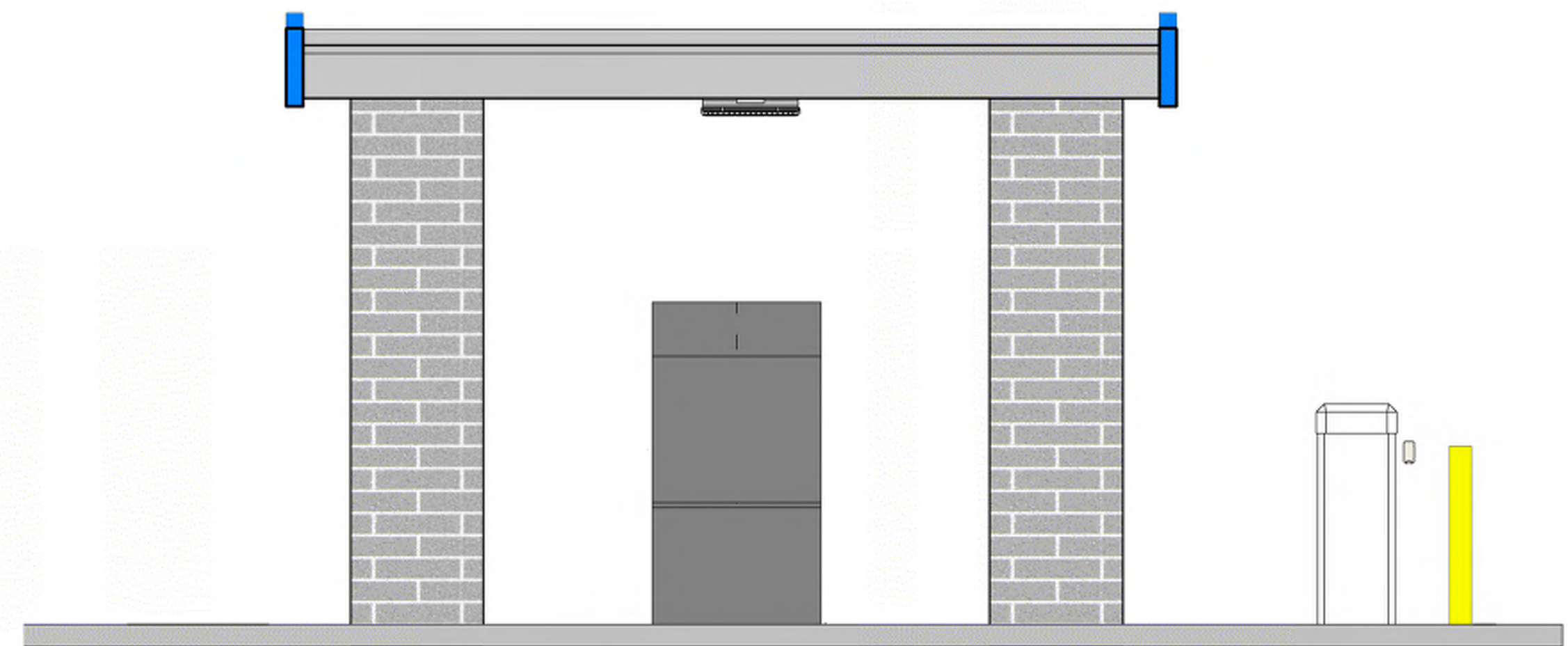
3 SALES - 2 LANE FRONT ELEV
1/2" = 1'-0"



1 SALES 2 LANE - APPROACH
1/2" = 1'-0"



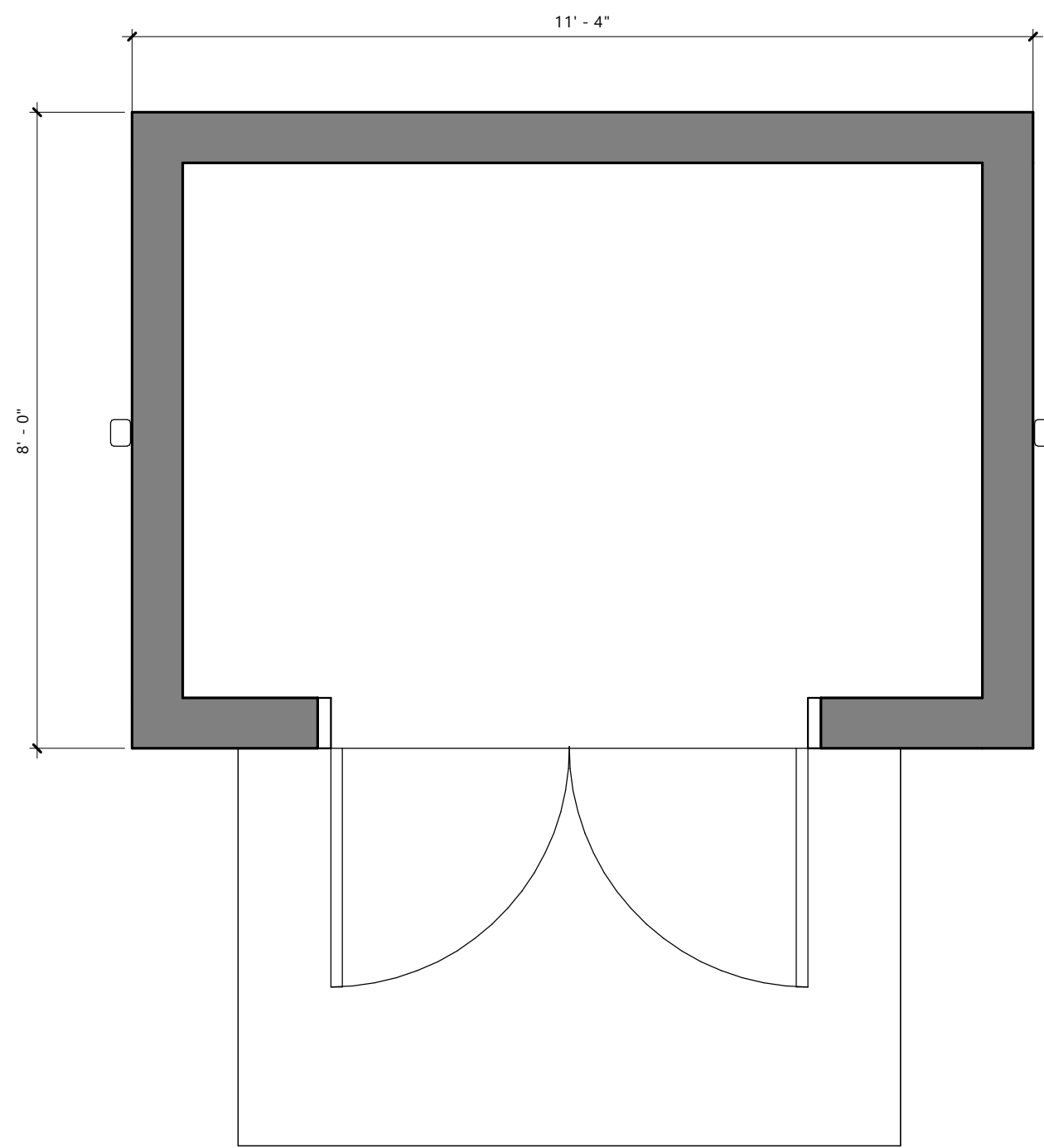
5 SALES BOOTH - 3D VIEW



2 SALES BOOTH - SALES LANE ELEVATION
1/2" = 1'-0"

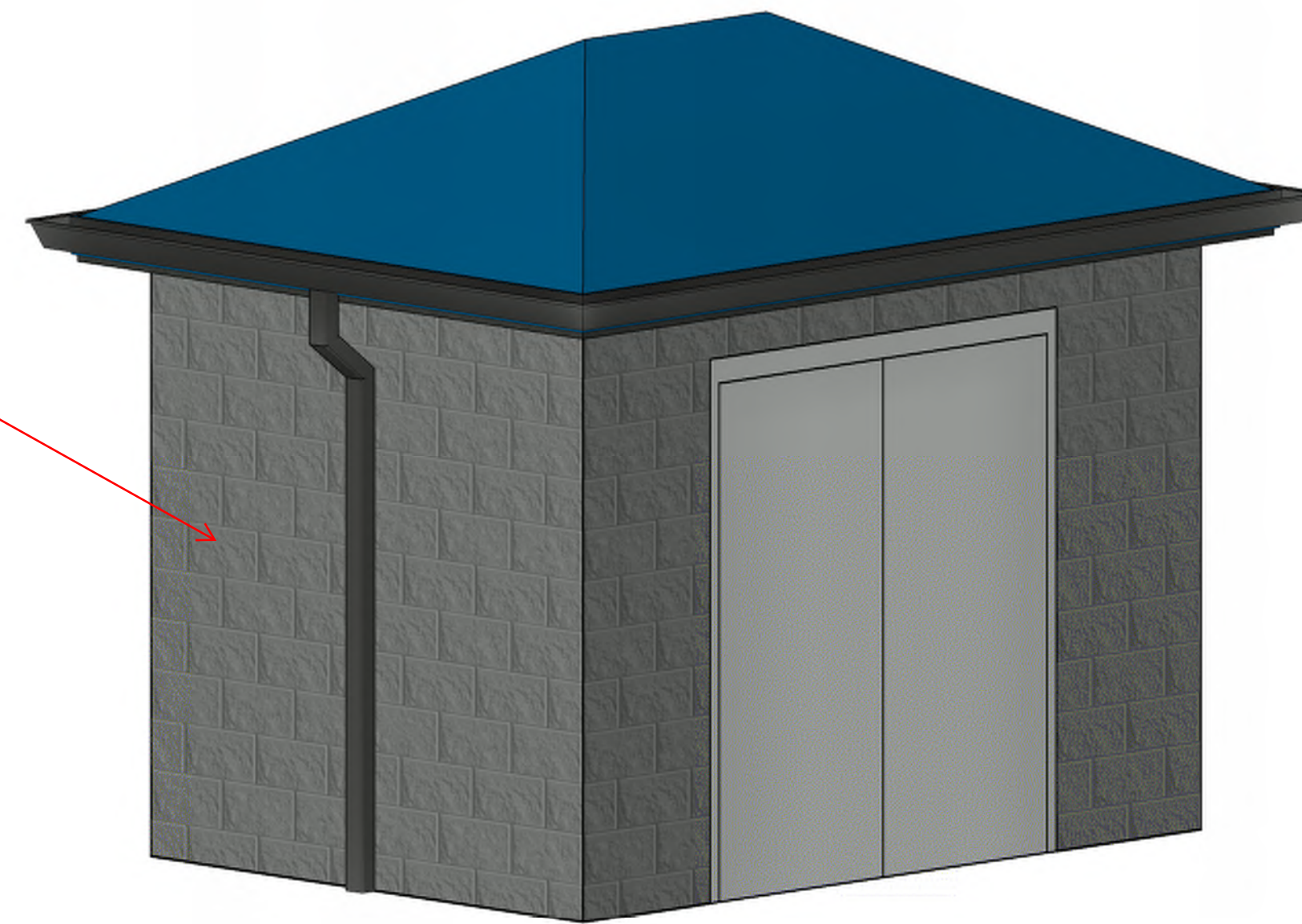
Tsunami Express Car Wash

DE_Sales Booth - 2 Lane_Presentation

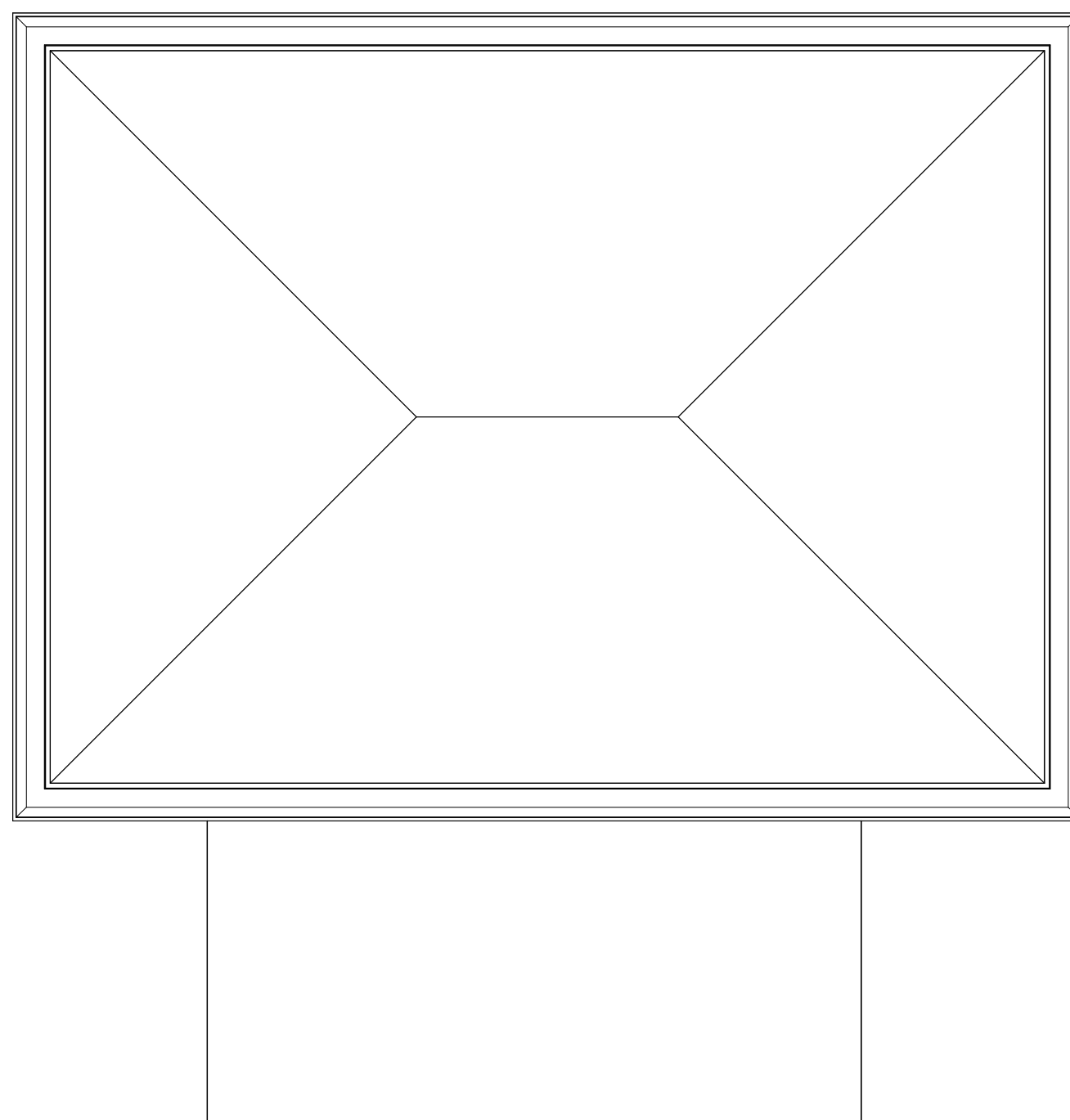


3 H_PUMP HOUSE - FLOOR PLAN PRESENTATION
1/2" = 1'-0"

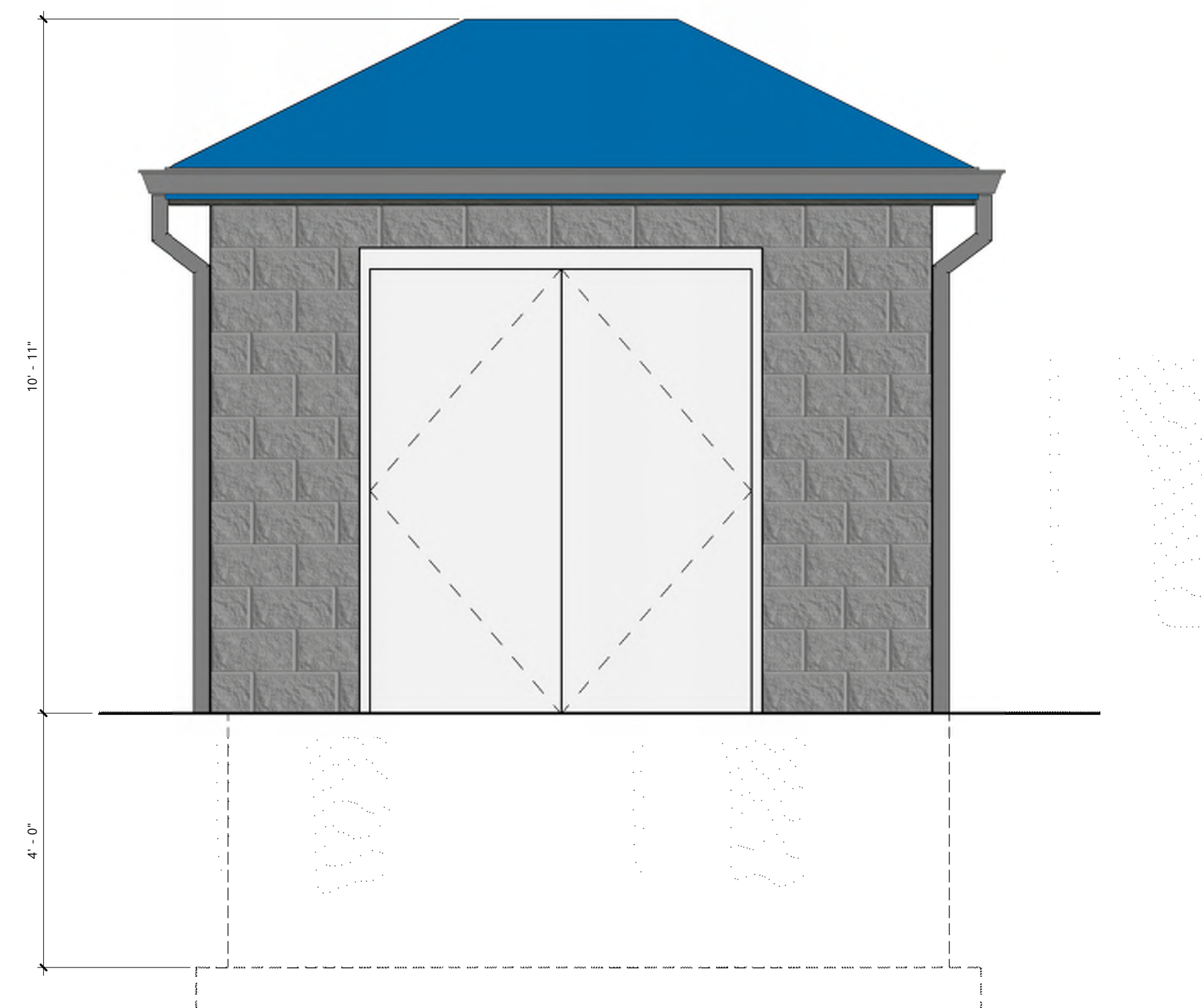
REVISED TO BRK-2 TO
MATCH MAIN BUILDING



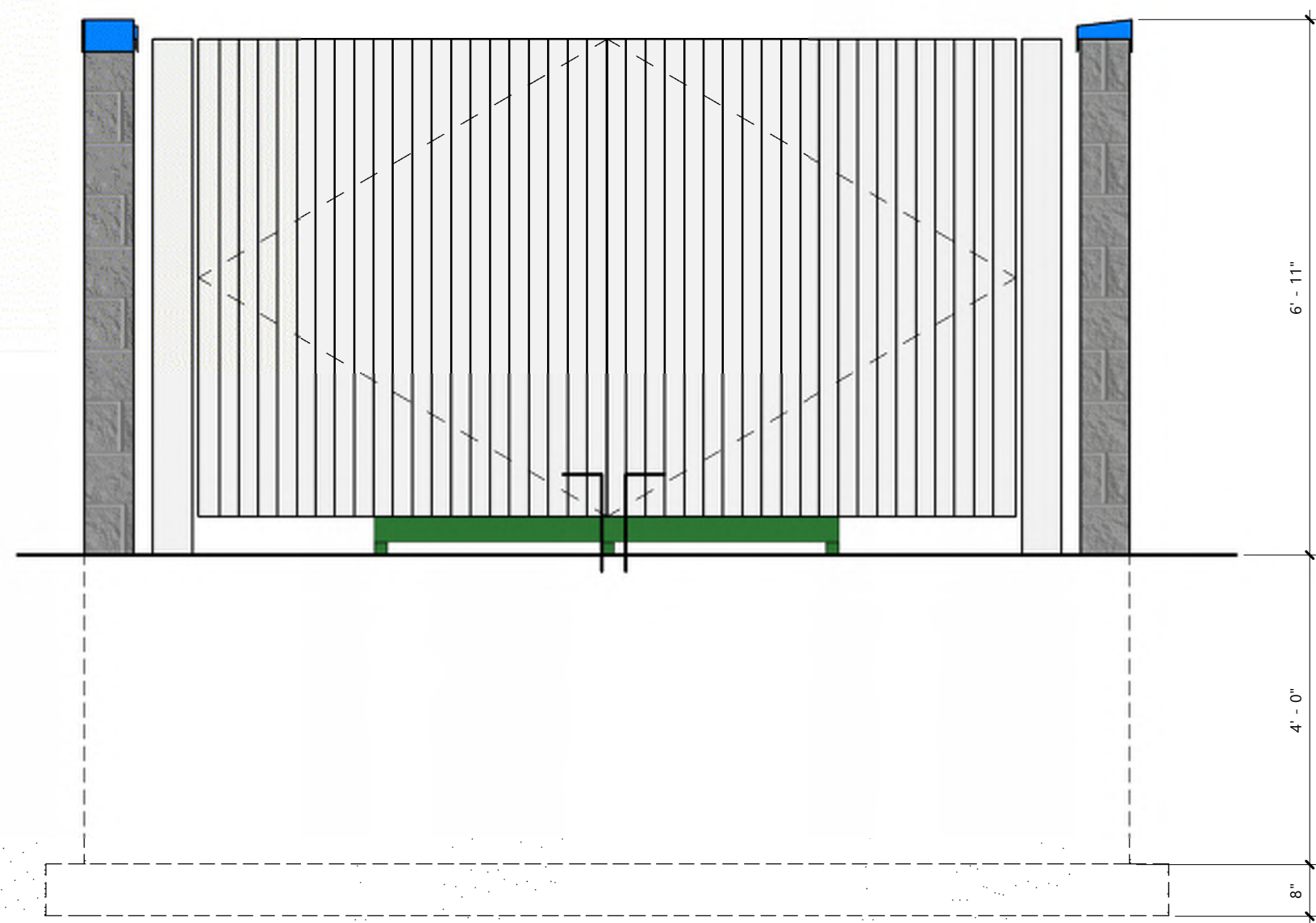
4 3D - PUMP Only



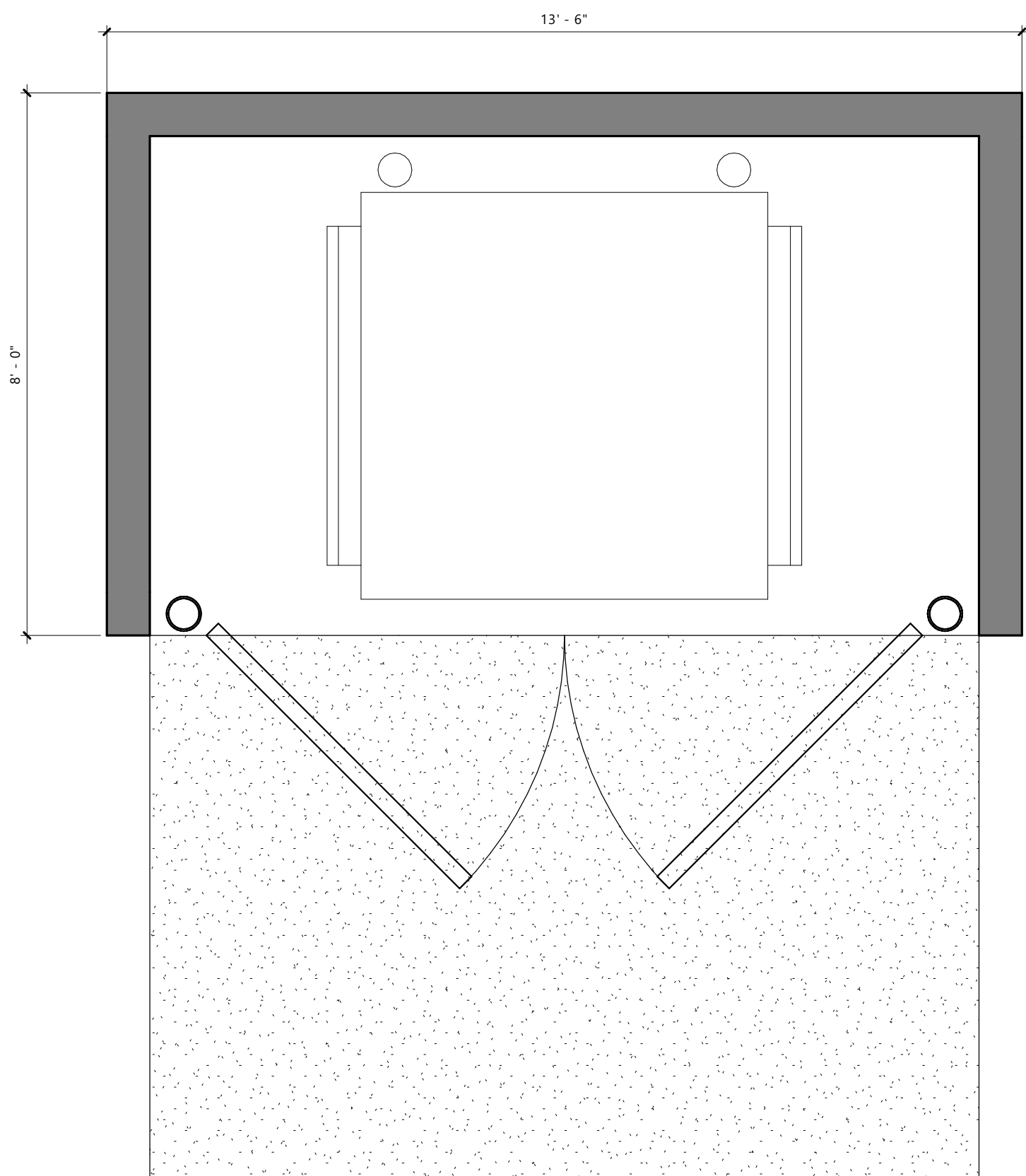
1 H_PUMP HOUSE - ROOF PLAN PRESENTATION
1/2" = 1'-0"



2 H_PUMP HOUSE - FRONT ELEVATION PRESENTATION
1/2" = 1'-0"

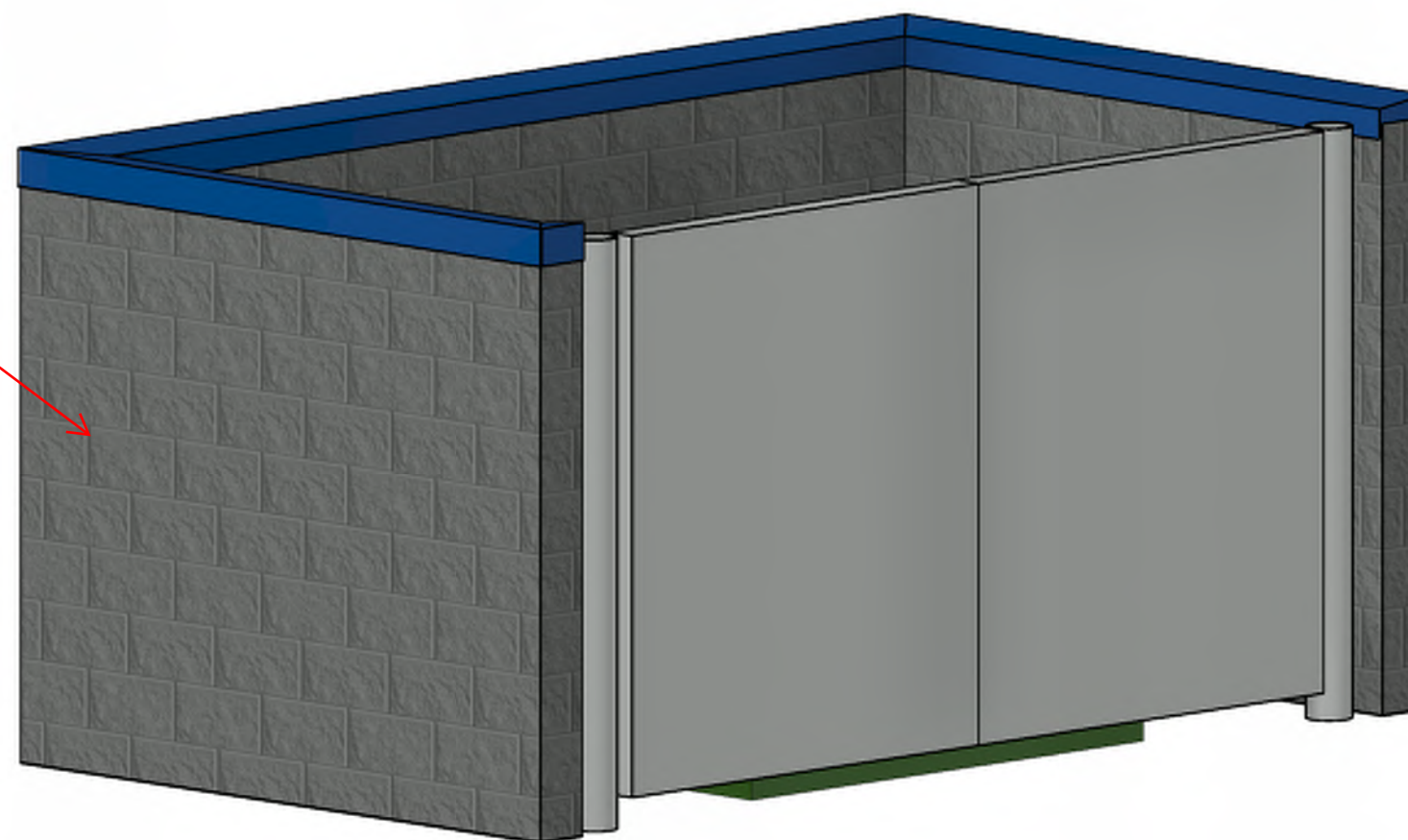


2 H TRASH ENCLOSURE - FRONT ELEVATION PRESENTATION
1/2" = 1'-0"



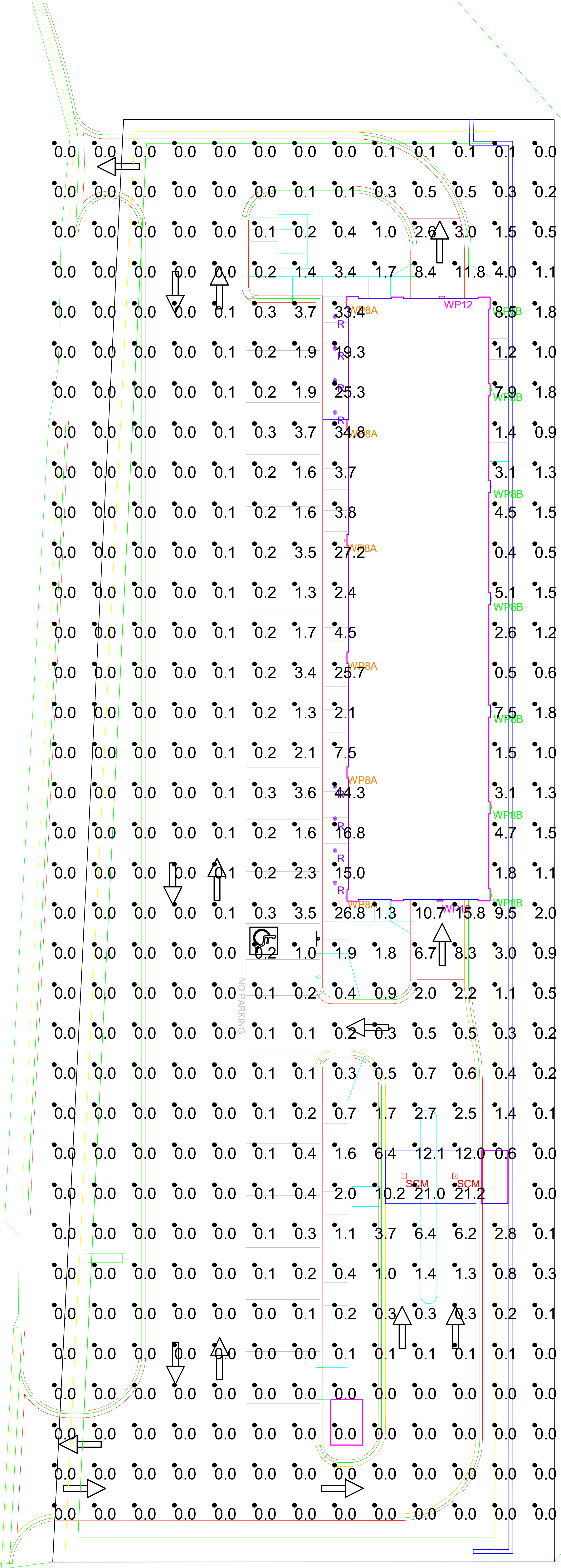
1 H TRASH ENCLOSURE - PLAN PRESENTATION
1/2" = 1'-0"

REVISED TO BRK-2 TO
MATCH MAIN BUILDING



3 3D - TRASH Only

These drawings are for conceptual use only and are not intended for construction. Fixture runs and quantities should be verified prior to order. Values represented are an approximation generated from manufacturers photometric inhouse or independent lab tests with data supplied by lamp manufacturers.



Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Lum. Lumens	LLF	Description	Lum. Watts	Air. Watts	Total Watts
	8	R	Single	976	0.900	LAD6R ICD6-LED-14L-40-WF-TR6RL-HAZ	14	14	112
	2	WP12	Single	6957	0.900	WPSIL-06L-40	58.14	58.14	116.28
	7	WP8B	Single	1286	0.900	WPSIL-01L-40	12.34	12.34	86.38
	6	WP8A	Single	4053	0.900	WPSIL-04L-40	37.05	37.05	222.3
	2	SCM	Single	7983	0.900	SCM-LED-08L-SC-40	55.4	55.4	110.8

Calculation Summary					
Label	CalcType	Units	Avg	Max	Min
Calcpts_1	Illuminance	Fc	1.60	44.3	0.0
			Avg/Min	Max/Min	
			N.A.	N.A.	

Scale: 1 inch= 10 Ft.





YOUR PREMIER DESIGN/BUILD PARTNER

21 August 2024

Planning Department – City of Mankato
10 Civic Center Plaza
Mankato, MN 56002

RE: Tsunami Express Car Wash – 1896 Adams Street Sound Study

To whom it may concern,

The Redmond Company and our partners, Civil Site Group, provided a full Plan Commission submittal package for review and approval. Included in this submission was a sound study report completed by Soundscape Engineering, an acoustic engineering consultant.

Our team is requesting approval from the plan commission with the condition of a revised report being submitted to the city showing that the proposed development will comply with the State of Minnesota's Administrative Rules Section 7030.0040 Noise Standards. This report will outline options to bring the development into compliance and will be submitted to the City of Mankato at or before the time of building permit application. If the permitting documents do not show compliance with the recommendations outlined by Soundscape Engineering in their report, a building permit will not be issued until the documents are revised to show compliance.

Please consider this letter a formal commitment to comply with the standards outlined in Section 7030.0040.

Sincerely,

Miranda R. Seals
Architect
The Redmond Company



W228 N745 Westmound Drive
Waukesha, WI 53186



P 262.549.9600
F 262.549.1314



TheRedmondCo.com

PLAN | DESIGN | BUILD



YOUR PREMIER DESIGN/BUILD PARTNER

22 July 2024

Planning Department – City of Mankato
10 Civic Center Plaza
Mankato, MN 56002

RE: Tsunami Express Carwash – 1896 Adams Street

To Whom It May Concern,

Tsunami Express Carwash (“Tsunami”) is proudly presenting the proposed development plans for a state-of-the-art facility that will serve Mankato (the “City”) and the surrounding communities.

Introduction

The proposed development is located directly East of the Target at the River Hills Mall near the intersection of US-14 and MN-22, and the parcel number is R01.09.09.426.034. The property is a 1.74 acre site currently occupied by an abandoned building. The site is currently zoned as B-3 “Commercial” and is also in the Gateway Overlay District. The B-3 zoning district allows a car wash as a special use. The proposed facility is a single-story 5,200 SF building including the car wash bay, mechanical room, storage, office, and restroom. Accessory buildings include a 100 SF employee sales booth, 100 SF vacuum pump house, and dumpster enclosure.

Business Operations

Tsunami Express Carwash (“Tsunami”) is a high-quality express car wash that uses state-of-the-art equipment and provides customers with a wide variety of services. For washes, Tsunami offers several levels of memberships, or customers can pay for a single wash at every visit. The wash cycles are offered at varying price points to suit the needs of each customer.

The site will house 9 vacuums to serve 18 parking stalls. These stalls will be 13’-0” wide and 18’-6” deep. This is wider than the average parking stall to allow for more maneuverability around the vehicle. The vacuums will be available to customers for free regardless of whether they go through the wash. The free vacuums will only be available for use during regular business hours.

In addition to regular business operations, Tsunami also fosters community connections and is an advocate for supporting local organizations. They offer an opportunity to host fundraisers, giving a modern spin on the famous “community car wash” that was once a popular method of raising funds for various community organizations. Supporters of the organizations will receive a high-quality car wash, and the organization receives 50% of the proceeds from every wash donated back to them.

Regular business hours extend from 7:00 am to 8:00 pm daily. There will be attendants on duty for the full duration of the operating hours to assist customers and maintain the cleanliness of the site. Each shift will employ 2-3 employees with a total staff of approximately 8-10 employees. During these hours, Tsunami expects to service 200-400 customers per day.

Tsunami currently has five (5) facilities in the Milwaukee area including: Oak Creek, Greenfield, Waukesha, on Fond du Lac Avenue. They are excited to expand into and invest in the communities in Minnesota.

Entitlement Strategy & Timeline

Tsunami will comply with the local approval process by submitting applications for a Conditional Use Permit and Certificate of Design Compliance for Plan Commission consideration. They anticipate receiving municipal approvals in Fall of 2024 with single-phase construction beginning shortly thereafter. The facility is anticipated to be open and operational in summer of 2025.

Site Plan

The site is arranged such that the main car wash building is located on the east side of the site and is oriented to be parallel to MN-22. Tsunami strives to place themselves in areas that make access to their services convenient, allowing their customers to easily incorporate a car wash into their weekly errands.

- Layout: The plan shows (20) parking stalls with (2) being dedicated ADA spaces. The entrance to the wash includes (2) pay stations that allow space for the stacking of up to (15) vehicles.
- Vacuum Design & Placement: The vacuums are aligned along both sides of the parking lot with one vacuum post serving two parking stalls. Each vacuum has (2) hoses that are attached to a central vacuum system that routes to either the main building or the detached pump house at the southeast corner of the site. Each vacuum station is also equipped with a trash bin, a mat clip for easy vacuuming, and a central blower system to help clean those hard-to-reach places.
- Landscaping/Screening: There is ample landscaping throughout the site that has been designed by a professional landscape architect. The dumpster is screened by an enclosure constructed of materials that match the main building, and the pump house is a fully-enclosed secondary building also constructed of similar materials.
- Access: The main entrance to the site is located at the southwest corner of the site off Adams Street. Immediately after entering the site, vehicles can turn left to access the free vacuums, or they can continue straight on to enter the queue for the pay booths and wash. After exiting the wash tunnel, they can proceed straight to an exit-only drive connecting to Adams Street, or they can turn left to access the free vacuums or exit the site at the south.
- Signage: A full signage package complying with all code standards will be submitted for approval. There will be signage on the building as well as one monument sign on the north end of the site directly adjacent to the exit-only onto Adams Street.
- Lighting: The proposed lighting plan includes general pole lighting, wall packs, and canopy lighting that provide an average illumination of 2.0 footcandles. Additional information on each proposed lighting fixture has also been provided.

Architecture

The design of the building consists of beige split-faced concrete block, gray masonry, clear anodized aluminum storefront windows, and a blue standing seam metal roof. The long façade

is broken up with brick accent piers. The windows located in the mechanical room will be spandrel glazing.

The main structure of the building consists of structural CMU walls, precast hollow core planks for the roof of the wash tunnel, steel joists and metal deck for the roof of the mechanical/support rooms and poured-in-place concrete foundation walls.

The tunnel contains dual overhead doors at both the entrance and the exit. The interior door will be insulated metal with vision lites to provide thermal protection and security during non-operational hours; the exterior overhead door will be vinyl roll-up doors that will correspond with Tsunami's blue and yellow branding. These vinyl doors are intended to provide protection from the elements in the winter months when the metal doors are open.

Conclusion

Tsunami Express Carwash is excited for the opportunity to submit their state-of-the-art facility to the Plan Commission to be considered for this site. They will prove to be a valuable addition to the Mankato community.

Documents

Accompanying this narrative are all the documents required for the City to review and consider the project for approval. Also included are supplemental documents that provide additional information that may be of use to the Plan Commission while reviewing our submittal. These supplemental documents include:

- **Exhibit 1: Lighting Cut Sheets** Specific information on all proposed lighting fixtures to supplement the site photometric plan. *(Included in digital submittal only to conserve paper.)*
- **Exhibit 2: Reclaim System & Equipment** Information regarding the reclaim system and equipment.
- **Exhibit 3: Letter of Approval** Letter of recommendation from the River Hills Mall expressing formal support of the project.

Other documents are available upon request. These documents include a geotechnical survey and safety data sheets for all chemicals used for operations.

A sound study is planned be conducted for this site specifically to show the car wash's noise impact on the adjacent properties. The final report will be available and shared with the city as soon as it is received.

Please do not hesitate to contact us with any additional questions.

Sincerely,



Miranda R. Seals, AIA, NCARB
Architect
The Redmond Company

Meeting Date: 08/28/2024

Title

CY38-24

Request of Graham Engineering, on behalf of the property owner, for a certificate of design compliance for the construction of a new, approximately 10,700 square foot structure in the Highway Gateway Overlay District. The subject property is described as Lot 3, Block 2, Victory Commercial Park, (Blue Earth County PID R010904300021 and R010909102004).

The anticipated date of City Council action is September 9, 2024.

Applicant

The applicant is Graham Engineering.

Request

The applicant is requesting a certificate of design compliance for the construction of a new, approximately 10,700 square foot structure in the Highway Gateway Overlay District.

Location

The subject property is described as Lot 3, Block 2, Victory Commercial Park, (Blue Earth County PID R010904300021 and R010909102004).

Existing Land Use

The property is currently vacant. The Land Use Plan designates this property for commercial development.

Zoning

B-3, Highway Commercial District.

Site Plan Review Comments

The item was reviewed at the Site Plan and Traffic Committee on August 13, 2024 and submitted the following comments:

1. Applicant shall be aware that all infrastructure including signal at Victory needs to be in place prior to issuance of CO.

Review

The applicant is requesting a certificate of design compliance for the new construction of a new approximately 10,700 square foot structure located in the Highway Gateway Overlay District. The subject property is described as Lot 3, Block 2, Victory Commercial Park, (Blue Earth County PID R010904300021 and R010909102004).

The applicant is requesting a certificate of design compliance for the construction of an approximately 10,700 square foot structure that is located within the highway gateway overlay district. The proposed use, a vehicle repair shop, is a permitted use within the B-3 zoning district.

The site plan shows two entrances to the development from the proposed road, Interlachen Drive. The building is situated in the center of the lot. The interior drive lane wraps around the building and goes under a canopy on the western side of the building. As for parking, there is parking surrounding the building on the east and south sides.

The applicant is providing 42 parking stalls; the code requires 35. A landscaping plan was submitted showing landscaping around the perimeter of the lot. The trash enclosure is located under the canopy and shall be screened in conformance with Mankato City Code.

The floor plan shows a sales area, showroom, lounge area, restrooms, vending hallway, employee lounge, employee restroom, managers' office, and training room. In the service area, there are service bays and a bullpen.

The exterior renderings show a mix of different pre-cast concrete panels in the color grizzle gray, integral white, and carriage door all exhibit different textures. Around the exterior canopy there is refinished standing seam metal roofing panels in dark bronze.

Exterior lighting shall meet Mankato City Code. A photometric was provided in the submittal. The applicant will need to revise the photometric and exterior lighting standards in order to meet the required lighting levels at the property line. A condition has been included herein.

Findings

Staff submits the following findings of fact:

1. The proposed use conforms with the standards set forth in the B-3 Highway Business District.
2. The proposal when including implementation of the required conditions conforms to Mankato City Code section 10.48 Highway Gateway Overlay District.

Recommendation

Staff recommends approval of the certificate of design compliance with the following conditions:

1. The applicant shall construct the building per the plans approved by the Mankato City Council.
2. Outside storage of refuse, tires, or debris shall be prohibited.
3. The applicant shall provide bicycle parking.
4. The applicant shall upgrade the photometric plan to show lighting levels at the property line to meet the requirements set forth in the code. Lighting levels at the property line may not exceed ½ foot candle.
5. A sign permit will be required for all proposed exterior signage and shall adhere to Mankato City Code Section 10.87
6. The dumpster enclosure shall be fully screened and shall achieve Mankato City Code standards.
7. There shall be no long-term storage of inoperable and junk vehicles on the site.
8. Landscaping shall be installed in accordance with City Code Section 10.48.
9. The building/uses within the proposal will not be issued a certificate of occupancy until all streets and private drives are completed and approved by the City of Mankato and the intersection improvements are completed at the intersection of Victory Drive and Hazeltine Road.

Attachments

General Location Map

Aerial Location Map

Civil Plans

Landscaping Plan

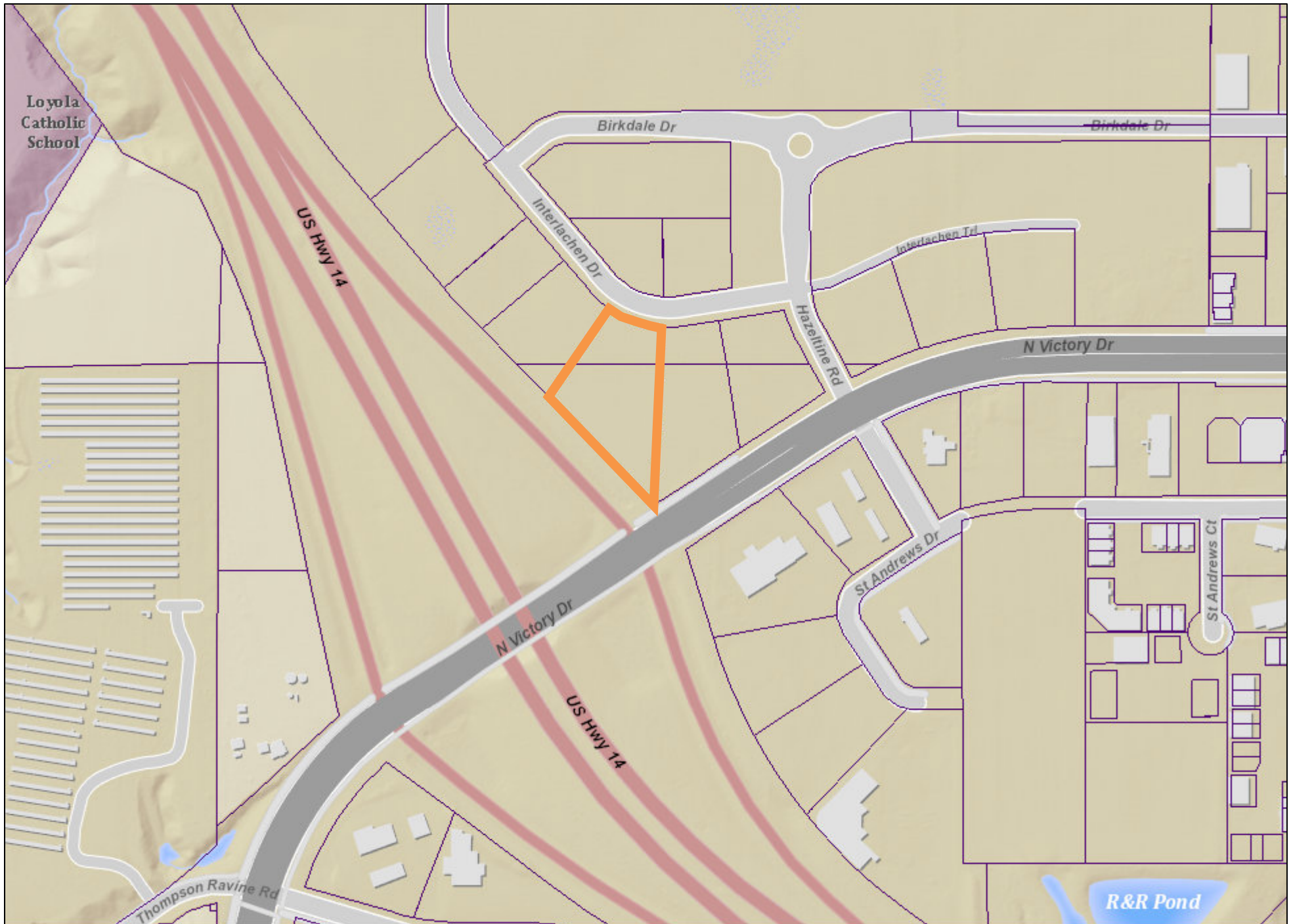
Floor Plans

Renderings

Material Sample Board

Photometric

General Location Map



Date: July 2024

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.



Aerial Map



Date: July 2024

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.

DESIGN REVIEW DRAWINGS
PREPARED FOR
LES SCHWAB TIRE CENTERS
LOT 3 VICTORY COMMERCIAL PARK, MANKATO, MN 56601

CONTACTS

CITY OF MANKATO
Bryan J. Doherty, Mayor
Contact: Charles Doherty, PE
Bismarck, ND 58504
Phone: 505-795-2000
Email: cdoher@cityofmankato.gov

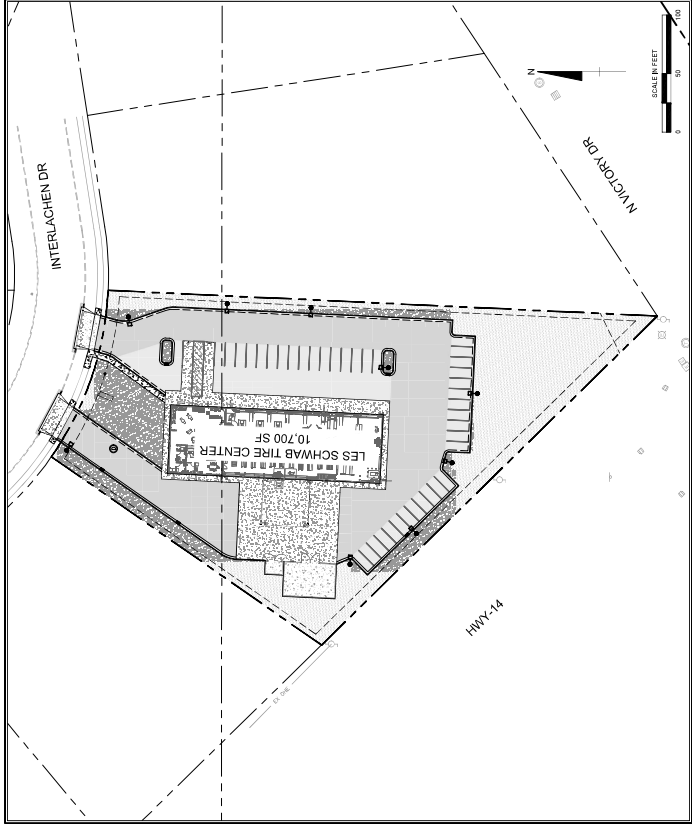
CIVIL ENGINEER
Graham Engineering LLC
Graham Engineering, LLC
Bismarck, ND 58504
Phone: 505-795-2000
Email: graham@grahameng.com

LANDSCAPE
SC Alliance
SC Alliance
Bismarck, ND 58504
Phone: 505-795-2000
Email: scalliance@scalliance.com

ARCHITECT
Chris Amburn, PLS
Chris Amburn, PLS
Bismarck, ND 58504
Phone: 505-795-2000
Email: chris.amburn@westwoods.com



VICINITY MAP
(NOT TO SCALE)



SITE MAP

SHEET INDEX	
SHEET	DISCRIPTION
C1.0	COVER SHEET
C1.1	SITE PLAN
C1.2	DRAINAGE PLAN
C1.3	UTILITY PLAN
L1.0	OVERALL SITE LANDSCAPE PLAN
L3.0	PLANTING PLAN
A1.1	FLOOR PLANS
A2.1	EXTERIOR ELEVATIONS
A2.2	EXTERIOR ELEVATIONS
A2.3	MATERIALS BOARD
E1.0	SITE PHOTOGRAPHIC PLAN
E2.0	SITE FUTURE CUT SHEETS



PRELIMINARY - NOT
FOR
CONSTRUCTION
FOR
CITY OF MANKATO
DESIGN REVIEW
ONLY

COVER SHEET
LOT 3, VICTORY COMMERCIAL PARK
LES SCHWAB TIRE CENTERS
MANKATO, MN
PROJECT NO. 2020-0322
ORIGINAL DATE: 2020-07-23
REVISION DATE:
REVISION DATE:
DRAWING NUMBER:
C1.0

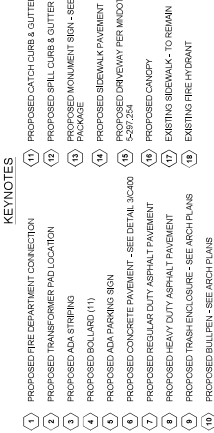


SITE PLAN

LOT 3, VICTORY COMMERCIAL PARK
LES SCHWAB TIRE CENTERS
MANKATO, MN

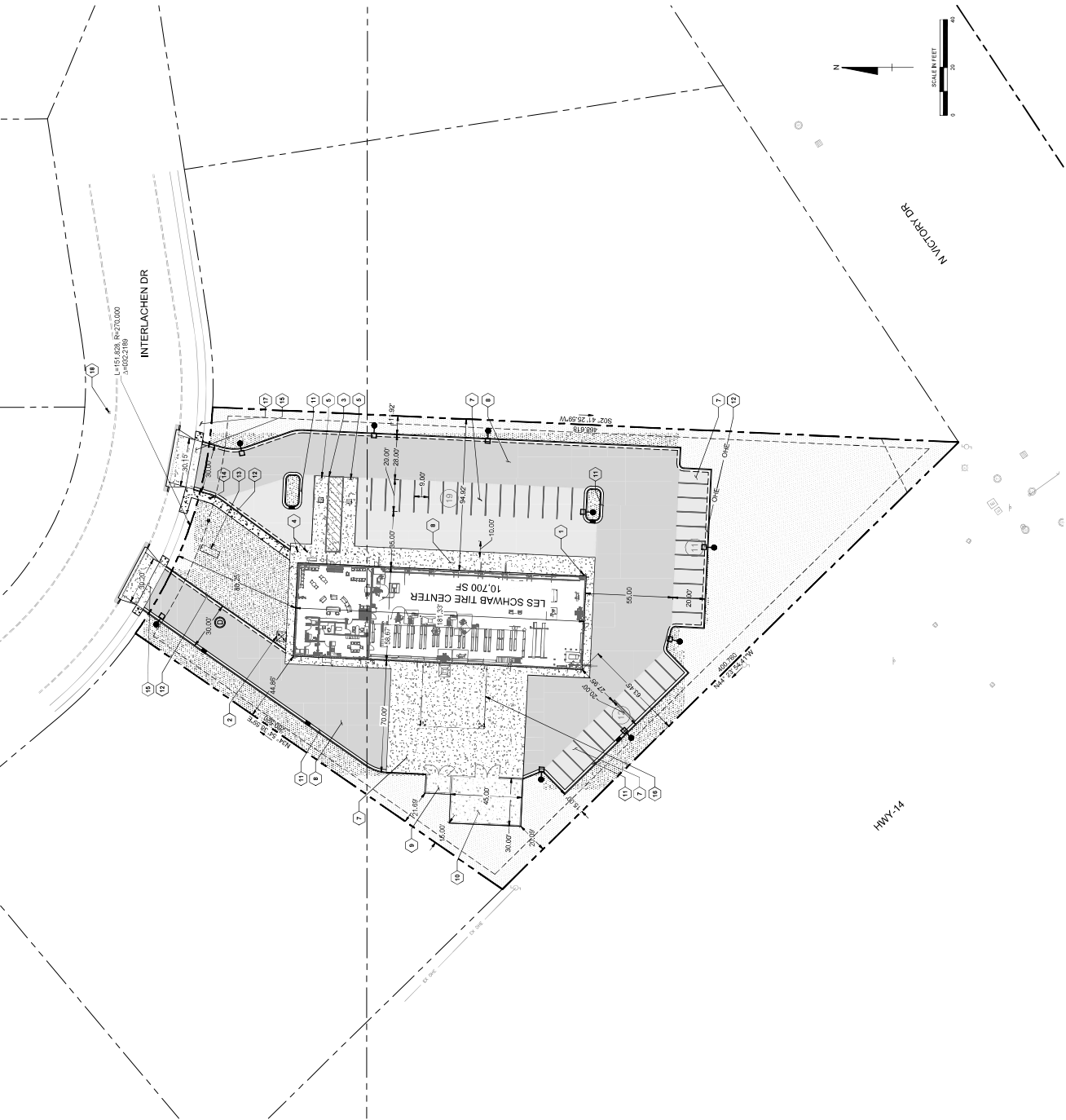
ORIGINAL DATE: 2024.07.23
PERMIT DATE:
IFC DATE:
DRAWING NUMBER:

C1.1



PROPERTY AREA	2.02 ACRES (87,888 SF)	
BUILDING AREA	10,700 SF	
ADDRESS	LOT 13 VICTORY COMMERCIAL PARK HWY 14 N VICTORY DR	
ZONING	B-3 (HIGHWAY COMMERCIAL DISTRICT)	
PERMITTED USE AS	"AUTOMOBILE REPAIR GARAGE"	
PARKING	REQUIRED*	PROVIDED
(3) SPACES PER SERVICE STALL PLUS 1 PER EMPLOYEE		
YARD SETBACKS	PER GC	FRONT SIDE REAR
BLOG COVERAGE	12%	MAX 3'
CORNER SETBACKS ALONG SECONDARY STREET		
FRONTAGE OF CORNER LOT		
BUILDING REQUIREMENTS		
MAX HEIGHT = 8' NO REQUIREMENT		
SIGN ALLOWANCE: (1) MONUMENT SIGN PER LOT ALLOWED		
(2) BILLBOARD SIGN PER LOT MAX AREAS NOT TO EXCEED THE LINEAL FRONTAGE OF THE LOT		

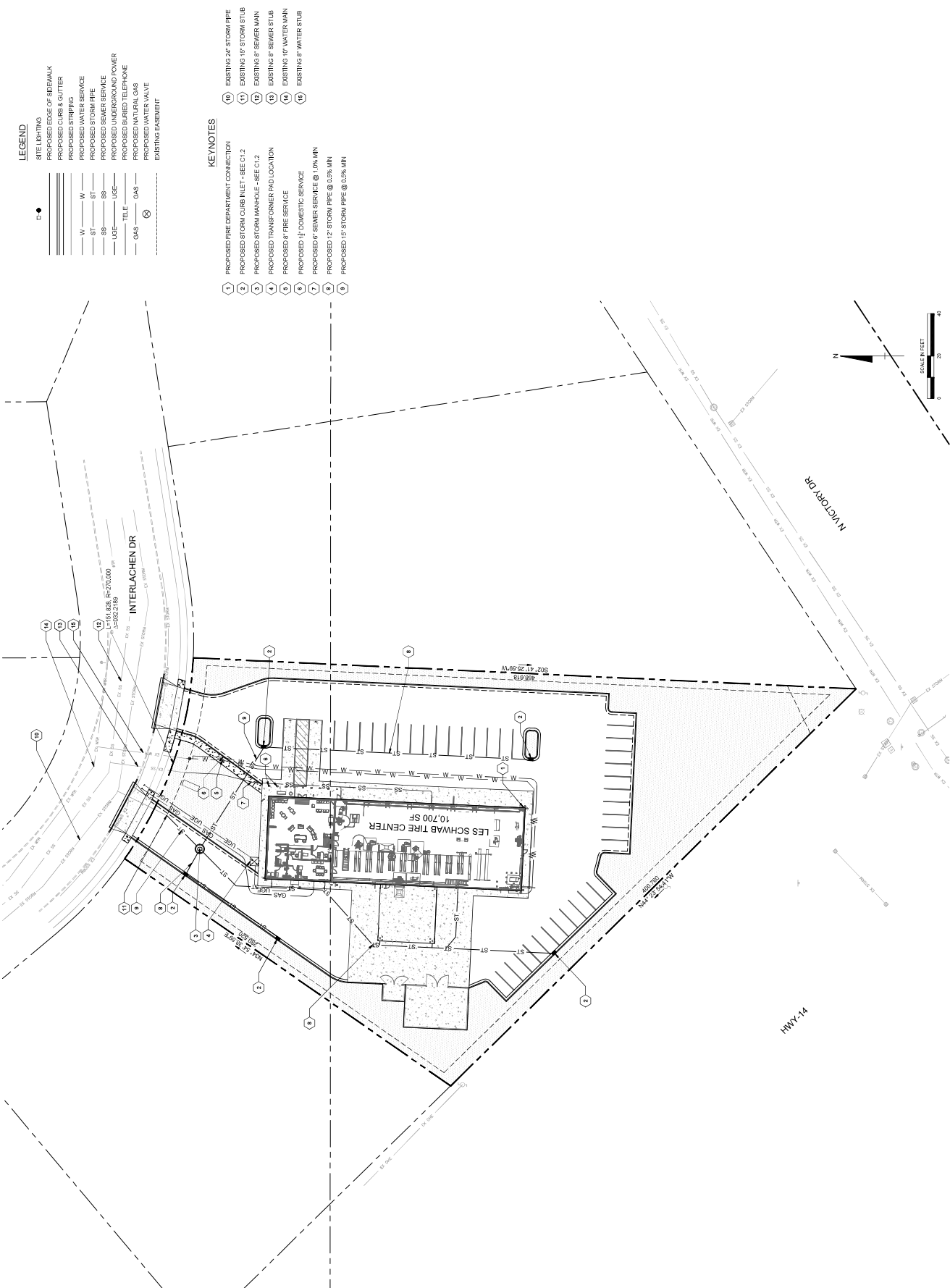
SITE DATA BLOCK





UTILITY PLAN

C1.3



SEE SHEET L-3.0 FOR ENLARGED PLANTING PLAN

LOT 4

LES SCHWAB
MANKATO WIN
VICTORY
COMMERCIAL
PARK, 232 ACRES

DISPOSAL
CENTER
OTHER

L-101
L-104

L-102

L-103

LOT 2

1" = 20'

OVERALL SITE LANDSCAPE PLAN

REFERENCE NOTES SCHEDULE	
SYMBOL	LANDSCAPE DESCRIPTION
	LANDSCAPE EROSION CONTROL MAT, 4 FT X 31/2" THICK, BLACK POWDER COAT FINISH INSTALL PER MANUFACTURER'S SPECIFICATIONS
	LOW MAINTENANCE LAWN CONTACT RAINY TURF, CONTACT RAINY TURF COMPANY, 507-387-4091, MANIKATO, MN HYDROSEED ALL AREAS INDICATED ON PLAN WITH "OUT LESS LOW GROWING TURF MIX" BY TURF COMPANY PROCESSED WITH HYPERBOLIC HYPO MULCH - UNLESS SPECIFIED OTHERWISE IN NOVEMBER, FOR BENTONITE SEEDING, THEN USE "EXTENSION HYPO MULCH"
	LANDSCAPE BED, TYP. 1" TOTAL LANDSCAPE SUPPLY, TOTAL LANDSCAPE SUPPLY, 507-442-7625, MANIKATO, MN MIN. THREE TO FOUR INCH LAYER OF 1 1/2" ST. CLOUD GRANITE ROCK MULCH INSTALLED OVER NONWOVEN WEED FABRIC
	TREE RING TRIP, DIAMETER TREE RING WITH WESTERN RED CEDAR MULCH FROM TOTAL LANDSCAPE SUPPLY, OR EQUIVALENT, INSTALL AROUND ALL TREES OUTSIDE OF LANDSCAPE BEDS, SEE PLAN AND DETAIL 2 ON SHEET L-03

ALL LANDSCAPED AREAS TO BE IRRIGATED.
IRRIGATION PLANS TO BE PROVIDED.

CONTACT INFORMATION

CITY OF MANKATO:
PLANNING DEPARTMENT
MOLLY WESTMAN [507-439-4571]
mwestma@mankatonm.gov

ARCHITECT:
P&B ARCHITECTS, LLP
1000 E. MAIN ST., SUITE 100
BOJSE, ID 83705
chsp@p&barch.com

LAND SURVEYOR:
WESTWOOD PROFESSIONAL SERVICES, INC.
CHRIS AMBURN, PLS [952-437-6150]
MINNETOCCA, MN 55343
chris.amburn@westwoodpls.com

GEOTECHNICAL:
BRAUN INTERTEC
10000 W. 13TH AVE., SUITE 100
BISMARCK, ND 58004
wclshu@braunintertec.com

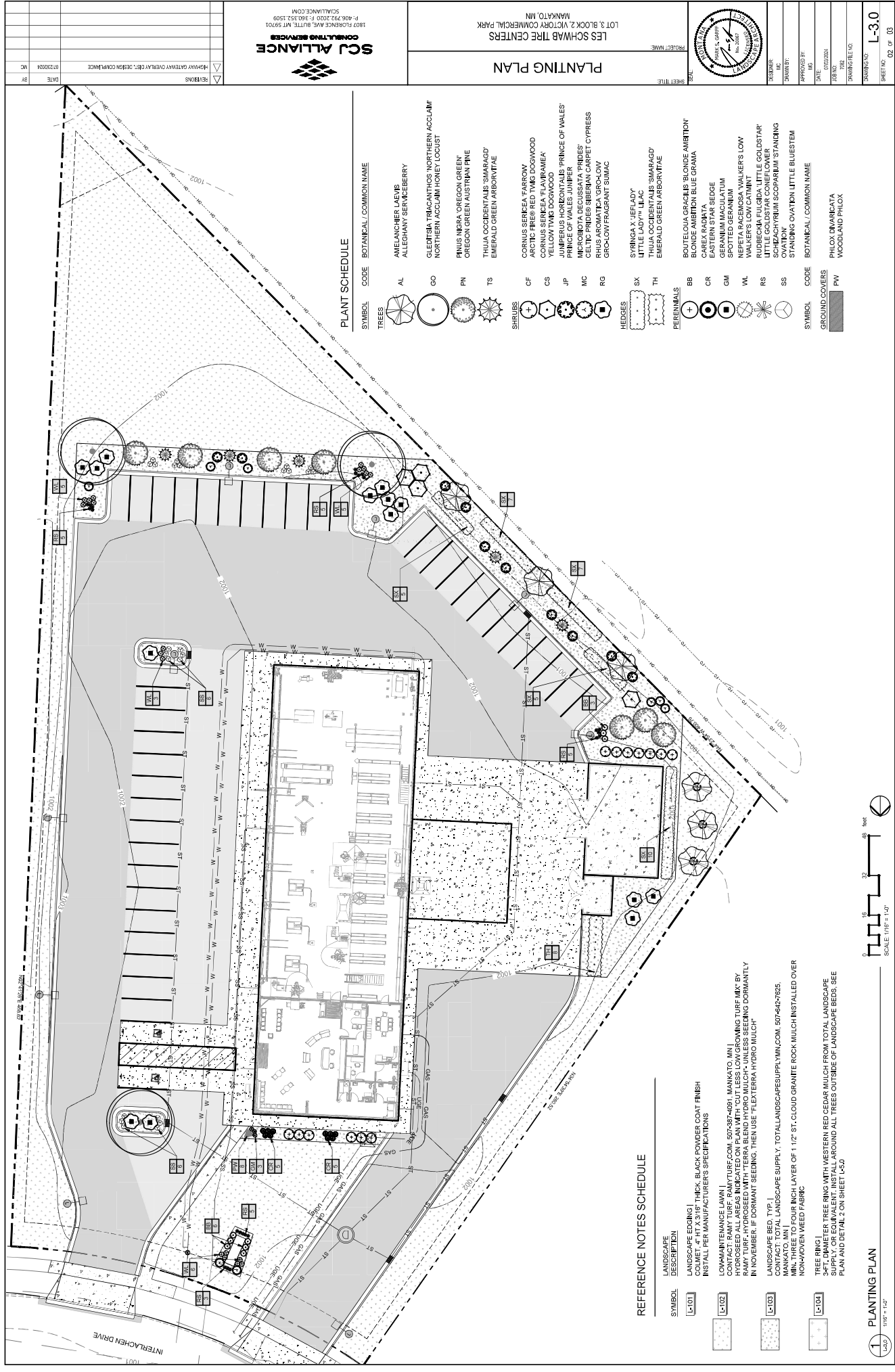
CIVIL ENGINEER:
GRAHAM ENGINEERING LLC
ZACK GRAHAM, PE 406-654-6886
BOZEMAN, MT 59718
zack@grahameng.com

LANDSCAPE ARCHITECT:
SCJ ALLIANCE
1005-702-2020
BUTTE, MT 59701
mark.jeff@scjalliance.com

SHEET 1.01 FOR ENLARGED PLANTING PLAN

OVERALL SITE LANDSCAPE PLAN

1" = 30'



DATE: 07/20/2024
BY: [Signature]
REVISIONS: HIGHWAY GATEWAY OVERLAY (GEO), DESIGN COMPLIANCE

SCU ALLIANCE
CONSULTING SERVICES
1800 PLYMOUTH AVE SUITE 100
P. 608.792.2000 F. 608.352.1500
SCUALLIANCE.COM

PROJECT NAME: LESS SCHWAB TREE CENTERS
LOT 3, BLOCK 2, VICTORIA COMMERCIAL PARK
MANKATO, MN



DESIGNED BY: [Signature]
CHECKED BY: [Signature]
DATE: 07/20/24
JOB NO.: 240004
DRAWING FILE NO.:
DRAWN BY: [Signature]

DRAWING NO.: L-3.0
SHEET NO.: 02 OF 03

PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME
	AL	AMELANCHIER LAEVIS
	GO	GLEDTISIA TRACANTHOS 'NORTHERN ACCLAIM'
	PN	PRINUS NIGRA 'OREGON GREEN'
	TS	THUJA OCCIDENTALIS 'SMARAGD'
	CF	CORNUS SERICEA 'FARROW'
	CS	CORNUS SERICEA 'FLAVIRAMEA'
	JP	PRINCE OF WALES JUNE
	MC	MICROBOTA DECUSSATA 'PRICES'
	RG	RHUS AROMATICA 'GRO-LOW'
	SK	SYRINGA X 'JEELEADY'
	TH	THUJA OCCIDENTALIS 'SMARAGD'
	BB	BOUTELOUA GRACILIS 'BLONDE AMBITION'
	CR	CAREX ROSTKOSKYI
	GM	GERANIUM MACULATUM
	WL	WALKER'S LOW CATMINT
	RS	RUDIBECCA FULGIDA 'LITTLE GOLDSTAR'
	SS	SCHIZACHYRIUM SCOPARIUM 'STANDING Ovation'
	PW	PHLOX DIVARICATA

REFERENCE NOTES SCHEDULE

SYMBOL	LANDSCAPE DESCRIPTION
	LANDSCAPE EDGING: COLMET, 4" HT X 3 1/8" THICK, BLACK POWDER COAT FINISH INSTALL PER MANUFACTURER'S SPECIFICATIONS
	LOW MAINTENANCE LAWN: CONTACT: RAINY TURF, RAINYTURF.COM, 507-387-4091, MANKATO, MN HYDROSEED ALL AREAS INDICATED ON PLAN WITH "CUT LESS LOW GROWING TURF MIX" BY NOVEMBER 15, 2024. SEEDS WILL BE PLANTED IN NOVEMBER. IF DORMANT SEEDING, THEN USE "FLEX TERRA HYDRO MULCH"
	LANDSCAPE BED, TYP. MIN. THREE TO FOUR INCH LAYER OF 1 1/2" ST. CLOUD GRANITE ROCK MULCH INSTALLED OVER NONWOVEN WEED FABRIC
	TREE RING 3-FT. DIAMETER TREE RING WITH WESTERN RED CEDAR MULCH FROM TOTAL LANDSCAPE SUPPLY OR EQUIVALENT MULCH INSTALLED AROUND ALL TREES OUTSIDE OF LANDSCAPE BEDS. SEE PLAN AND DETAIL 2 ON SHEET L-03

SCALE: 1/8" = 1'-0"
0 15 30 45 feet
N
PLANTING PLAN
1/8" = 1'-0"

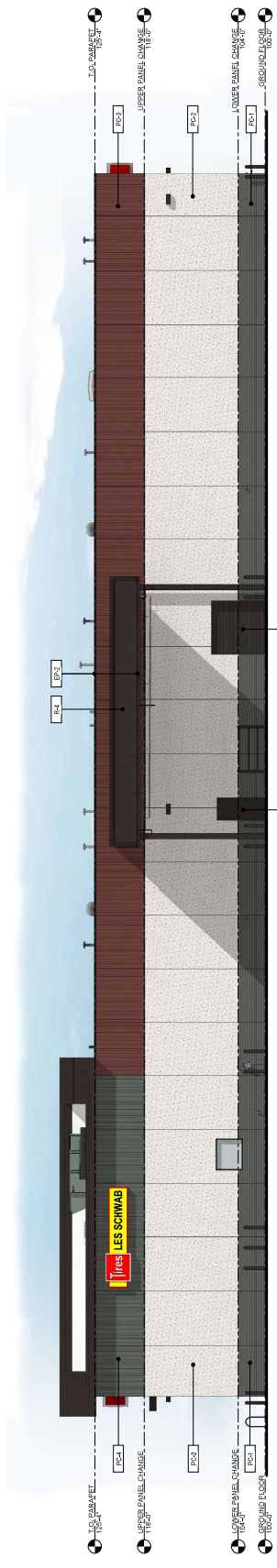


MATERIAL LEGEND:

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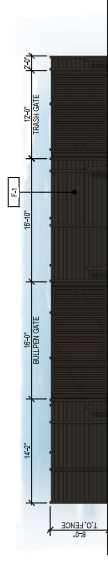
PERSPECTIVE



REAR ELEVATION



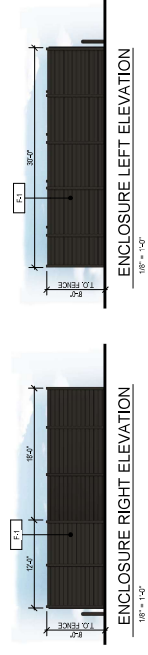
LOADING ELEVATION



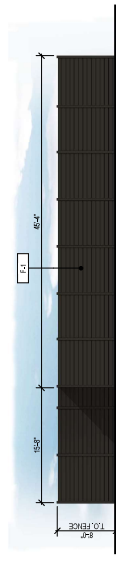
ENCLOSURE FRONT ELEVATION



ENCLOSURE RIGHT ELEVATION



ENCLOSURE LEFT ELEVATION

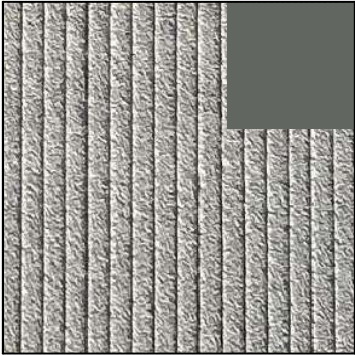


ENCLOSURE REAR ELEVATION

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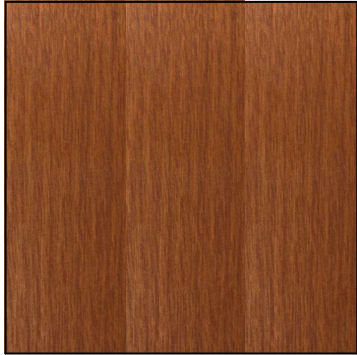
07.19.24
PROJECT# | 2417
DESIGNED BY | NC
DRAWN BY | NC
REVISIONS

EXTERIOR ELEVATIONS



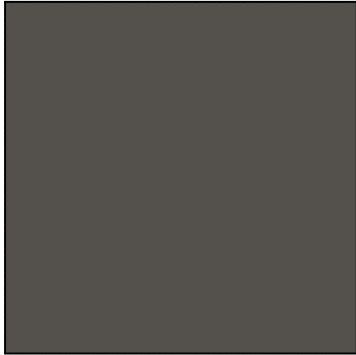
PC-1 EXPOSED AGG. W/ HORIZONTAL RELIEF

SCALE: 1/8" = 1'-0"



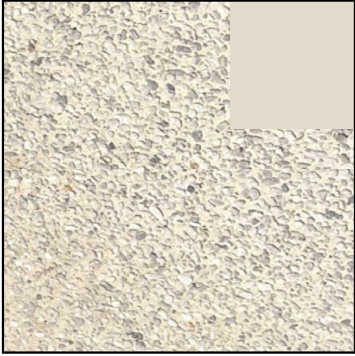
SP-1 WOODGRAIN COPPER

SCALE: 1/8" = 1'-0"



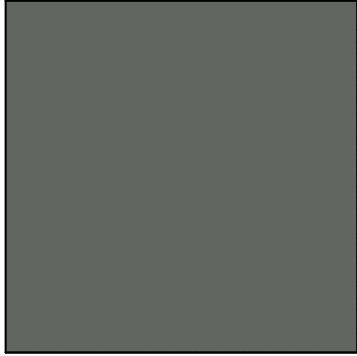
COLOR - DARK BRONZE

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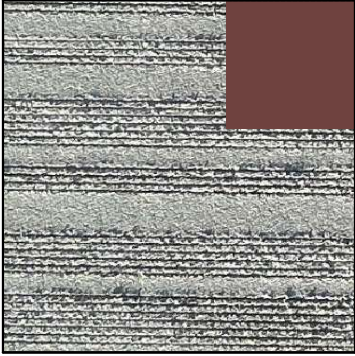
PC-2 EXPOSED AGGREGATE

SCALE: 1/8" = 1'-0"



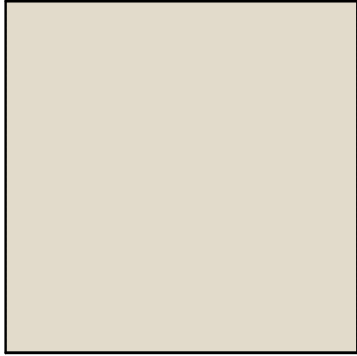
COLOR - GRIZZLE GREY

1/8" = 1'-0"



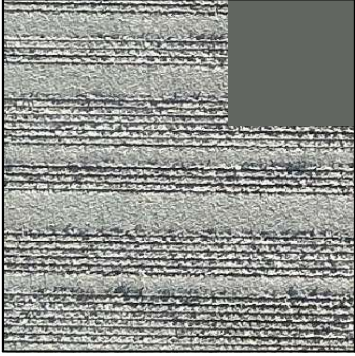
PC-3 EXPOSED AGG. W/ VERTICAL RELIEF

SCALE: 1/8" = 1'-0"



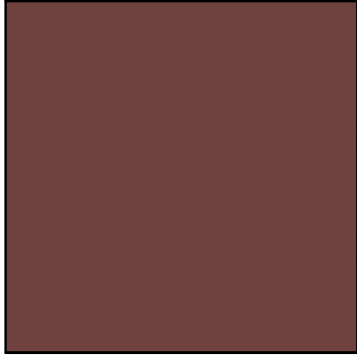
COLOR - INTEGRAL WHITE

1/8" = 1'-0"



PC-4 EXPOSED AGG. W/ VERTICAL RELIEF

SCALE: 1/8" = 1'-0"



COLOR - CARRIAGE DOOR

1/8" = 1'-0"



LES SCHWAB TIRE CENTER - MANKATO, MN
7 BAY LH LINEAR STORE - PROTOTYPE Q2 2024
TBD INTERLACHEN DR., MANKATO, MN

© 2024 | ALL RIGHTS RESERVED
ENTITLEMENT

07.08.24
DESIGNED BY INC
CREATED BY INC
REVISIONS

MATERIALS BOARD

A2.3

[illegible]

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07.23.2024
PROJECT# 8912A
DESIGNED BY BL
DRAWN BY INW
REVISIONS

Meeting Date: 08/28/2024

Title

CYL39-24

Request of New Energy Equity, on behalf of the property owner, for an interim use permit to allow for a one-megawatt community solar garden in the Lime Township Rural Conservation zoning district. 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 3^d Avenue; Blue Earth County PID R400429200017).

The anticipated date of Lime Township Board action is September 10, 2024.

Applicant

The applicant, New Energy Equity, with permission of the property owner John Bohrer.

Request

Brian Keenan, on behalf of New Energy Equity, with permission of the property owner, has applied for an interim use permit to allow a one-megawatt solar garden on an approximately 7.2-acre site at the site located at 23759 Third Avenue. Access to the site is shown from 3rd Avenue along a proposed 33' easement. The panels are situated approximately 2000' from 3rd Avenue.

Location

The subject property is zoned Conservation and is legally 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).

Existing Land Use

The parcel is made of 84.22 acre and is currently used for agricultural purposes.

Zoning

The property is located in Lime Township and is zoned Rural Conservation.

Environmentally Sensitive Areas

The site has been delineated for wetland through Blue Earth County. Wetlands are located on the parcel, but are not present in the proposed development window for the solar panels.

City Code

The Lime Township Ordinance can be found at this link: [Lime Township Ordinances](#)

Site Plan Review Comments

The Site plan and Traffic Advisory Committee reviewed the item at their August 13th, 2024 meeting and provided the following comments:

1. Applicant shall confirm that the access way over the railroad/adjacent property, in addition to allowing farm access as represented in the legal documentation, allows construction access to the site for construction and disassembly when the site is decommissioned.
2. Applicant shall confirm that they are aware that this is only one megawatt solar development that has been approved the subject development site.

Review

The applicant, New Energy Equity, is requesting an Interim use permit with permission of the property owner to allow the construction and operation of a 1-megawatt community solar garden, in the Rural conservation district, in Lime Township. The subject property consists of 84.22 acres and the applicant submitted a plan to utilize 7.2 acres of said acres for the solar facilities. The proposed capacity conforms with Section 15 Part B Subpart 3 of a System having “a maximum area of no greater than 10 acres in size or 1 megawatt of production.”

Community Solar Energy Systems in the Rural Conservation District is listed as a conditional use permit in the Lime Township Zoning Ordinance. The ordinance specifically addresses the construction of solar facilities in Section 15 in the ordinance.

The applicant has requested a 36-year interim use permit for the construction, operation, and ownership of a community solar garden. The garden will consist of approximately 2,592 solar modules that are proposed to be mounted to a driven pile. The installation height will range between 8’ to 12’. The panels will be arranged into rows from north to south. Each row of solar panels will connect to an inverter. The inverters will be connected by directionally bored underground conduit that is housed inside a PVC housing, which will be installed two feet below the surface. An Interconnection agreement with Xcel has been completed and submitted by the applicant.

Construction includes solar modules that will be mounted on driven steel piles, inverters, concrete transformer, and equipment pads, and gravel access roads. During the construction of the solar facility, the site will generate a variety of non-hazardous wastes, such as paper, cardboard, plastic, and wooden pallets. Any waste or debris will be gathered in a dumpster that will be removed during construction progress. This is compliant with Lime Township Zoning Ordinance, Section 15-part B subpart 7 Waste Disposals “shall be removed from the site promptly and disposed of in accordance with all applicable local, state, and federal regulations.”

The site plan depicts a site entrance off of 3rd Avenue crossing a railroad track. There is currently an application that has been submitted by the applicant with Union Pacific for a private road crossing agreement. The applicant is currently awaiting a professional engineering study draft from Union Pacific to confirm whether the construction and physical conditions of the crossing is sufficient. Once completed and confirmed a Private Road Crossing Agreement will be drafted. A condition has been included herein requesting this agreement prior to construction beginning.

With the newly proposed use of the parcel, Blue Earth County is requesting an updated access permit from the applicant. A condition has been included herein requesting the applicant to submit an updated access permit from Blue Earth County Public Works Department prior to the issuance of a construction permit.

The setbacks for the submitted solar site are all conforming to the 50 feet side and rear yard setback, alongside the 50 feet setback from principal and accessory structures.

The applicant has submitted the following information to assist with water retention, erosion, sedimentation control, and stormwater management through the proposed site of solar modules by germinating indigenous pollinator-friendly vegetation prior to construction, vegetative covers, and erosion control logs and silt fences when necessary. The measures taken comply with Lime Township Ordinance Section 5 General Regulations part 5 Water Retention, Erosion and Sedimentation Control subpart C Erosion and Sedimentation Controls by “developing the land in increments of a workable size and utilizing natural vegetation to retain and protect the land.” The applicant will be responsible for maintaining any existing drain tile system underneath the array and replacing any damage to tile during construction, or any time prior to or during decommissioning.

A Wetland Delineation and Natural Heritage report have been submitted within the application. It has been concluded by Blue Earth County and Area M Consulting, the solar arrays will avoid and will not impact wetlands during construction, the placement of the modules, and the decommissioning of the site. Conditions surrounding wetlands have been included by Blue Earth County, for the applicant to comply with, such as, during construction, the project shall utilize erosion control measures to mitigate any silt or material leaving the project site and upon completion the site shall be seeded using a native grass blend which is consist with the surrounding area. Measures to avoid or minimize disturbance to the State-listed species from Minnesota Natural Heritage Information System

will be included as conditions listed below.

The applicant has not submitted any plans for signage at this time, however they shall conform to Section 15 B subpart 5 allowing for “manufacturer and equipment information, warning, security or indication of ownership” signage only. A condition has been included herein requesting the applicant to comply with Lime township ordinance signage ordinances.

No exterior lighting has been proposed at this time, if the applicant, in the future proposes to install exterior lighting it shall conform to the Lime Township Ordinance.

The Solar Garden shall comply with Minnesota Rules 7030 governing noise, any Minnesota Pollution Control Agency or government agencies relating to solar arrays.

An anti-reflective coating will be placed on all panels to reduce the glare of the solar garden. Given the existing vegetation and terrain surrounding the solar facility, it will act as buffer to all surrounding areas by minimizing the glare on streets highways and neighboring properties. According to the Solar Glare Hazard Analysis Tool (SGHAT) submitted by the applicant, there is “no glare found” on any of the PV array receptors facing Lime Valley Road and Third Avenue and surrounding obstructions.

The Solar arrays will be encapsulated within an area protected by an eight-foot-high knotted wire fence. With the combination of the fence, natural barrier of trees, and long distant from adjacent properties the applicant is not proposing to include any vegetative screening.

The applicant has submitted a decommissioning plan documenting the removal of the equipment from the site upon termination of the usage of the equipment. The narrative states that the applicant is required to remove all of the equipment and restore the land to pre-development conditions. In the process of removing “the panels from the site, or decommissioning of the site, all panels, wiring, and mounting systems shall be resold to subsequent users or recycled with appropriate recycling facilities and shall not be disposed of in general use landfills”, the applicant shall conform to Section 15, part B, subpart 7 waste disposal. The applicant has submitted a plan to recycle PV modules, switch gear, copper and aluminum wire, and string inverter alongside of the components. Additionally, the applicant has provided a cost estimate for said removals at \$293,916.93.

Blue Earth County Property and Environmental Health has indicated that the septic system that serves this property has been certified non-compliant since 2018 and is in the initiate enforcement phase. Blue Earth County would not process this review at a planning commission level until a compliant septic system is installed. A recommended condition is included herein that a code compliance septic system be installed before a construction permit is issued.

Findings

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

1. Use. - The proposed 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.

Recommendation

Staff recommends approval of the Interim Use Permit to allow for a community solar facility in Lime Township with the following conditions:

1. The Private Road agreement shall be completed and submitted to the Lime Township Board prior to construction beginning.
2. An updated Access Permit from the applicant shall be submitted to Blue Earth County Public Works Department prior to commencement of construction activities.
3. The applicant shall schedule a pre-inspection of 238th Street/Road, County State Aid Highway 5, and the cartway with a Lime Township Board Supervisor or designee, and Blue Earth County designee, prior to construction.
4. The applicant shall be responsible for the maintenance and repair of 238th Street/cartway impacted by the development of this project. The maintenance shall include providing a drivable road, per the Township standards, throughout the entire construction process and clean up of any tracking of debris, garbage, or refuse from the site onto any adjacent roadways.
5. Access to the site is from CSAH 5 and 238th Street, and may commence after approval of the Lime Township Board prior to construction, and after Blue Earth County has issued the updated access permit.
6. Prior to construction on any site the permittee shall provide a map of all agricultural tile lines or drainage ditches on the parcel prior to construction to the Lime Township Board.
7. All staging areas, employee parking, construction parking and delivery parking shall be provided on-site in the designated area. Parking or staging on the township road or in its right-of-way is prohibited. The surface of these areas shall conform to the surfacing standards for parking areas in the Lime Township Zoning Ordinance.
8. A financial guarantee in the form of a cash escrow or irrevocable letter of credit meeting the Township's requirements in the amount of 125% of the cost to vegetate the Community Solar Energy System area shall be

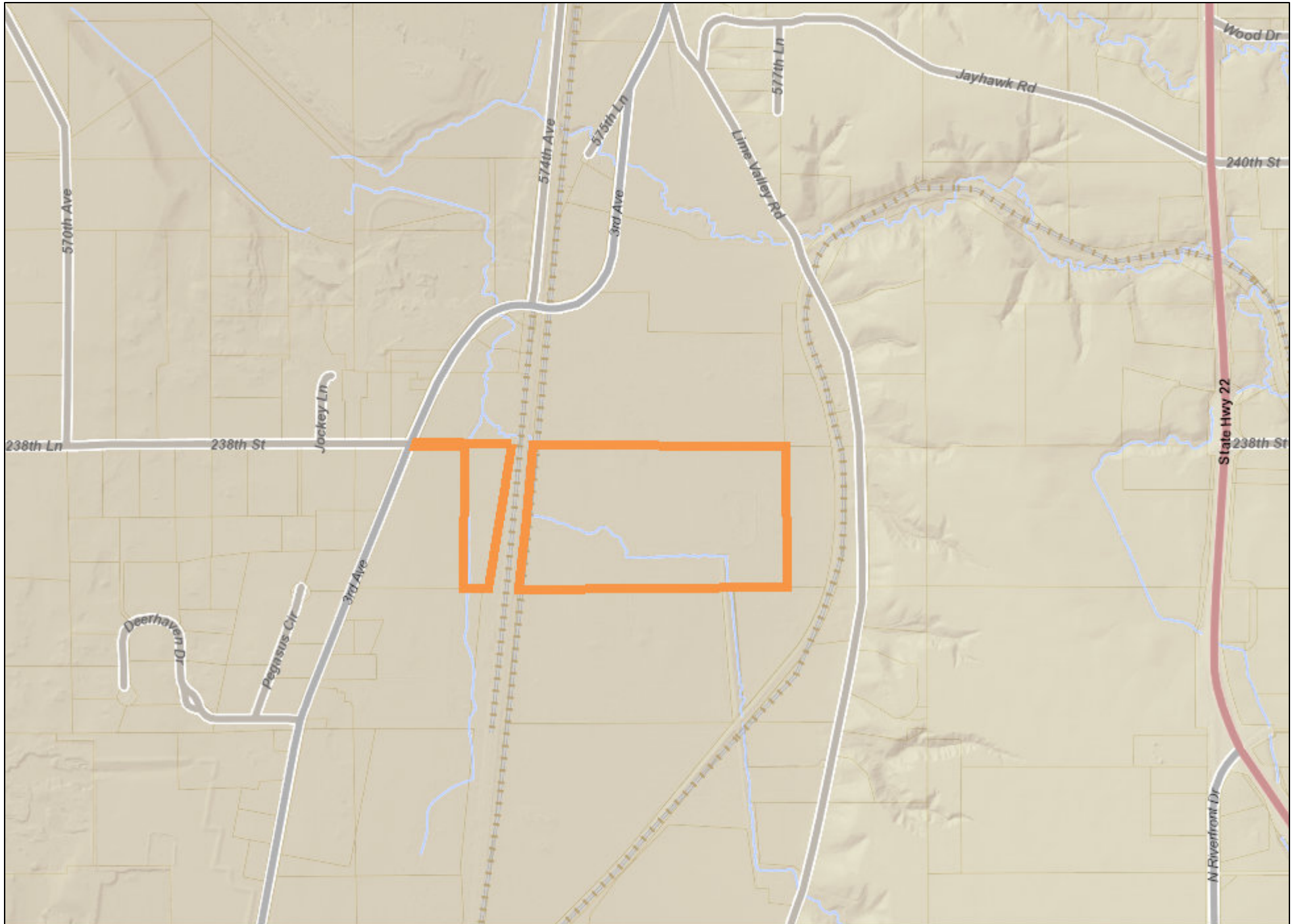
- submitted to the Lime Township Board. The Township shall determine the amount of the security required.
9. A financial guarantee in a form of a cash escrow or irrevocable letter of credit meeting the Township's requirements in the amount of 125% of the estimated cost to implement the decommissioning plan, without deductions for anticipated recycling or resale compensation, shall be submitted to the Lime Township Board required. The amount of the initial bond will be \$367,396.16.
 10. A financial guarantee in the form of a cash escrow or irrevocable letter of credit meeting the Township's requirements in the amount of 125% of the cost to implement the screening shall be submitted to the Lime Township Board. The Township shall determine the amount of the security required.
 11. Prior to construction, the Permittee shall post a financial guarantee in the form of a cash escrow or irrevocable letter of credit meeting the Township's requirements in the amount of 125% of the potential repair costs relating to any public roads which may adjoin the Community Solar Energy System. The Township shall determine the amount of the security required. The applicant shall be responsible for any damage caused to any public road by persons constructing, maintaining, or decommissioning the Community Solar Energy System.
 12. The applicant shall submit a plan addressing the maintenance of vegetation and screening. The ground cover shall be maintained for the life of the Community Solar Energy System and continue meeting the approved installation standards, which includes filling out the established Community Solar Energy System assessment form every three (3) years.
 13. The applicant shall submit the seed tags to the Township upon the completion of seeding.
 14. The applicant shall conform to the landscaping and screening standards set forth in the Lime Township Code.
 15. The applicant shall install any fencing a minimum of 5 inches above grade per the Lime Township Ordinance. The applicant shall not install fencing greater than 8 feet in height from the grade.
 16. The applicant shall coordinate with the Lime Township Board all inspections required to occur on site. The applicant shall submit any inspection fees to the Lime Township Board prior to scheduling any inspections.
 17. The Lime Township Board reserves the right to inspect a property within seven days of notification. The time period can be eliminated if the inspection is to address a life safety issue.
 18. The applicant shall provide a refuse and waste management plan during the construction of the facility.
 19. The applicant shall submit an operational report within 5 years of the approval of the interim use permit. The plan shall document energy production, maintenance activities, proposed construction activities, landscaping and screening, and address any issue.
 20. The Lime Township Board reserves the right to review, amend, or revoke the interim use permit if the property is deemed out of compliance and the issue is not remedied within a timeframe approved by the Lime Township Board.
 21. The Lime Township Board reserves the right to review, amend, or revoke the interim use permit if the property is sold.
 22. All site development shall conform to the approved plans and resolution. Any revisions to the plans shall first be approved by the Lime Township Board prior to any land disturbance activities or construction activities.
 23. The manufacturer's licensed engineer or a State of Minnesota licensed professional engineer shall certify in writing that the foundation and design of the solar energy system is within accepted professional standards, given local soil and climate conditions, and this shall be provided within 60 days of project completion as per Lime Township ordinances.
 24. A land development permit shall be obtained prior to work commencing.
 25. Prior to the issuance of a land development permit, an MPCA Construction Stormwater Permit, the final Stormwater Pollution Prevention Plan approved by the MPCA, the civil construction plans with a full drainage report and the final operation plan shall be submitted for review and approval.
 26. All site development shall conform to the approved plans and resolution. Any revisions to the plans shall first be approved by the Lime Township Board prior to any land disturbance activities or construction activities.
 27. The owner and operator shall notify the Lime Township Board, or designated representative, whenever there is a change in ownership or operator.
 28. This interim use permit shall become invalid unless a land development permit authorizing the work has been issued within 12 months after the final approval by the Lime Township Board.
 29. The facility shall conform to the Lime Township Solar Ordinance. Additional items included in the ordinance may be required at the time of submission of the land development. Omission of items in the conditions does not exempt the requirements from the submittal.
 30. The applicant shall avoid initial disturbance to grassland areas and tree/shrub removal from May 15th

- through August 15th to avoid disturbance of nesting birds per NHIS (National Heritage Information System)
31. The applicant shall be limited to wildlife-friendly materials for erosion control mesh when necessary per NHIS request
 32. A code compliant septic system shall be installed at the property located at 23759 3rd Avenue prior to the issuance of a construction permit.
 33. If the applicant installs signage it shall conform to the Lime Township Zoning Ordinance.

Attachments

General Location Map
Aerial Map
Site Plan
Interim Use Permit Application
Solar Safety and Equipment
Emergency Response Plan
Site Regulations
Wetland Delineation
Railroad Crossing Deed
Decommissioning Plan
Native Vegetation

General Location Map



Date: February 2024

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.



Aerial Location Map

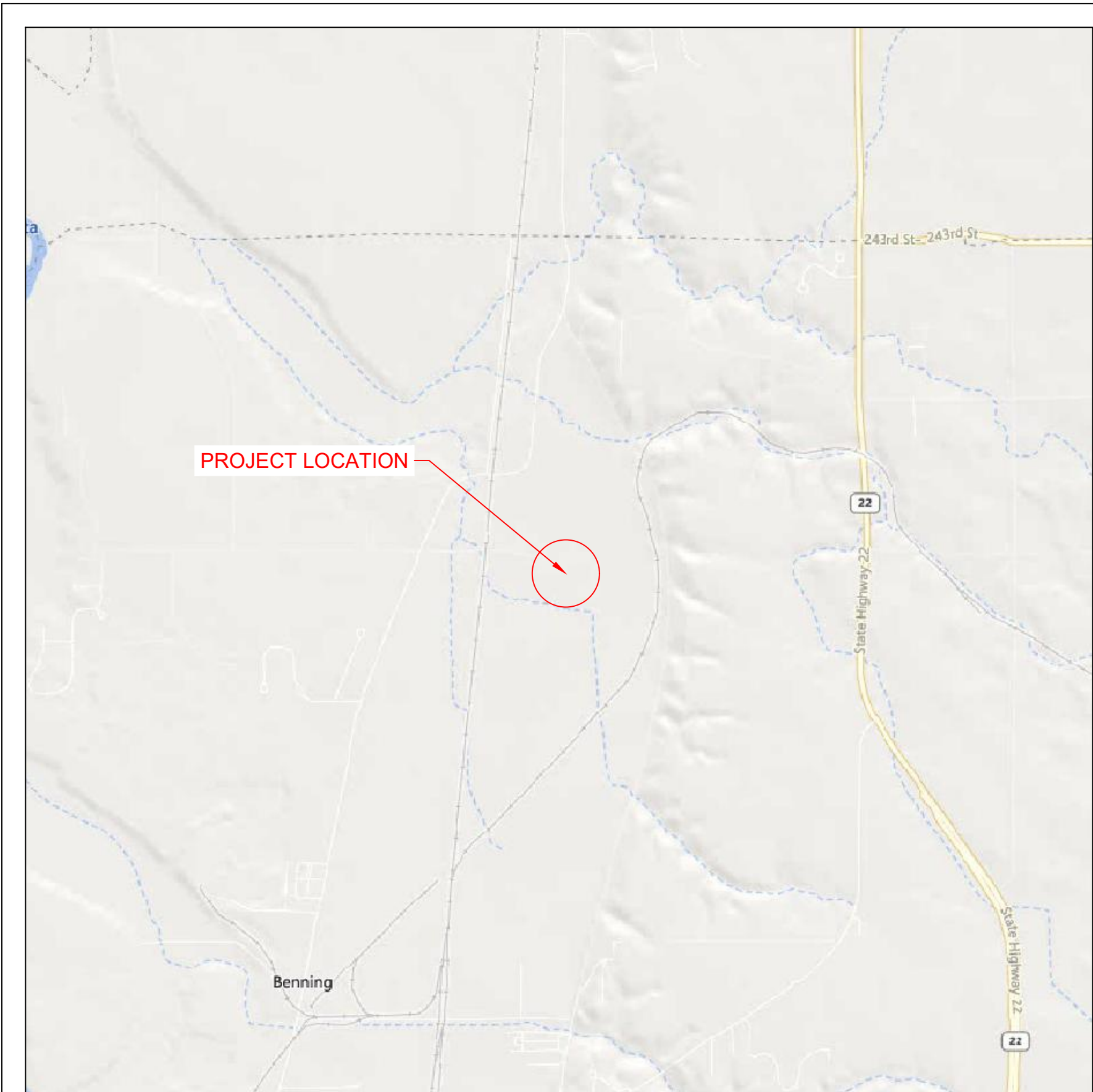


Date: February 2024

Author:

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BOHREREAST CSG



1 ARRAY LOCATION

Scale: 1" = 2000'



2 OVERHEAD MAP

Scale: 1" = 400'

PROJECT TEAM

PROJECT OWNER
MN CSG 2019-57 LLC
2530 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21401
443-267-5012

PROJECT DEVELOPER
NEW ENERGY EQUITY
2530 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21401
443-267-5012

GENERAL INFO

PROJECT ACREAGE
PARCEL ACREAGE: 84.22 ACRES
MODULE ACREAGE: 1.75 ACRES
FENCE ACREAGE: 7.2 ACRES
LIMITS OF PERMITTING ACREAGE: 10.86 ACRES
LOT COVERAGE (MODULE ACREAGE/PARCEL ACREAGE): 2.08%

PARCEL DESCRIPTION
PROPERTY OWNERS: JOHN BOHRER, AVAMAR PROPERTIES LLC, UNION
PACIFIC RAILROAD COMPANY
PARCEL ID NUMBERS: R40.04.29.200.017, R40.04.20.352.013, R40.04.20.501.001
ZONING CLASSIFICATION: RURAL CONSERVATION
APPLICATION TYPE: IUP

SETBACKS
REAR SETBACK: 50' FROM PARCEL LINE TO FENCE
SIDE SETBACK: 50' FROM PARCEL LINE TO FENCE
WETLANDS SETBACK: 30'
NON PARTICIPATING RESIDENTIAL DWELLING SETBACK: 750'

SHEET INDEX

SHEET #	DESCRIPTION	REVISION #	REVISION DATE
T1	TITLE SHEET	1	2/12/2024
PV1	EXISTING CONDITIONS	1	2/12/2024
PV2	SITE PLAN	1	2/12/2024
PV3	SETBACKS MAP	0	2/12/2024
PV4	PID MAP	0	2/12/2024
PV5	SOIL MAP	0	2/12/2024
PV6	TOPOGRAPHY & DRAINAGE PATTERNS	0	2/12/2024
PV7	LIMITS OF PERMITTING	0	2/12/2024
PV8	POLLINATOR DETAIL	0	2/20/2024
PV9	RACKING DETAIL	0	2/12/2024
PV10	FENCE DETAIL	0	2/12/2024
PV11	INFILTRATION BASIN DETAIL	0	2/12/2024
E1	SLD	0	2/12/2024
E2A	EQUIPMENT LABELS 1	0	2/12/2024
E2B	EQUIPMENT LABELS 2	0	2/12/2024
E3	IX PLAN DETAIL	0	2/12/2024



PROJECT ENTITY: MN CSG 2019-57 LLC

NEW ENERGY EQUITY, LLC
2530 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21041
NEWENERGYEQUITY.COM
443-267-5012

PROJECT ADDRESS
23759 THIRD AVE
MANKATO, MN 56001

LAT: 44.225
LONG: -93.979

SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	1.503 MW
SYSTEM SIZE AC	POWER LIMITED TO 1.000 MW
DC/AC RATIO	1.503
AZIMUTH	180°
TILT	+/- 52°
MODULE COUNT	2592
MODULE TYPE	HANWA Q.PEAK DUO XL-G11.3_BFG - 580
MODULE STC RATING	580 W
INVERTER COUNT	9
INVERTER TYPE	SMA SUNNY HIGHPOWER PEAK-3 125kW
INVERTER POWER	POWER LIMITED TO 111.111kW
RACKING	TBD
MONITORING	ALSO ENERGY

DESIGN CRITERIA

MIN/MAX TEMP.	-26°C / 31°C
WIND SPEED (ASCE 7-10)	105 MPH
BUILDING CATEGORY	I
EXPOSURE CATEGORY	C
GROUND SNOW LOAD	50 PSF
BUILDING HEIGHT	0'-0"

OTHER NOTES

CASE NUMBER 05518220

NO POSITION, DISTANCE, OR CLEARANCE
ISSUES WITH OVERHEAD ELECTRIC
SERVICE LINES OR OTHER UTILITIES IN
RELATION TO THE PV PANELS.

24/7 UNESCORTED KEYLESS ACCESS
PROVIDED FOR ALL UTILITY ENERGY
EQUIPMENT INCLUDING THE METERS AND
AC DISCONNECT.

INTERCONNECTION TYPE: SECONDARY

REVISIONS

#	DESCRIPTION	BY	DATE
0	ORIGINAL DESIGN	SP	6/30/2023
1	REMOVED 1/2 MI FENCE TO FENCE SPACING INCREASE DC SIZE	NGA	7/5/2023
2	CUP PACKAGE	SP	2/9/2024
3	POLLINATOR BUFFER ADDITION	SP	2/20/2024
4	UPDATED WETLAND DELININATION	SP	6/4/2024
5	CUP RESUBMISSION	SP	7/18/2024
6			
7			
8			
9			
10			

PROJECT NAME

BOHREREAST CSG

DRAWING TITLE

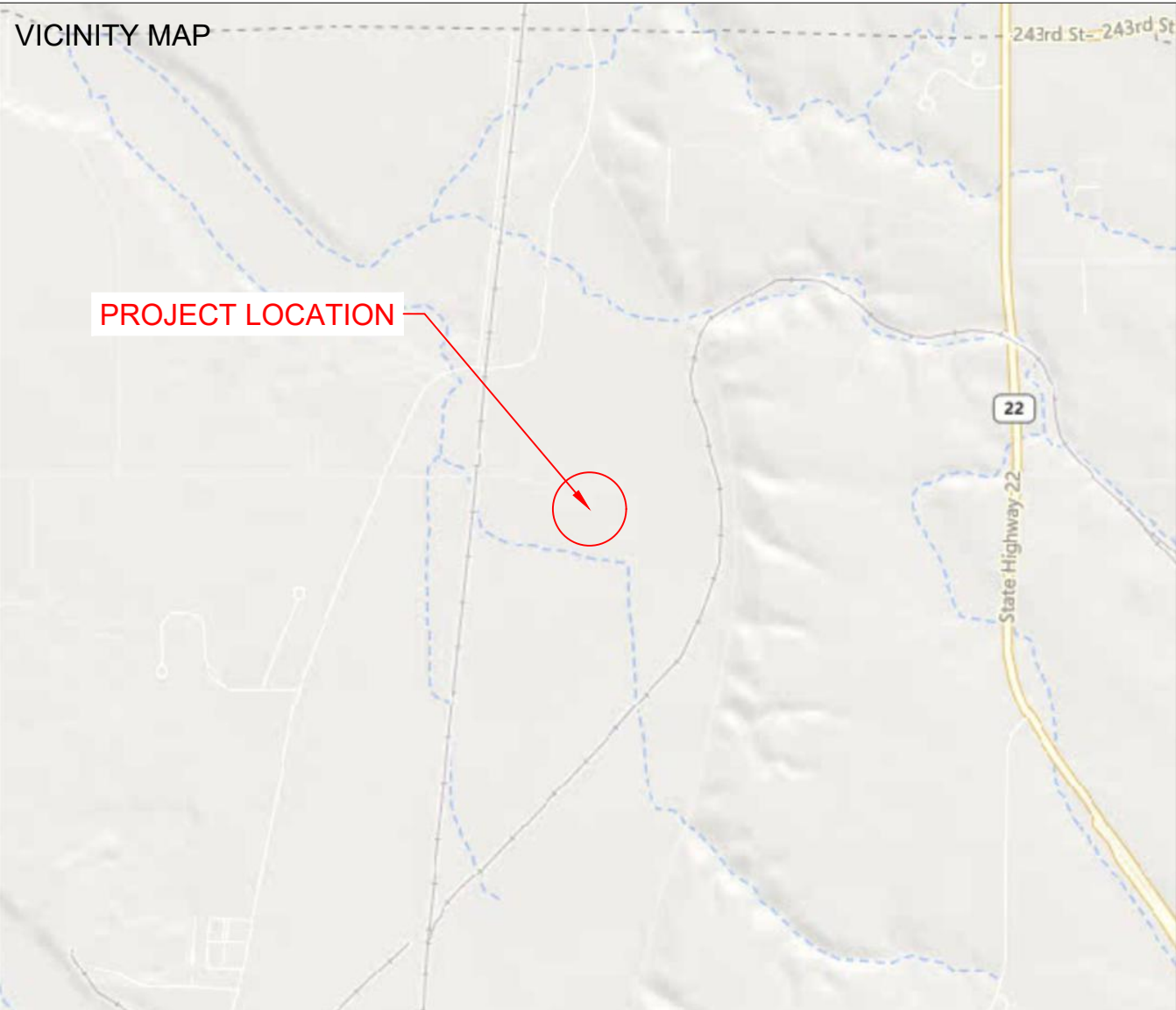
TITLE SHEET

SCALE¹

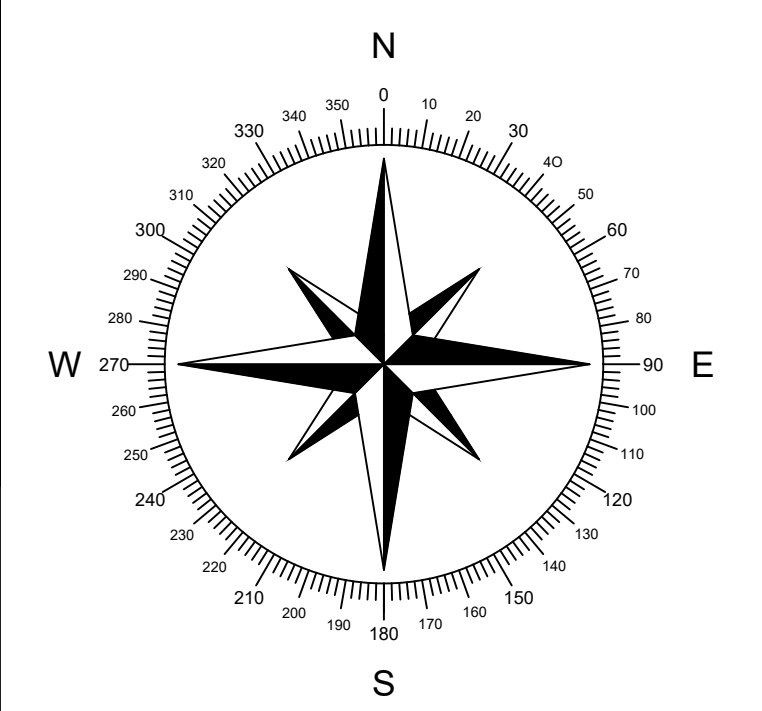
AS NOTED 0 1" 2"

SHEET

T1



SPACE FOR PE STAMP:



SHEET NOTES:

UTILITY POLES ARE SHOWN FOR INDICATING LOCATIONS ONLY. SPACING BETWEEN POLES, PHYSICAL PROTECTION BARRIER FOR SWITCHBOARDS, ETC. WILL BE ADDED IN THE DRAWINGS PREPARED FOR THE CONSTRUCTION DOCUMENTS



PROJECT ENTITY: MN CSG 2019-57 LLC

NEW ENERGY EQUITY, LLC
2530 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21041
NEWENERGYEQUITY.COM
443-267-5012

PROJECT ADDRESS
23759 THIRD AVE
MANKATO, MN 56001

LAT: 44.225
LONG: -93.979

SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	1.503 MW
SYSTEM SIZE AC	POWER LIMITED TO 1.000 MW
DC/AC RATIO	1.503
AZIMUTH	180°
TILT	+/- 52°
MODULE COUNT	2592
MODULE TYPE	HANWA Q.PEAK DUO XL-G11.3_BFG - 580
MODULE STC RATING	580 W
INVERTER COUNT	9
INVERTER TYPE	SMA SUNNY HIGHPOWER PEAK-3 125kW
INVERTER POWER	POWER LIMITED TO 111.111kW
RACKING	TBD
MONITORING	ALSO ENERGY

DESIGN CRITERIA

MIN/MAX TEMP.	-26°C / 31°C
WIND SPEED (ASCE 7-10)	105 MPH
BUILDING CATEGORY	I
EXPOSURE CATEGORY	C
GROUND SNOW LOAD	50 PSF
BUILDING HEIGHT	0'-0"

OTHER NOTES

CASE NUMBER 05518220

NO POSITION, DISTANCE, OR CLEARANCE ISSUES WITH OVERHEAD ELECTRIC SERVICE LINES OR OTHER UTILITIES IN RELATION TO THE PV PANELS.

24/7 UNESCORTED KEYLESS ACCESS PROVIDED FOR ALL UTILITY ENERGY EQUIPMENT INCLUDING THE METERS AND AC DISCONNECT.

INTERCONNECTION TYPE: SECONDARY

REVISIONS

#	DESCRIPTION	BY	DATE
0	ORIGINAL DESIGN	SP	6/30/2023
1	REMOVED ½ MI FENCE TO FENCE SPACING INCREASE DC SIZE	NGA	7/5/2023
2	CUP PACKAGE	SP	2/9/2024
3	POLLINATOR BUFFER ADDITION	SP	2/20/2024
4	UPDATED WETLAND DELINEATION	SP	6/4/2024
5	CUP RESUBMISSION	SP	7/18/2024
6			
7			
8			
9			
10			

PROJECT NAME

BOHREREAST CSG

DRAWING TITLE

EXISTING CONDITIONS

SCALE ¹

1" = 140'

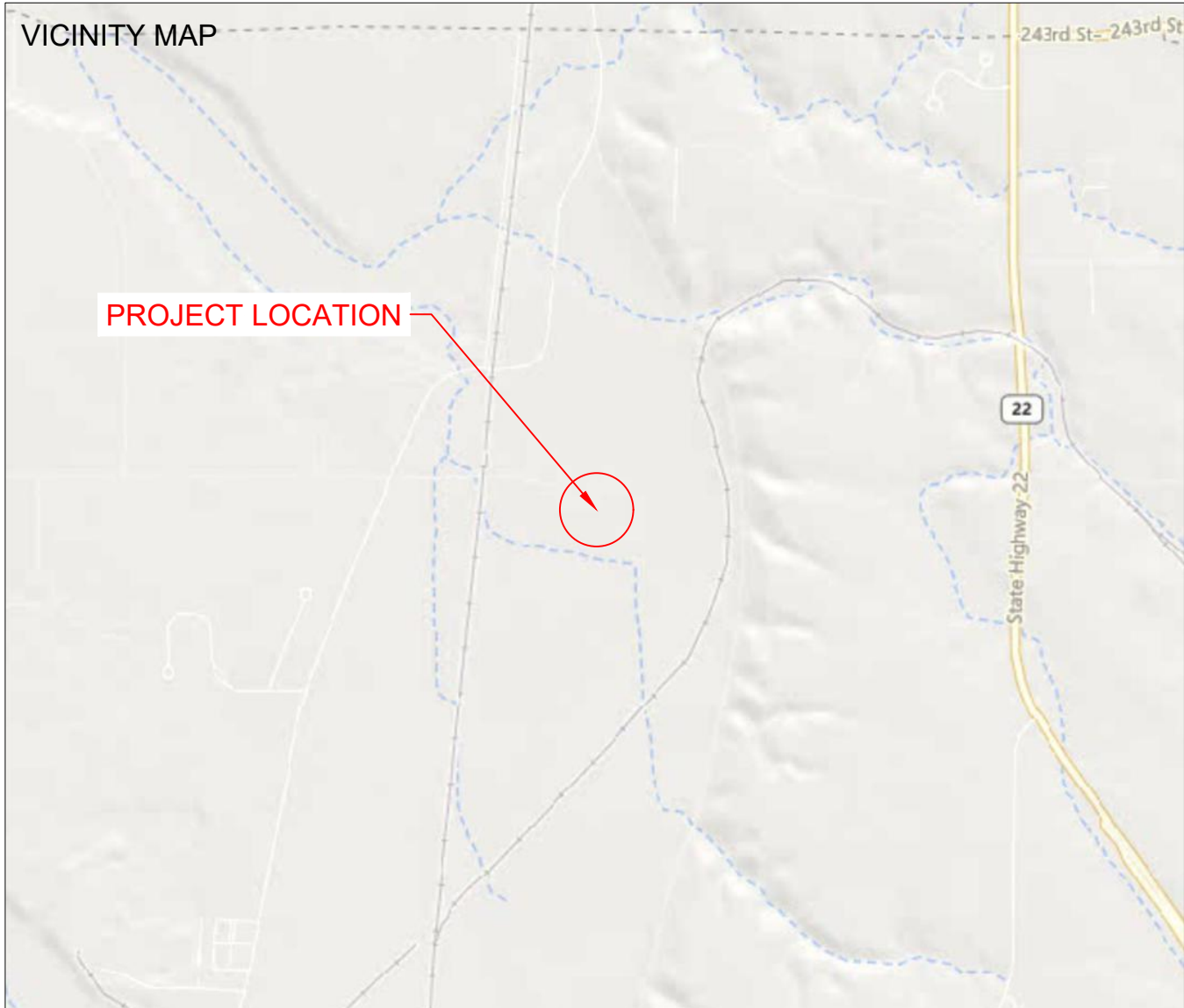


SHEET

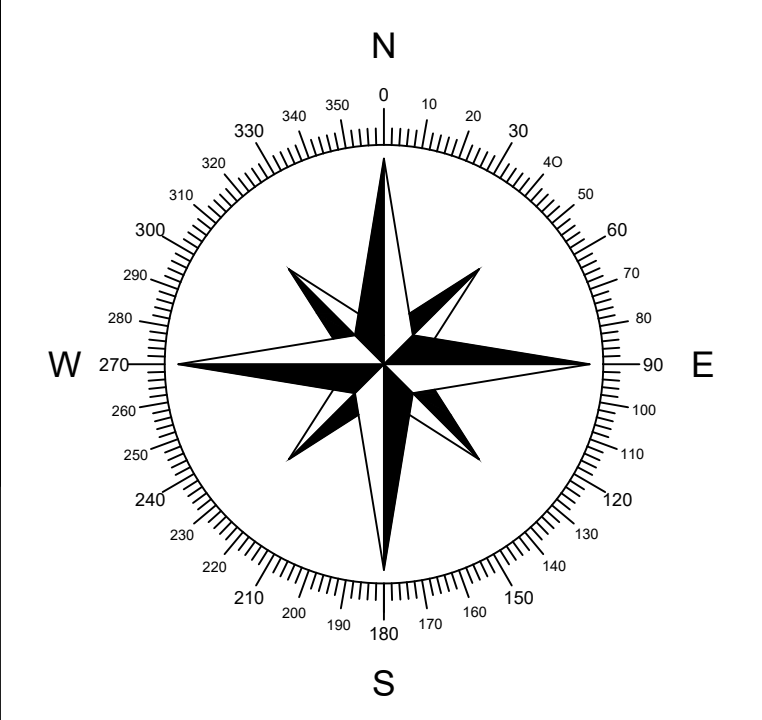
PV1

LEGEND

PARCEL BOUNDARY (PID:40.04.29.200.017)	
WETLANDS (30', NTS, NATIONAL WETLANDS INVENTORY)	
EXISTING 3-PH OVERHEAD UTILITY LINE (XCEL, 13.8kV)	
EXISTING SINGLE-PH UTILITY LINE (XCEL, FEEDER SMT082, 7.97kV)	
EXISTING GAS PIPELINE (132' EASEMENT, NTS)	
NON PARTICIPATING RESIDENTIAL DWELLINGS (750' OFFSET, NTS)	



SPACE FOR PE STAMP:



SHEET NOTES:
UTILITY POLES ARE SHOWN FOR INDICATING LOCATIONS ONLY. SPACING BETWEEN POLES, PHYSICAL PROTECTION BARRIER FOR SWITCHBOARDS, ETC. WILL BE ADDED IN THE DRAWINGS PREPARED FOR THE CONSTRUCTION DOCUMENTS

LEGEND	
PARCEL BOUNDARY (PID:40.04.29.200.017)	
50' SETBACK FROM PARCEL BOUNDARY	
WETLANDS (30', NTS, AREA M DELINEATION REPORT)	
EXISTING 3-PH OVERHEAD UTILITY LINE (XCEL, 13.8kV)	
EXISTING SINGLE-PH UTILITY LINE (XCEL, FEEDER SMT082, 7.97KV)	
PROPOSED OVERHEAD LINE EXTENSION (60')	
PROPOSED NEW UNDERGROUND ELECTRICAL LINE	
ARRAY FENCE LINE (2300' AND 7.2 ACRES)	
12' WIDE ACCESS ROAD (2675')	
ACCESS & UTILITIES EASEMENT (33' AROUND ROAD, NTS)	
EXISTING GAS PIPELINE (132' SETBACK, NTS)	
LIMITS OF PERMITTING (DETAILED ON PV7, ~10.86 ACRES)	
NON PARTICIPATING RESIDENTIAL DWELLINGS (750' OFFSET, NTS)	

PROJECT ENTITY: MN CSG 2019-57 LLC

NEW ENERGY EQUITY, LLC
2530 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21041
NEWENERGYEQUITY.COM
443-267-5012

LAT: 44.225
LONG: -93.979

PROJECT ADDRESS
23759 THIRD AVE
MANKATO, MN 56001

SYSTEM SPECIFICATIONS	
SYSTEM SIZE DC	1,503 MW
SYSTEM SIZE AC	POWER LIMITED TO 1,000 MW
DC/AC RATIO	1.503
AZIMUTH	180°
TILT	+/- 52°
MODULE COUNT	2592
MODULE TYPE	HANWA Q.PEAK DUO XL-G11.3_BFG - 580
MODULE STC RATING	580 W
INVERTER COUNT	9
INVERTER TYPE	SMA SUNNY HIGHPOWER PEAK-3 125kW
INVERTER POWER	POWER LIMITED TO 111.111kW
RACKING	TBD
MONITORING	ALSO ENERGY
DESIGN CRITERIA	
MIN/MAX TEMP.	-26°C / 31°C
WIND SPEED (ASCE 7-10)	105 MPH
BUILDING CATEGORY	I
EXPOSURE CATEGORY	C
GROUND SNOW LOAD	50 PSF
BUILDING HEIGHT	0'-0"

OTHER NOTES

CASE NUMBER 05518220

NO POSITION, DISTANCE, OR CLEARANCE ISSUES WITH OVERHEAD ELECTRIC SERVICE LINES OR OTHER UTILITIES IN RELATION TO THE PV PANELS.

24/7 UNESCORTED KEYLESS ACCESS PROVIDED FOR ALL UTILITY ENERGY EQUIPMENT INCLUDING THE METERS AND AC DISCONNECT.

INTERCONNECTION TYPE: SECONDARY

REVISIONS			
#	DESCRIPTION	BY	DATE
0	ORIGINAL DESIGN	SP	6/30/2023
1	REMOVED 1/2 MI FENCE TO FENCE SPACING INCREASE DC SIZE	NGA	7/5/2023
2	CUP PACKAGE	SP	2/9/2024
3	POLLINATOR BUFFER ADDITION	SP	2/20/2024
4	UPDATED WETLAND DELINEATION	SP	6/4/2024
5	CUP RESUBMISSION	SP	7/18/2024
6			
7			
8			
9			
10			

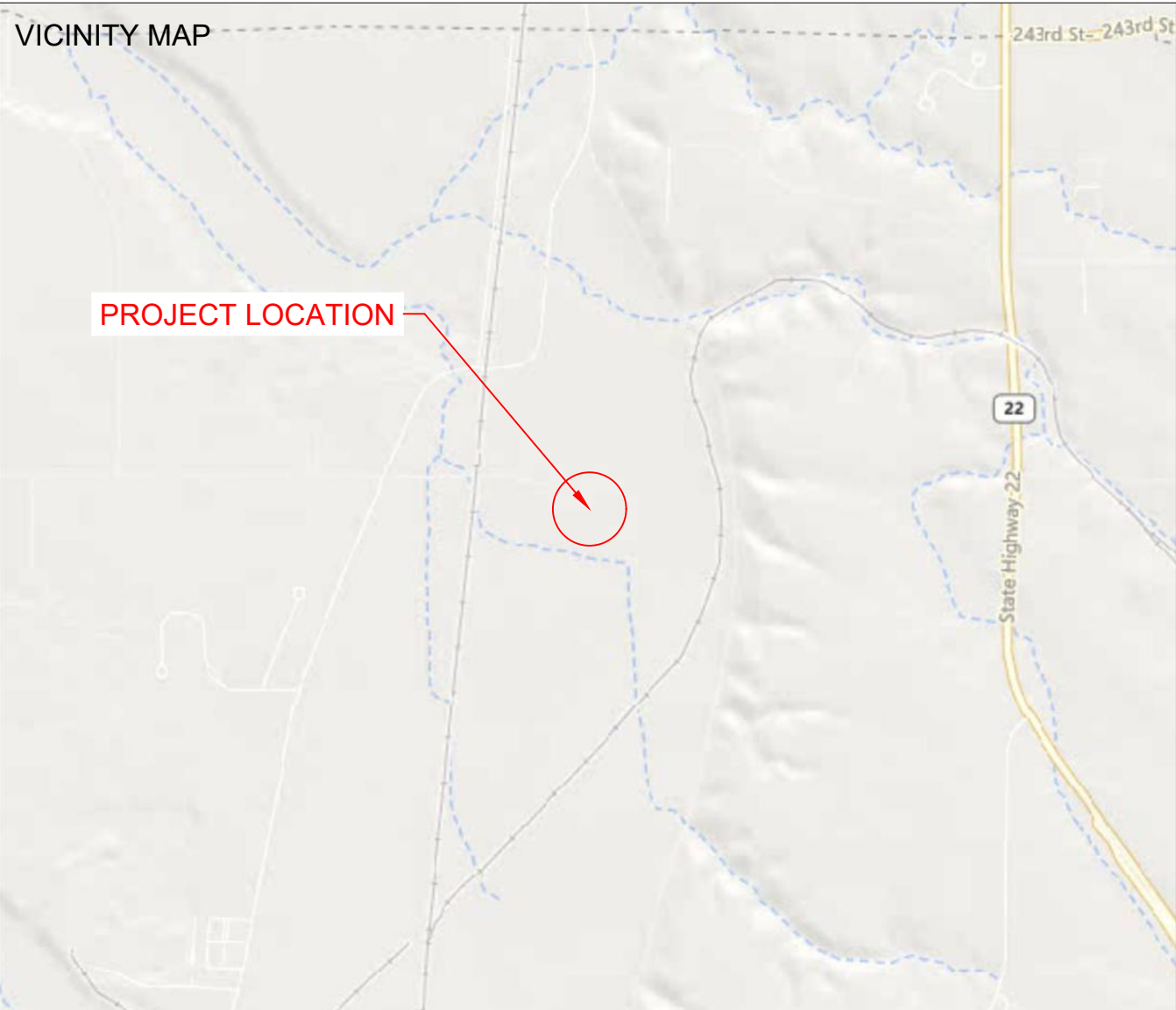
PROJECT NAME
BOHREREAST CSG

DRAWING TITLE
SITE PLAN

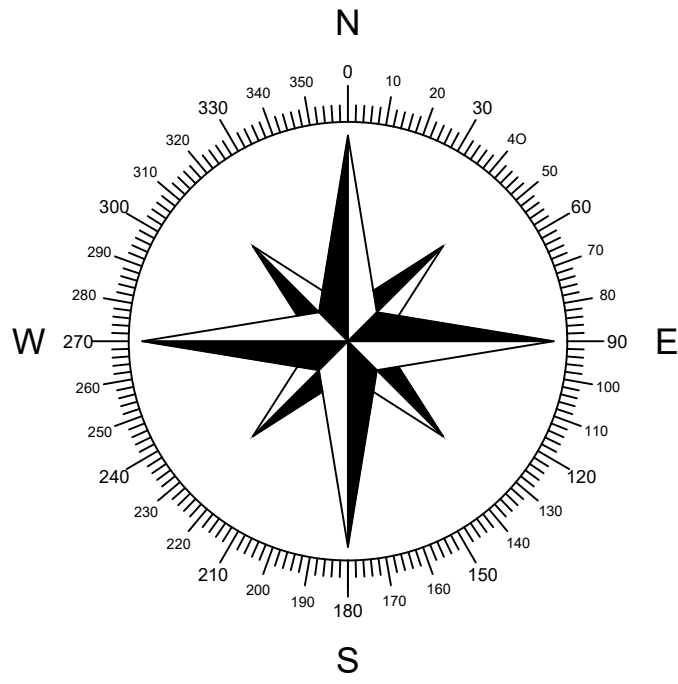
SCALE ¹
1" = 160'

SHEET

PV2



SPACE FOR PE STAMP:



SHEET NOTES:

UTILITY POLES ARE SHOWN FOR INDICATING LOCATIONS ONLY. SPACING BETWEEN POLES, PHYSICAL PROTECTION BARRIER FOR SWITCHBOARDS, ETC. WILL BE ADDED IN THE DRAWINGS PREPARED FOR THE CONSTRUCTION DOCUMENTS



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2530 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21041
NEWENERGYEQUITY.COM
443-267-5012

PROJECT ADDRESS
23759 THIRD AVE
MANKATO, MN 56001

LAT: 44.225
LONG: -93.979

SYSTEM SPECIFICATIONS

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SYSTEM SIZE AC	POWER LIMITED TO 1.000 MW
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MODULE COUNT	2592
MODULE TYPE	HANWA Q.PEAK DUO XL-G11.3_BFG - 580
MODULE STC RATING	580 W
INVERTER COUNT	9
INVERTER TYPE	SMA SUNNY HIGHPOWER PEAK-3 125kW
INVERTER POWER	POWER LIMITED TO 111.111kW
RACKING	TBD
MONITORING	ALSO ENERGY

DESIGN CRITERIA

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WIND SPEED (ASCE 7-10)	105 MPH
BUILDING CATEGORY	I
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GROUND SNOW LOAD	50 PSF
BUILDING HEIGHT	0'-0"

OTHER NOTES

CASE NUMBER 05518220

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24/7 UNESCORTED KEYLESS ACCESS PROVIDED FOR ALL UTILITY ENERGY EQUIPMENT INCLUDING THE METERS AND AC DISCONNECT.

INTERCONNECTION TYPE: SECONDARY

REVISIONS

#	DESCRIPTION	BY	DATE
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4	UPDATED WETLAND DELINIATION	SP	6/4/2024
5	CUP RESUBMISSION	SP	7/18/2024
6			
7			
8			
9			
10			

PROJECT NAME

BOHREREAST CSG

DRAWING TITLE

SETBACKS MAP

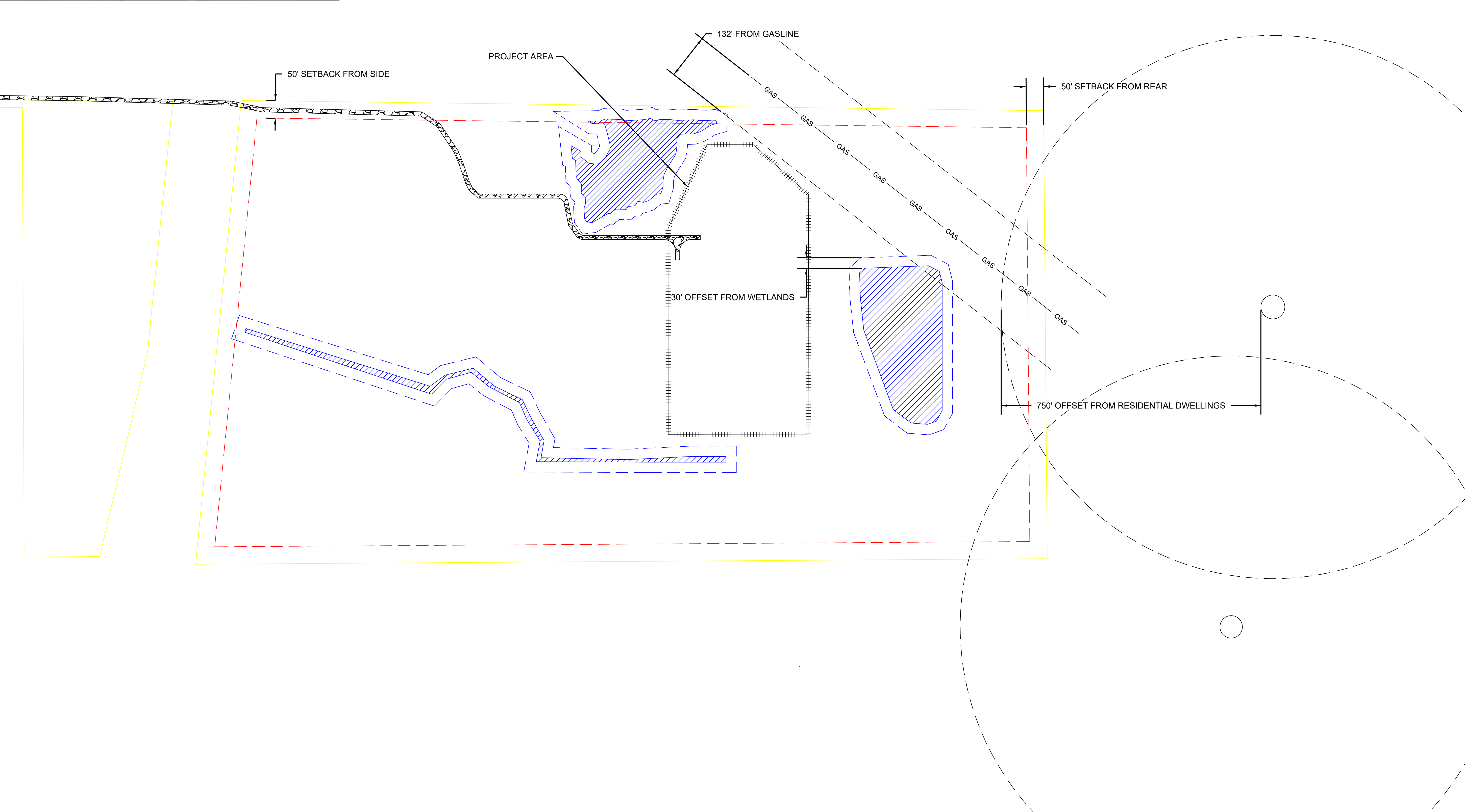
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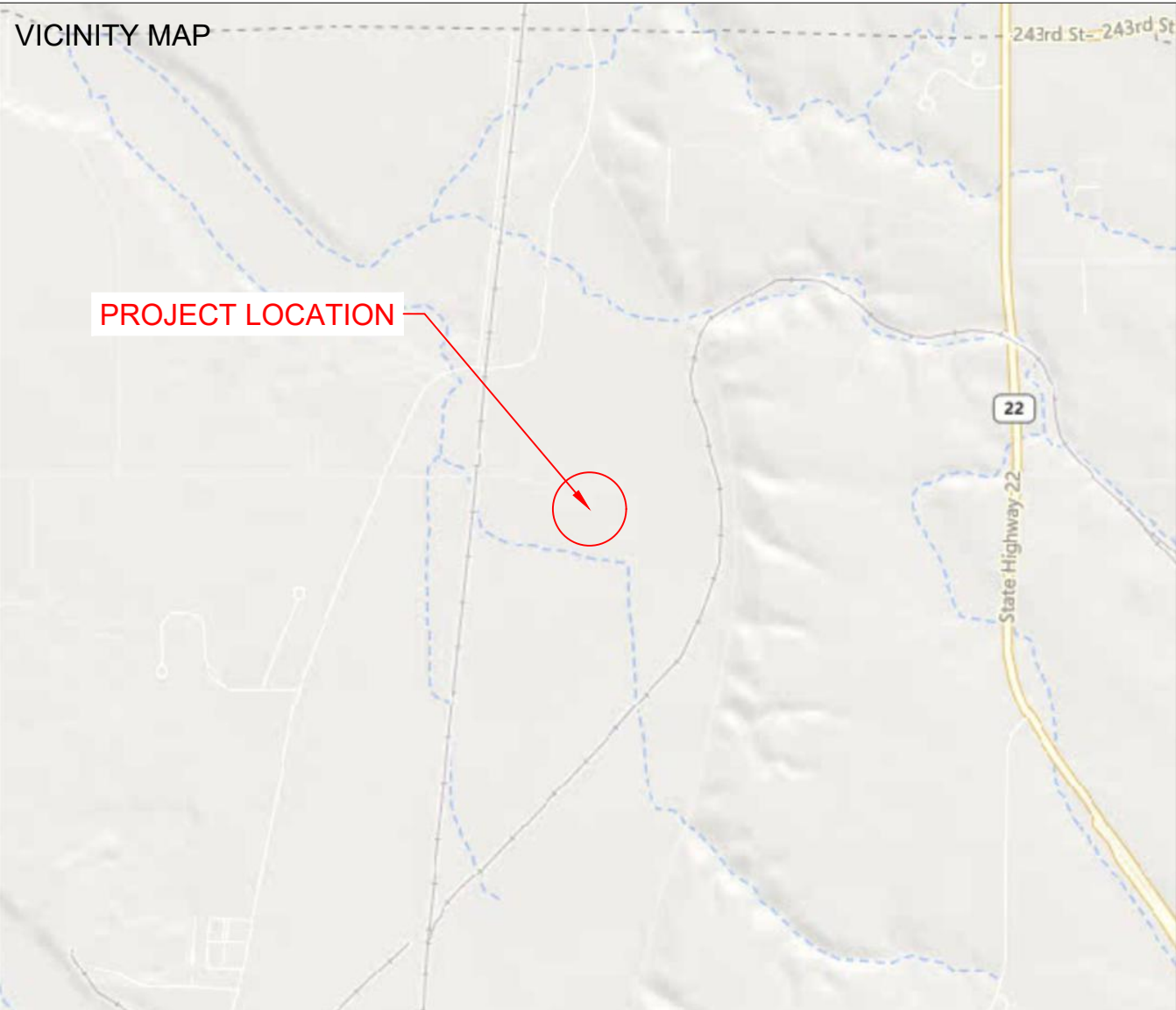
1" = 140'



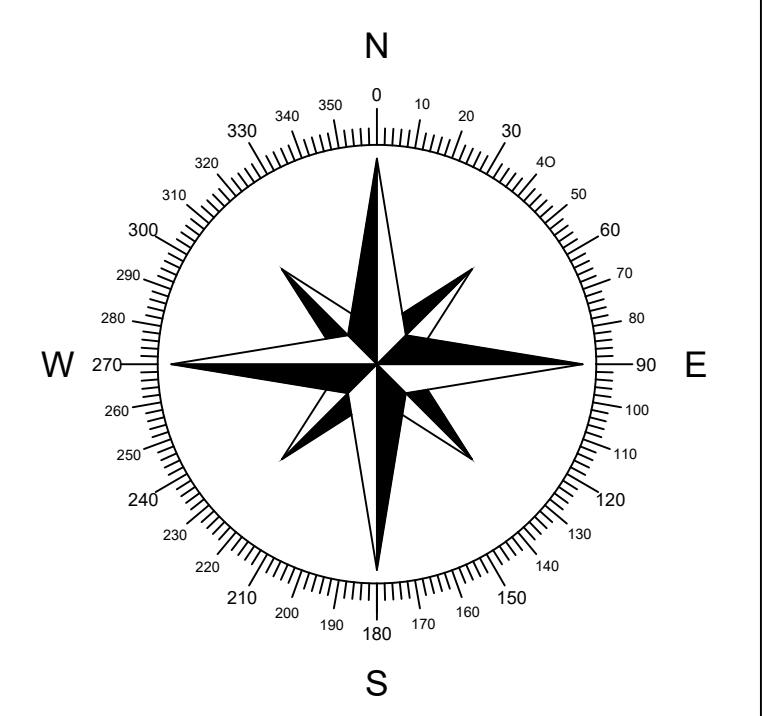
SHEET

PV3





SPACE FOR PE STAMP:



SHEET NOTES:

UTILITY POLES ARE SHOWN FOR INDICATING LOCATIONS ONLY. SPACING BETWEEN POLES, PHYSICAL PROTECTION BARRIER FOR SWITCHBOARDS, ETC. WILL BE ADDED IN THE DRAWINGS PREPARED FOR THE CONSTRUCTION DOCUMENTS



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NEWENERGYEQUITY.COM
443-267-5012

PROJECT ADDRESS
23759 THIRD AVE
MANKATO, MN 56001

LAT: 44.225
LONG: -93.979

SYSTEM SPECIFICATIONS

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SYSTEM SIZE AC	POWER LIMITED TO 1.000 MW
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MODULE STC RATING	580 W
INVERTER COUNT	9
INVERTER TYPE	SMA SUNNY HIGHPOWER PEAK-3 125kW
INVERTER POWER	POWER LIMITED TO 111.111kW
RACKING	TBD
MONITORING	ALSO ENERGY

DESIGN CRITERIA

MIN/MAX TEMP.	-26°C / 31°C
WIND SPEED (ASCE 7-10)	105 MPH
BUILDING CATEGORY	I
EXPOSURE CATEGORY	C
GROUND SNOW LOAD	50 PSF
BUILDING HEIGHT	0'-0"

OTHER NOTES

CASE NUMBER 05518220

NO POSITION, DISTANCE, OR CLEARANCE ISSUES WITH OVERHEAD ELECTRIC SERVICE LINES OR OTHER UTILITIES IN RELATION TO THE PV PANELS.

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INTERCONNECTION TYPE: SECONDARY

REVISIONS

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5	CUP RESUBMISSION	SP	7/18/2024
6			
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9			
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PROJECT NAME

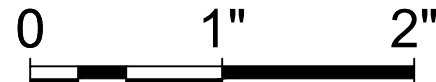
BOHREREAST CSG

DRAWING TITLE

PID MAP

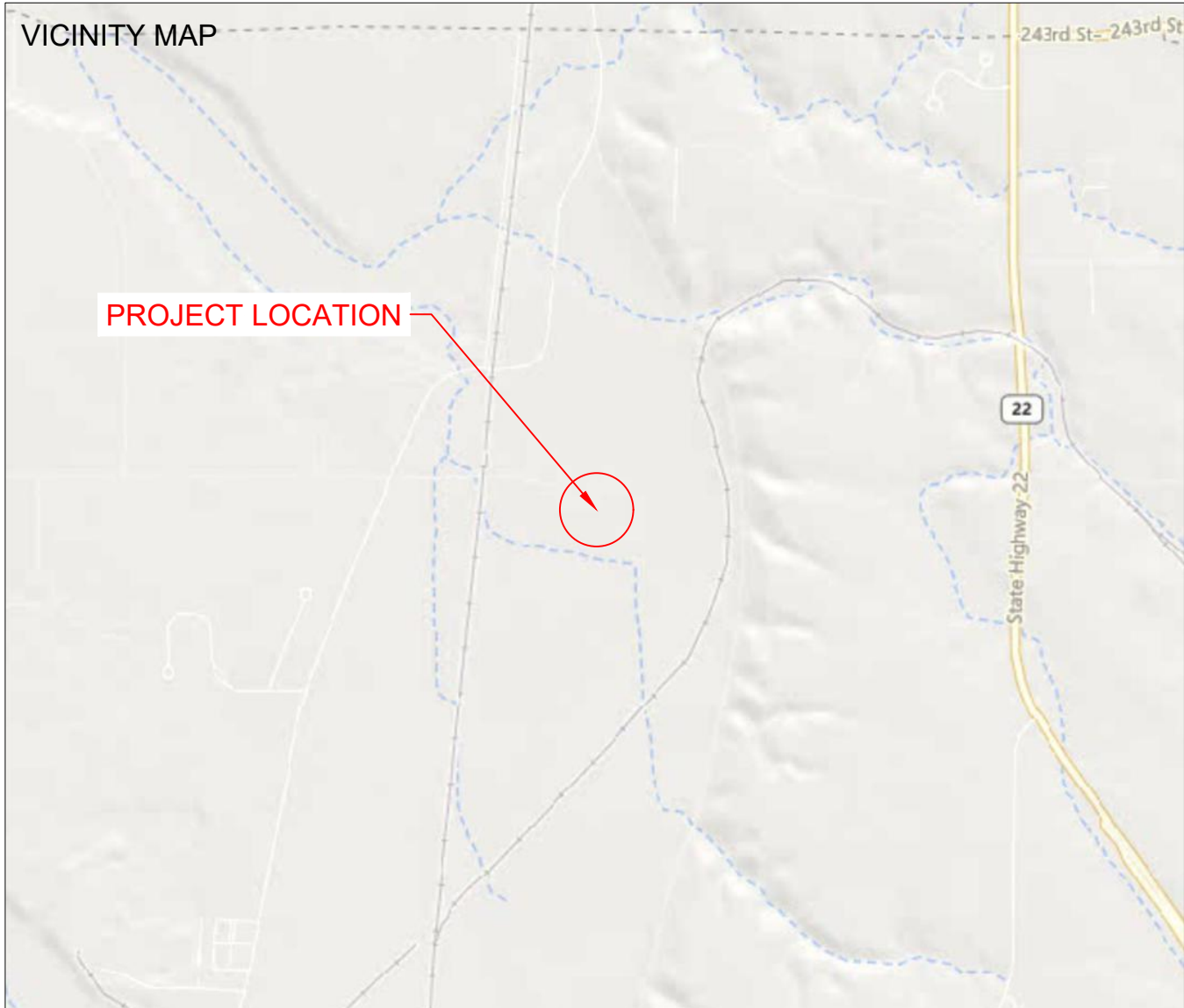
SCALE ¹

1" = 160'



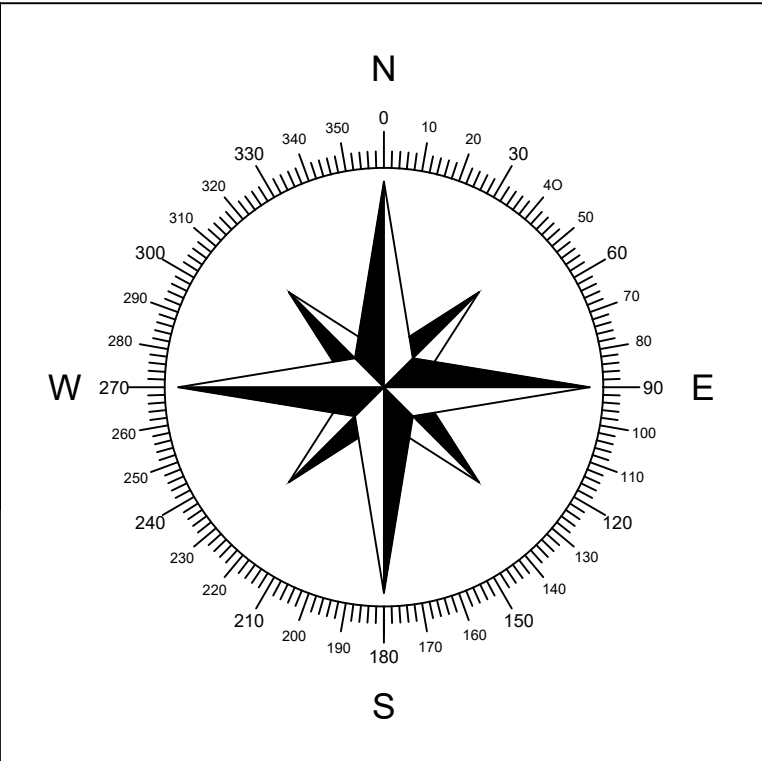
SHEET

PV4



SOIL MAP LEGEND	
MAP UNIT SYMBOL	MAP UNIT NAME
85	CALCO SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES OCCASIONALLY FLOODED
1001	ALLUVIAL LAND, OCCASIONALLY FLOODED
35	BLUE EARTH MUCKY SILT LOAM, 0 TO 1 PERCENT SLOPES
160	FIELDON LOAM, 0 TO 2 PERCENT SLOPES
181	LITCHFIELD LOAMY FINE SAND, 1 TO 3 PERCENT SLOPES
321	TILFER SILTY CLAY LOAM
360B	LASA LOAMY FINE SAND, ROCK SUBSTRATUM 1 TO 6 PERCENT SLOPES
1800	CARON MUCKY PEAT

SPACE FOR PE STAMP:



SHEET NOTES:
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NEWENERGYEQUITY.COM
443-267-5012

PROJECT ADDRESS
23759 THIRD AVE
MANKATO, MN 56001

LAT: 44.225
LONG: -93.979

SYSTEM SPECIFICATIONS	
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SYSTEM SIZE AC	POWER LIMITED TO 1,000 MW
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INVERTER COUNT	9
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INVERTER POWER	POWER LIMITED TO 111.111kW
RACKING	TBD
MONITORING	ALSO ENERGY
DESIGN CRITERIA	
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WIND SPEED (ASCE 7-10)	105 MPH
BUILDING CATEGORY	I
EXPOSURE CATEGORY	C
GROUND SNOW LOAD	50 PSF
BUILDING HEIGHT	0'-0"

OTHER NOTES

CASE NUMBER 05518220

NO POSITION, DISTANCE, OR CLEARANCE ISSUES WITH OVERHEAD ELECTRIC SERVICE LINES OR OTHER UTILITIES IN RELATION TO THE PV PANELS.

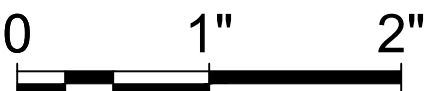
24/7 UNESCORTED KEYLESS ACCESS PROVIDED FOR ALL UTILITY ENERGY EQUIPMENT INCLUDING THE METERS AND AC DISCONNECT.

INTERCONNECTION TYPE: SECONDARY

REVISIONS			
#	DESCRIPTION	BY	DATE
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4	UPDATED WETLAND DELINEATION	SP	6/4/2024
5	CUP RESUBMISSION	SP	7/18/2024
6			
7			
8			
9			
10			

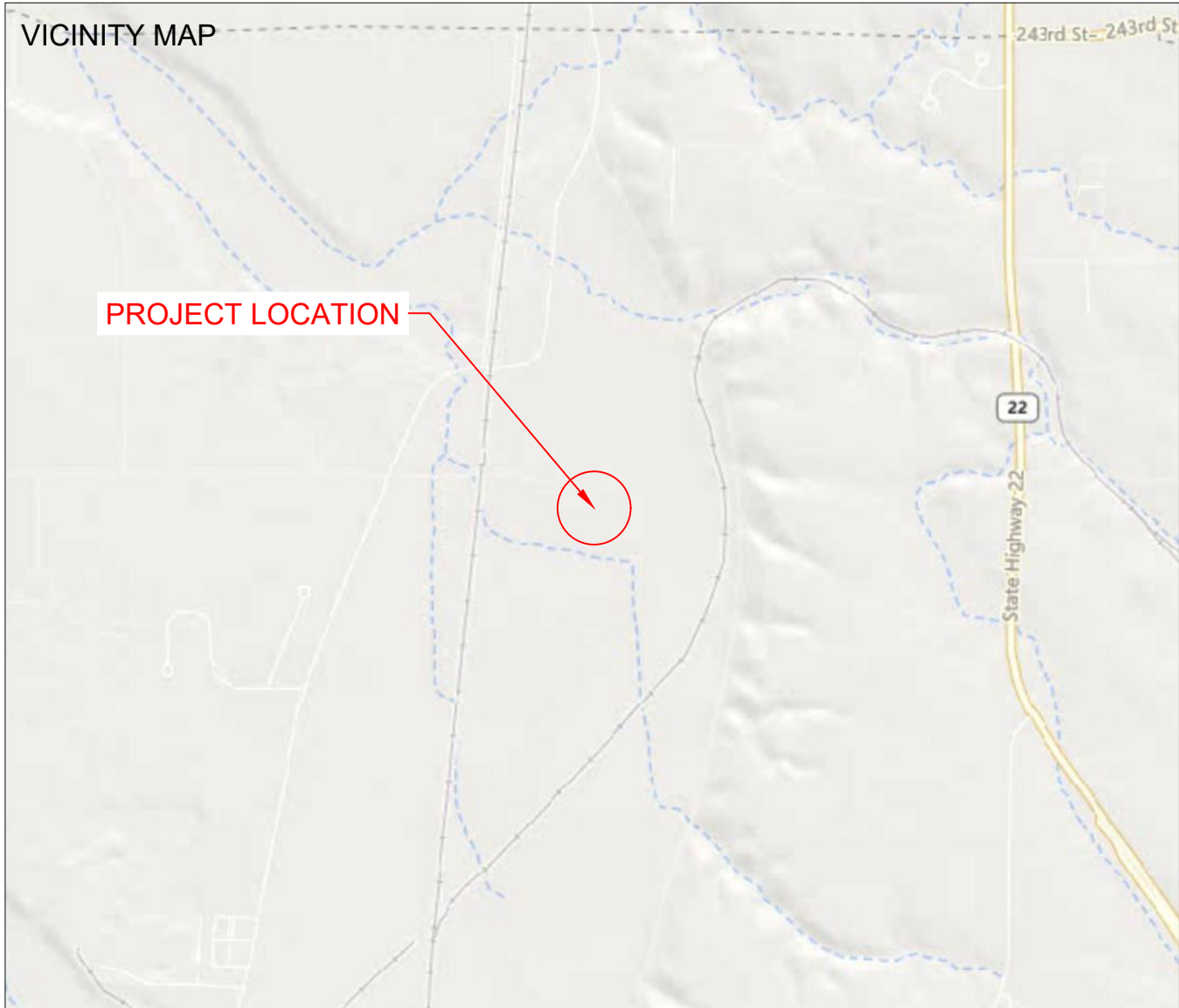
PROJECT NAME
BOHREREAST CSG

DRAWING TITLE
SOIL MAP

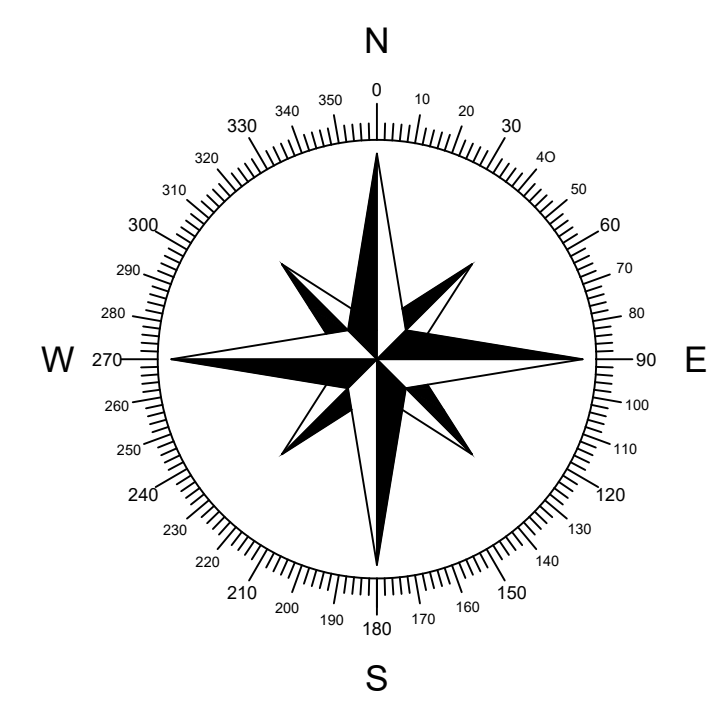
SCALE ¹
1" = 60' 

SHEET

PV5

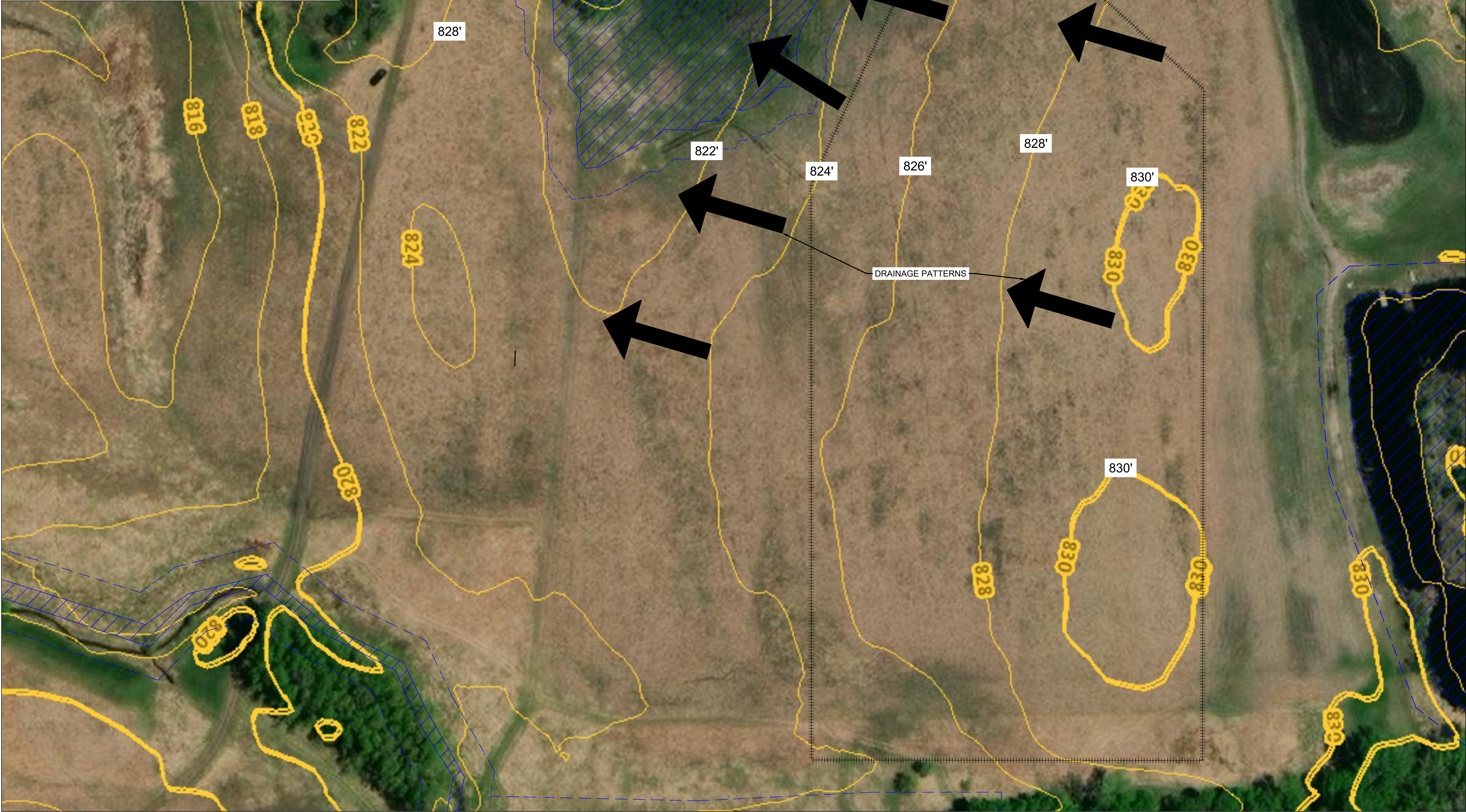


SPACE FOR PE STAMP:



SHEET NOTES:

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NEW ENERGY EQUITY, LLC
2530 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21041
NEWENERGYEQUITY.COM
443-267-5012

PROJECT ADDRESS
23759 THIRD AVE
MANKATO, MN 56001

LAT: 44.225
LONG: -93.979

SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	1,503 MW
SYSTEM SIZE AC	POWER LIMITED TO 1,000 MW
DC/AC RATIO	1.503
AZIMUTH	180°
TILT	+/- 52°
MODULE COUNT	2592
MODULE TYPE	HANWA Q.PEAK DUO XL-G11.3.BFG - 580
MODULE STC RATING	580 W
INVERTER COUNT	9
INVERTER TYPE	SMA SUNNY HIGHPOWER PEAK-3 125kW
INVERTER POWER	POWER LIMITED TO 111.111kW
RACKING	TBD
MONITORING	ALSO ENERGY

DESIGN CRITERIA

MIN/MAX TEMP.	-26°C / 31°C
WIND SPEED (ASCE 7-10)	105 MPH
BUILDING CATEGORY	I
EXPOSURE CATEGORY	C
GROUND SNOW LOAD	50 PSF
BUILDING HEIGHT	0'-0"

OTHER NOTES

CASE NUMBER 05518220

NO POSITION, DISTANCE, OR CLEARANCE ISSUES WITH OVERHEAD ELECTRIC SERVICE LINES OR OTHER UTILITIES IN RELATION TO THE PV PANELS.

24/7 UNESCORTED KEYLESS ACCESS PROVIDED FOR ALL UTILITY ENERGY EQUIPMENT INCLUDING THE METERS AND AC DISCONNECT.

INTERCONNECTION TYPE: SECONDARY

REVISIONS

#	DESCRIPTION	BY	DATE
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2	CUP PACKAGE	SP	2/9/2024
3	POLLINATOR BUFFER ADDITION	SP	2/20/2024
4	UPDATED WETLAND DELINEATION	SP	6/4/2024
5	CUP RESUBMISSION	SP	7/18/2024
6			
7			
8			
9			
10			

PROJECT NAME

BOHREREAST CSG

DRAWING TITLE

TOPOGRAPHY & DRAINAGE

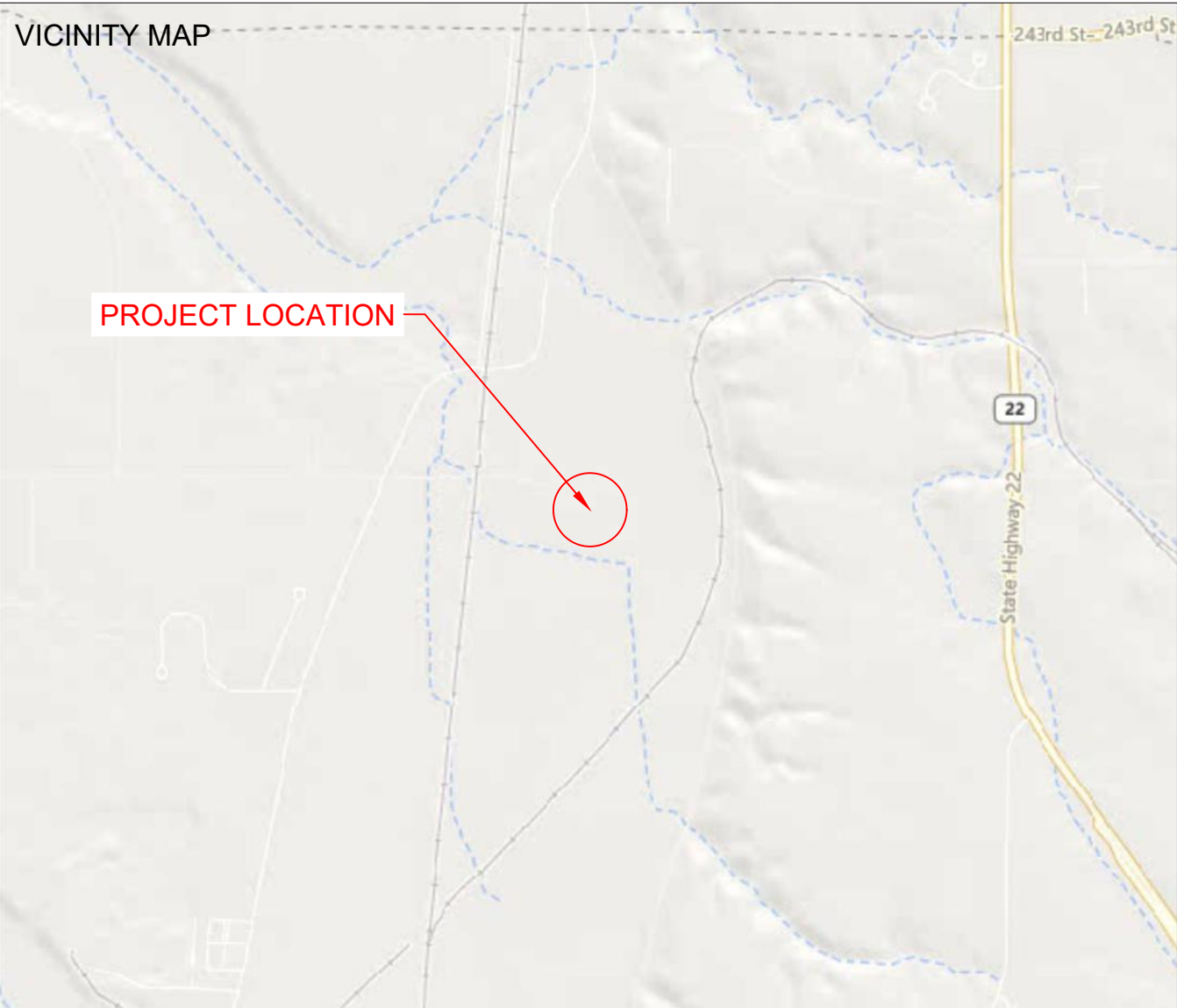
SCALE ¹

1" = 50'



SHEET

PV6

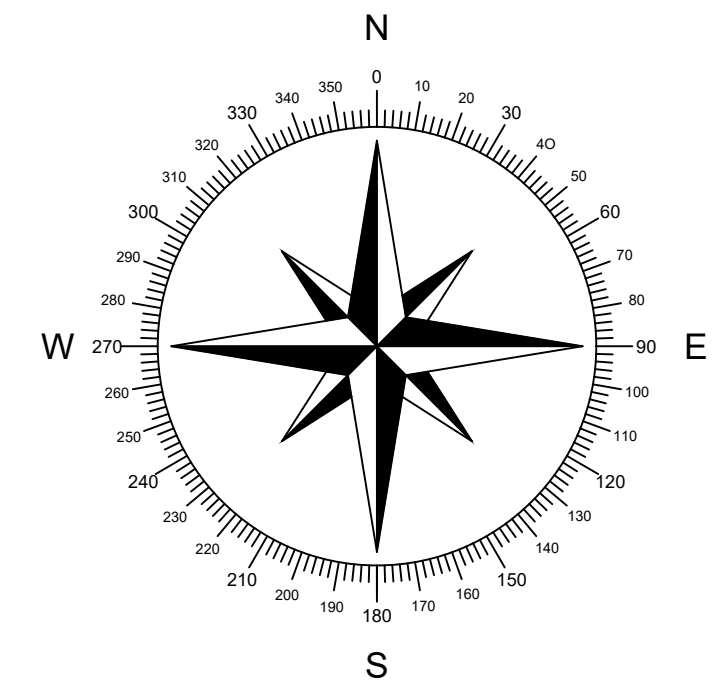


PROJECT LOCATION



LIMITS OF PERMITTING
FOLLOWS ACCESS EASEMENT
~10.86 ACRES

SPACE FOR PE STAMP:



SHEET NOTES:

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NEW ENERGY EQUITY, LLC
2530 RIVA ROAD, SUITE 200
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443-267-5012

PROJECT ADDRESS
23759 THIRD AVE
MANKATO, MN 56001

LAT: 44.225
LONG: -93.979

SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	1.503 MW
SYSTEM SIZE AC	POWER LIMITED TO 1.000 MW
DC/AC RATIO	1.503
AZIMUTH	180°
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MODULE COUNT	2592
MODULE TYPE	HANWA Q.PEAK DUO XL-G11.3.BFG - 580
MODULE STC RATING	580 W
INVERTER COUNT	9
INVERTER TYPE	SMA SUNNY HIGHPOWER PEAK-3 125kW
INVERTER POWER	POWER LIMITED TO 111.111kW
RACKING	TBD
MONITORING	ALSO ENERGY

DESIGN CRITERIA

MIN/MAX TEMP.	-26°C / 31°C
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BUILDING CATEGORY	I
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GROUND SNOW LOAD	50 PSF
BUILDING HEIGHT	0'-0"

OTHER NOTES

CASE NUMBER 05518220

NO POSITION, DISTANCE, OR CLEARANCE ISSUES WITH OVERHEAD ELECTRIC SERVICE LINES OR OTHER UTILITIES IN RELATION TO THE PV PANELS.

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REVISIONS

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6			
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PROJECT NAME

BOHREREAST CSG

DRAWING TITLE

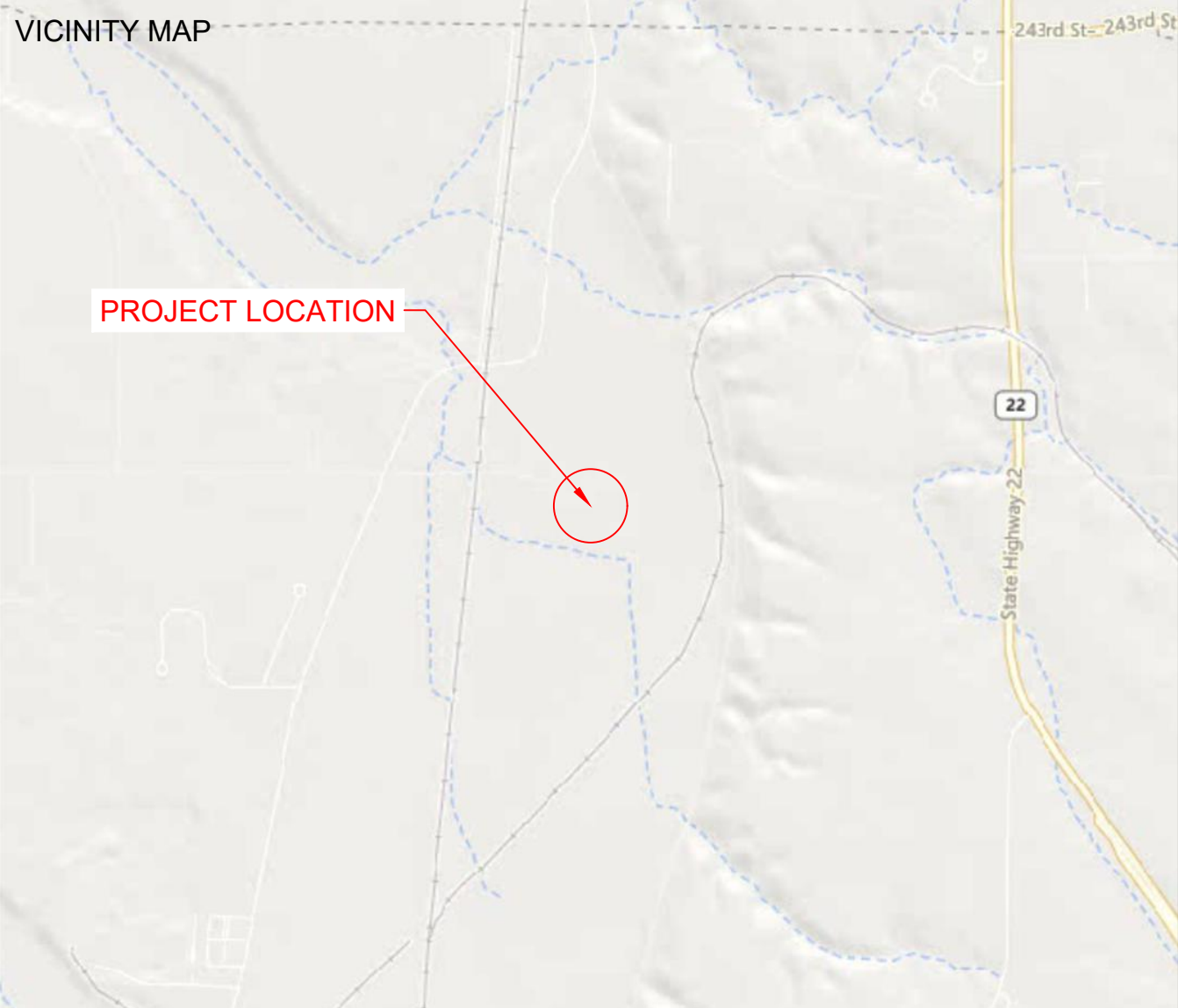
LIMITS OF PERMITTING

SCALE ¹

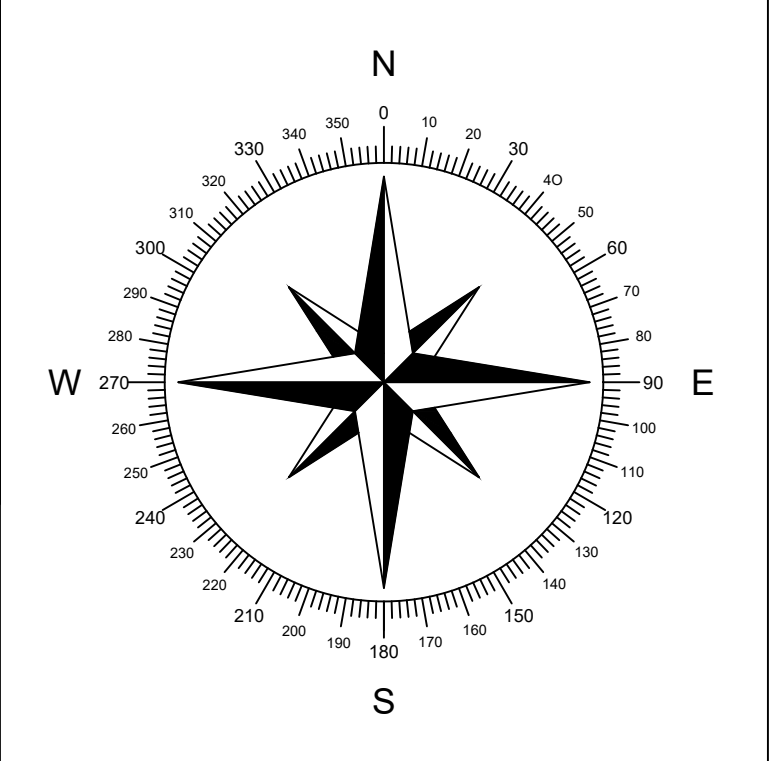
1" = 140' 0 1" 2"

SHEET

PV7



SPACE FOR PE STAMP:



SHEET NOTES:

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PROJECT ADDRESS
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MANKATO, MN 56001

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OTHER NOTES

CASE NUMBER 05518220

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PROJECT NAME

BOHREREAST CSG

DRAWING TITLE

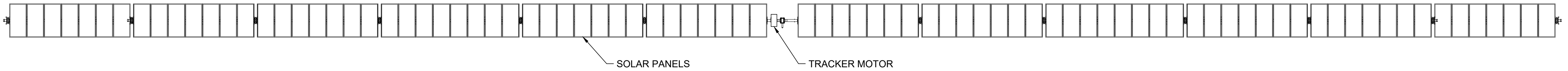
LANDSCAPING PLAN

SCALE ¹

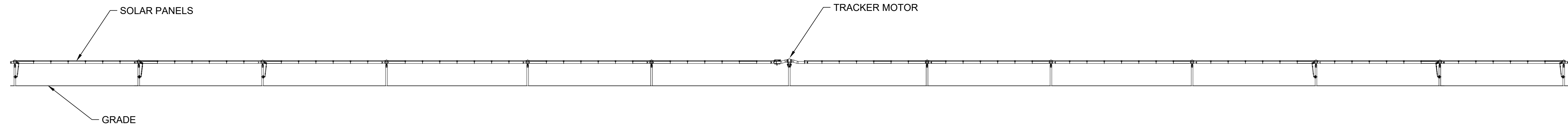
1" = 140' 0 1" 2"

SHEET

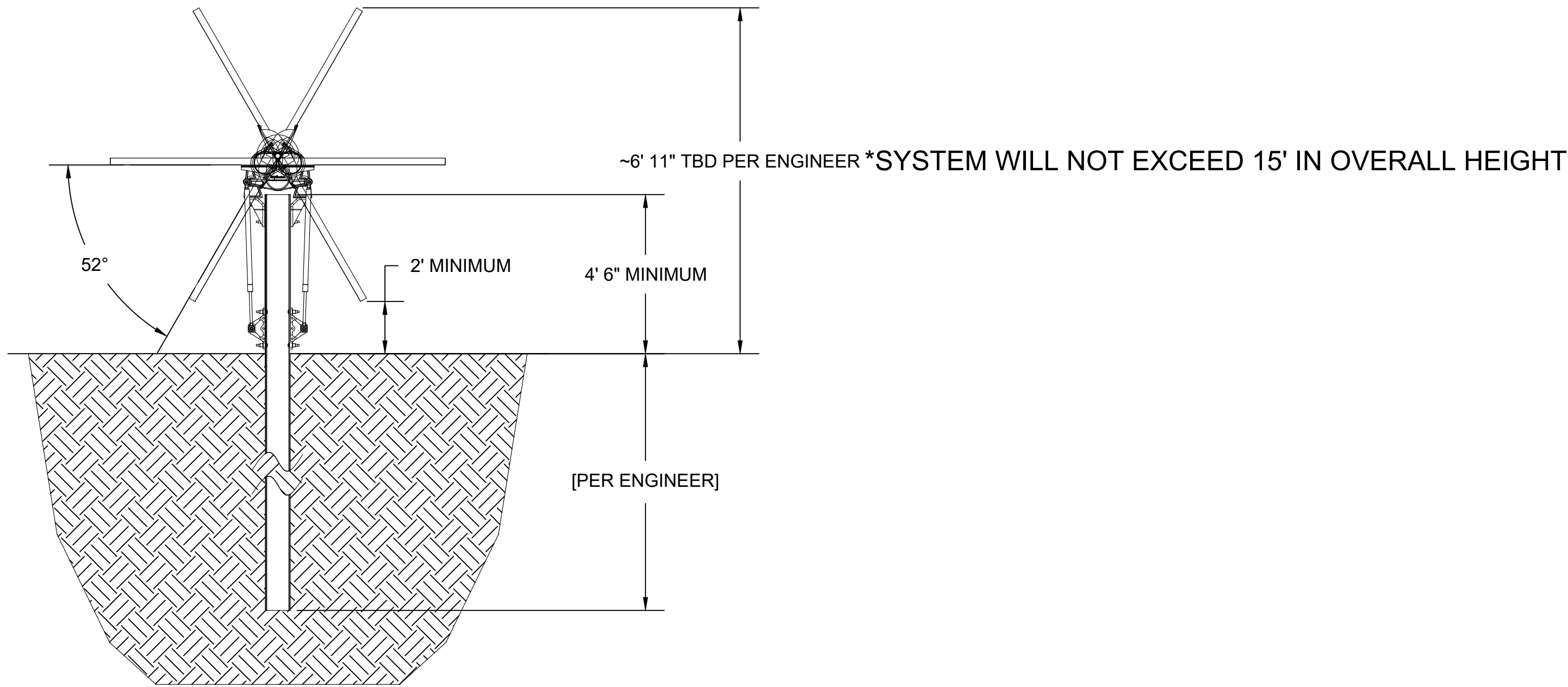
PV8



1 SINGLE AXIS TRACKER TOP DOWN VIEW
NTS



2 SINGLE AXIS TRACKER EAST-WEST ELEVATION
NTS



3 SINGLE AXIS TRACKER NORTH-SOUTH ELEVATION
NTS



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MODULE STC RATING	580 W
INVERTER COUNT	9
INVERTER TYPE	SMA SUNNY HIGHPOWER PEAK-3 125kW
INVERTER POWER	POWER LIMITED TO 111.111kW
RACKING	TBD
MONITORING	ALSO ENERGY

DESIGN CRITERIA

MIN/MAX TEMP.	-26°C / 31°C
WIND SPEED (ASCE 7-10)	105 MPH
BUILDING CATEGORY	I
EXPOSURE CATEGORY	C
GROUND SNOW LOAD	50 PSF
BUILDING HEIGHT	0'-0"

OTHER NOTES

CASE NUMBER 05518220

NO POSITION, DISTANCE, OR CLEARANCE
ISSUES WITH OVERHEAD ELECTRIC
SERVICE LINES OR OTHER UTILITIES IN
RELATION TO THE PV PANELS.

24/7 UNESCORTED KEYLESS ACCESS
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INTERCONNECTION TYPE: SECONDARY

REVISIONS

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5	CUP RESUBMISSION	SP	7/18/2024
6			
7			
8			
9			
10			

PROJECT NAME

BOHREREAST CSG

DRAWING TITLE

SAT RACKING DETAIL

SCALE ¹

NTS

SHEET

PV9

SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	1.503 MW
SYSTEM SIZE AC	POWER LIMITED TO 1.000 MW
DC/AC RATIO	1.503
AZIMUTH	180°
TILT	+/- 52°
MODULE COUNT	2592
MODULE TYPE	HANWA Q.PEAK DUO XL-G11.3_BFG - 580
MODULE STC RATING	580 W
INVERTER COUNT	9
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5	CUP RESUBMISSION	SP	7/18/2024
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8			
9			
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PROJECT NAME

BOHREREAST CSG

DRAWING TITLE

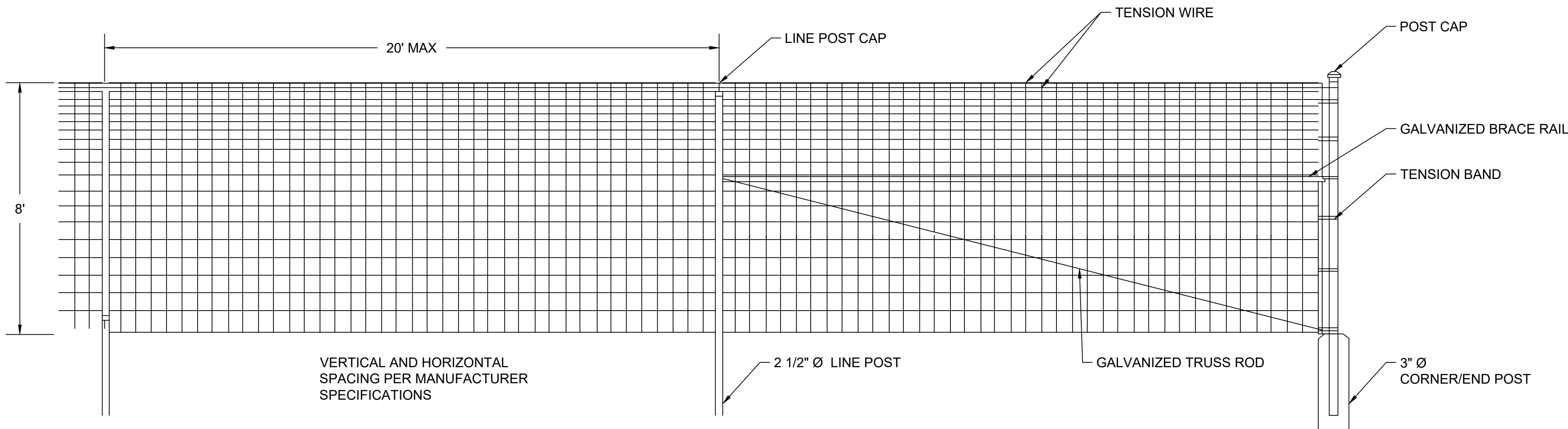
FENCE DETAIL

SCALE ¹

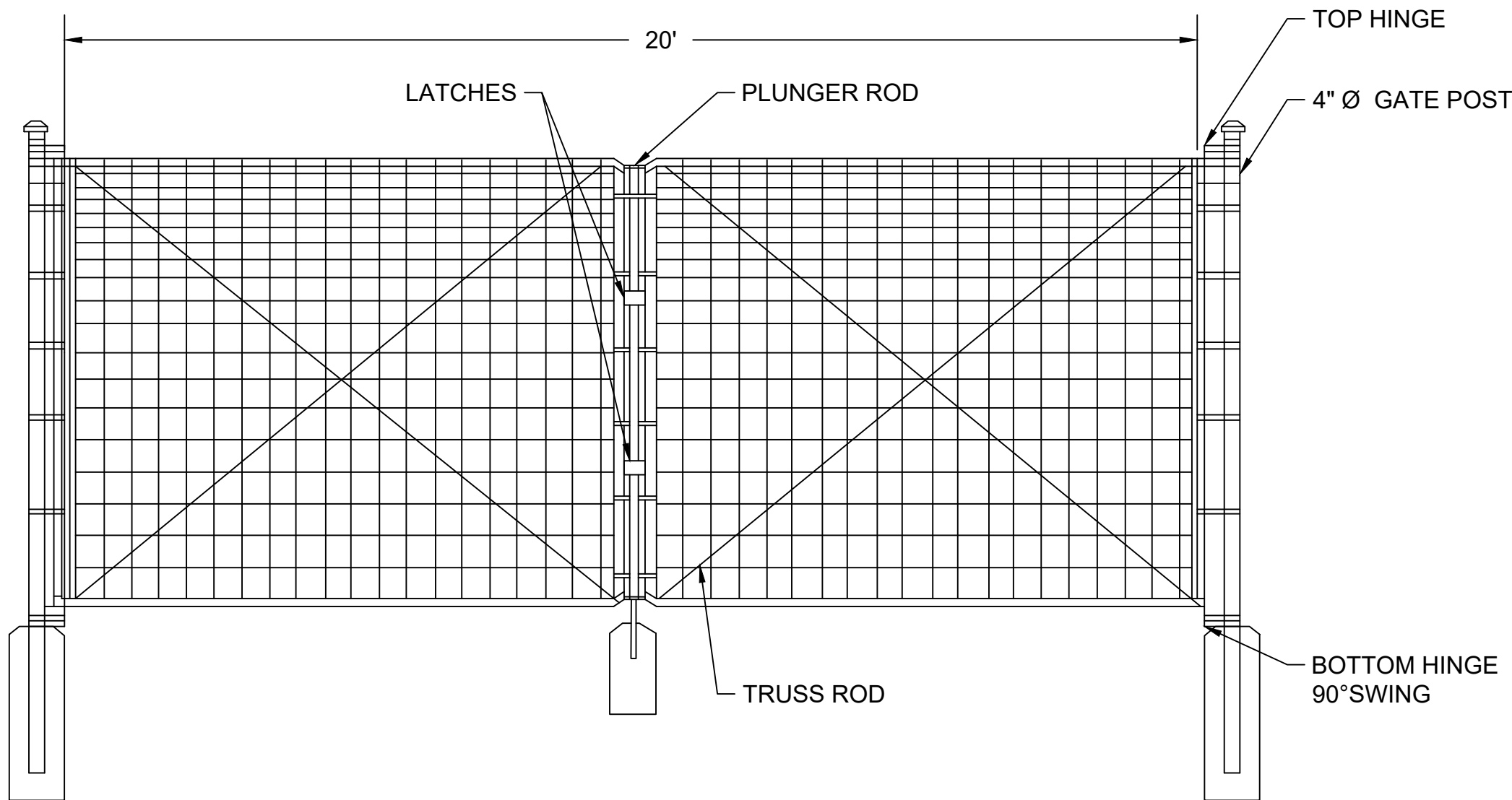
NTS

SHEET

PV10



1 8' FIXED KNOT FENCE
NTS



2 8' FIXED KNOT FENCE GATE
NTS

NOTE:
1. THIS DRAWING IS FOR INFORMATIONAL PURPOSES ONLY
AND NOT TO BE USED FOR CONTRUCTION.
2. DO NOT SCALE DRAWING

SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	1.503 MW
SYSTEM SIZE AC	POWER LIMITED TO 1.000 MW
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TILT	+/- 52°
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PROJECT NAME

BOHREREAST CSG

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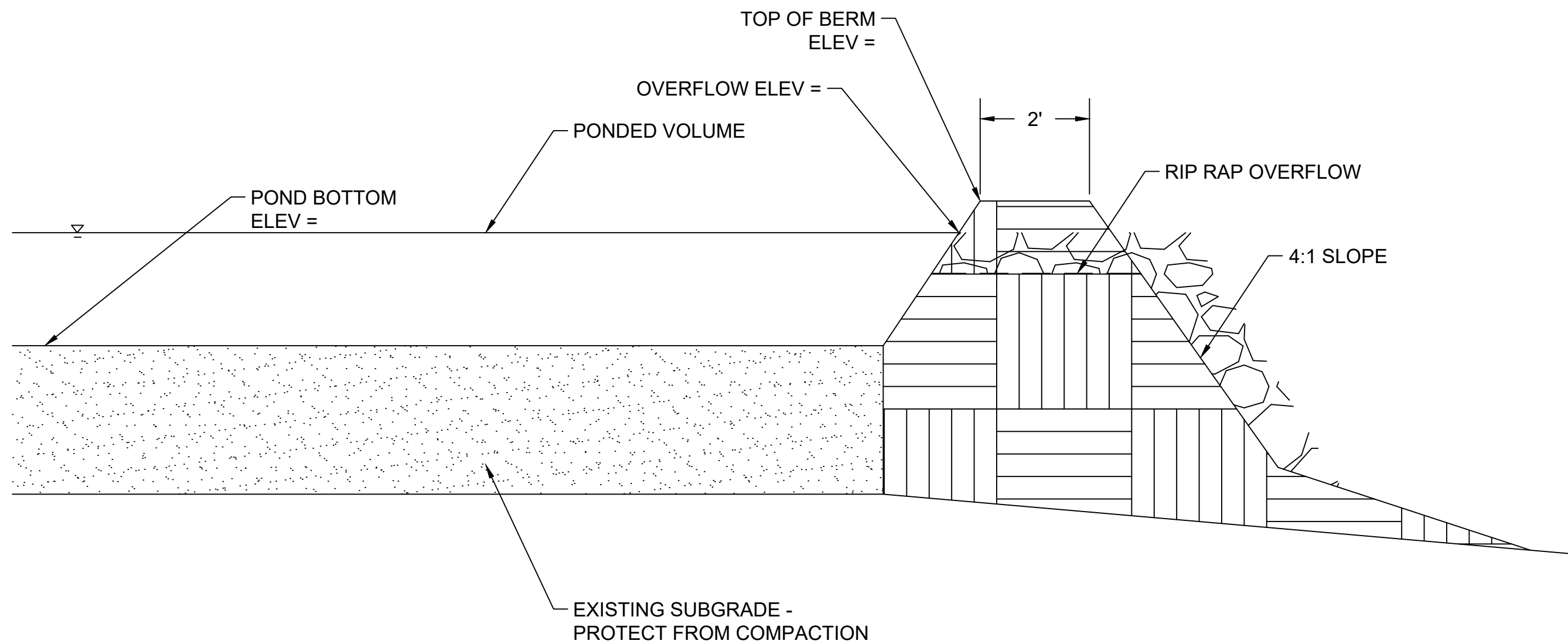
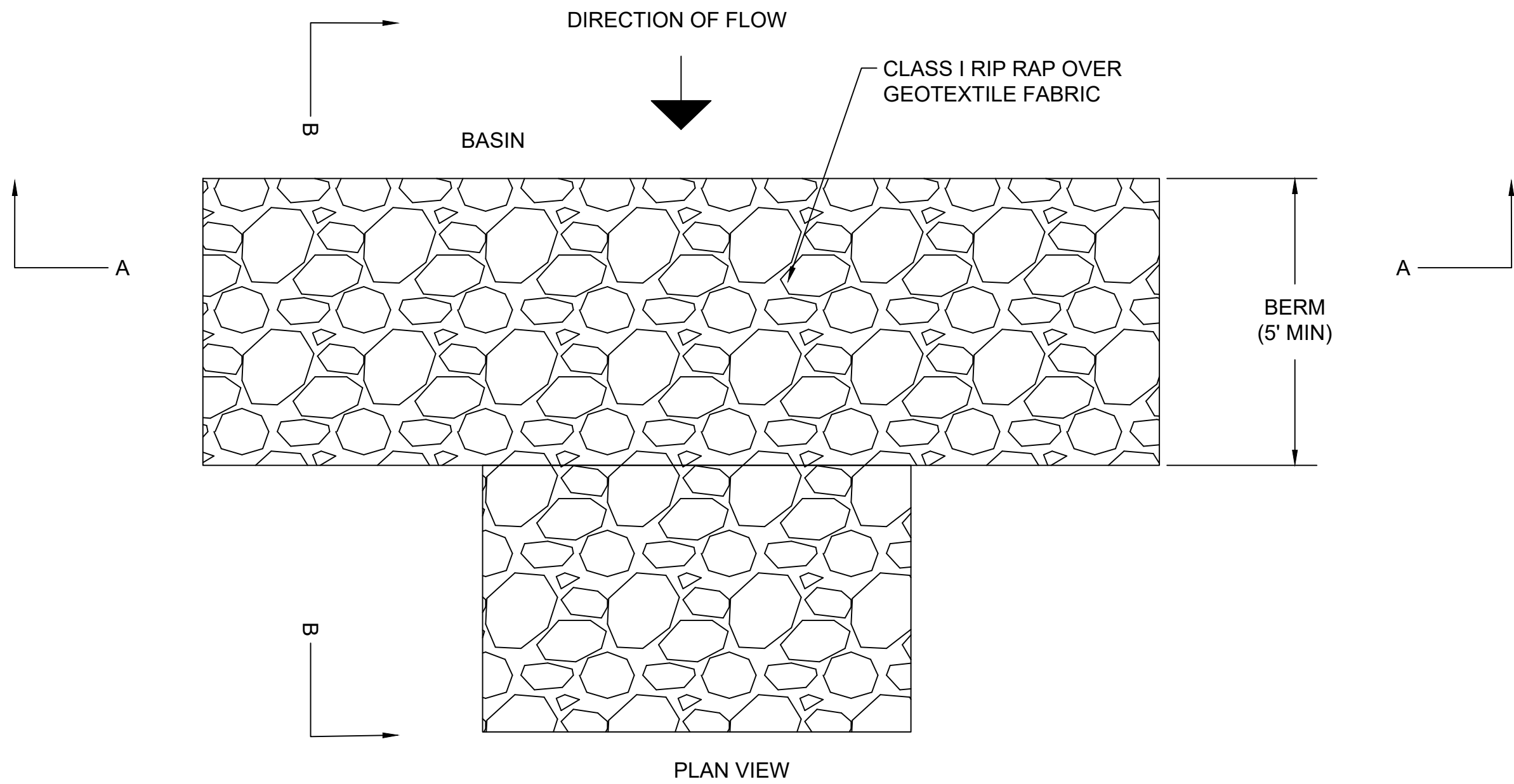
INFILTRATION BASIN DETAIL

SCALE ¹

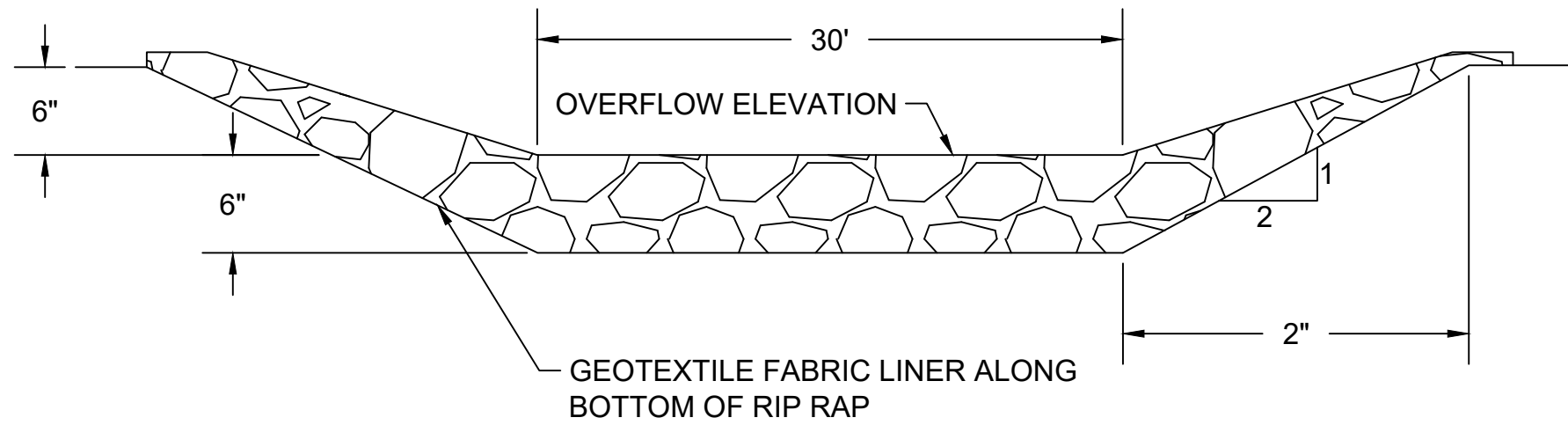
NTS

SHEET

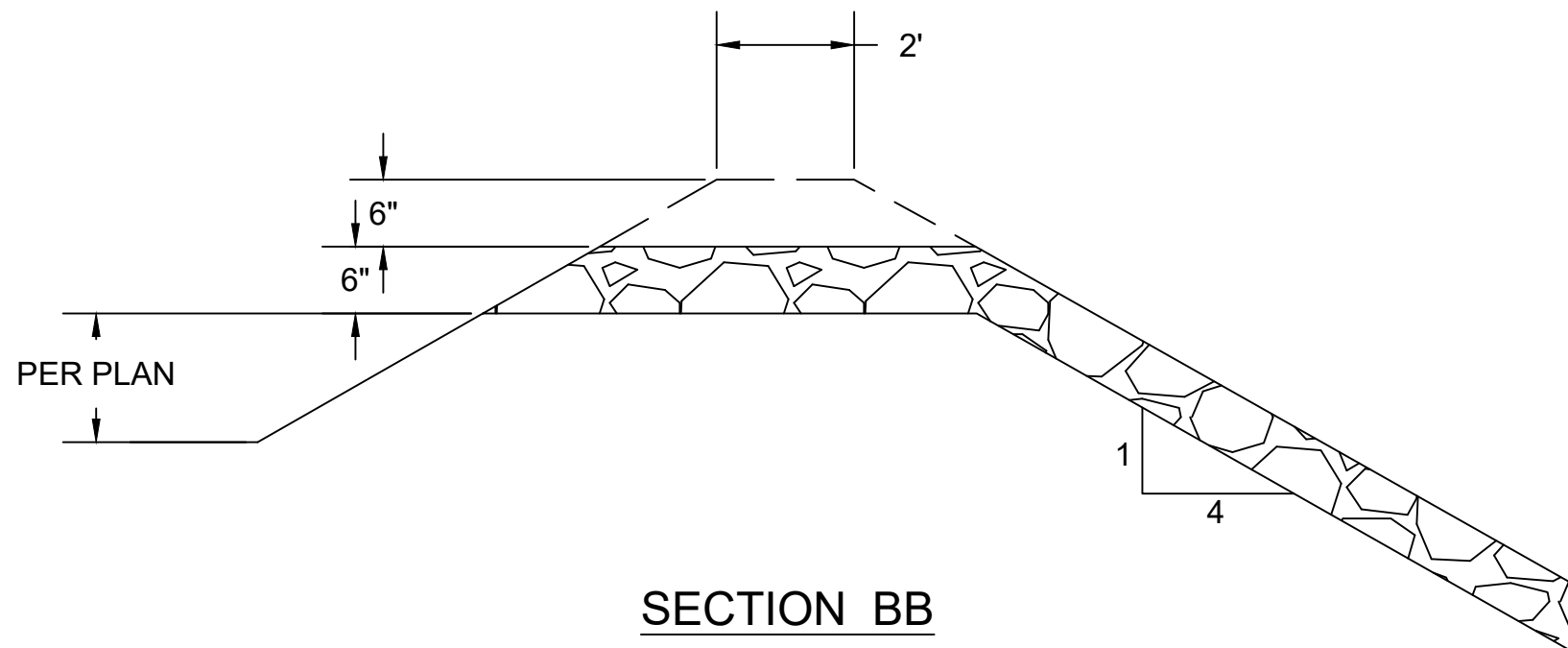
PV11



1 INFILTRATION BASIN
NTS

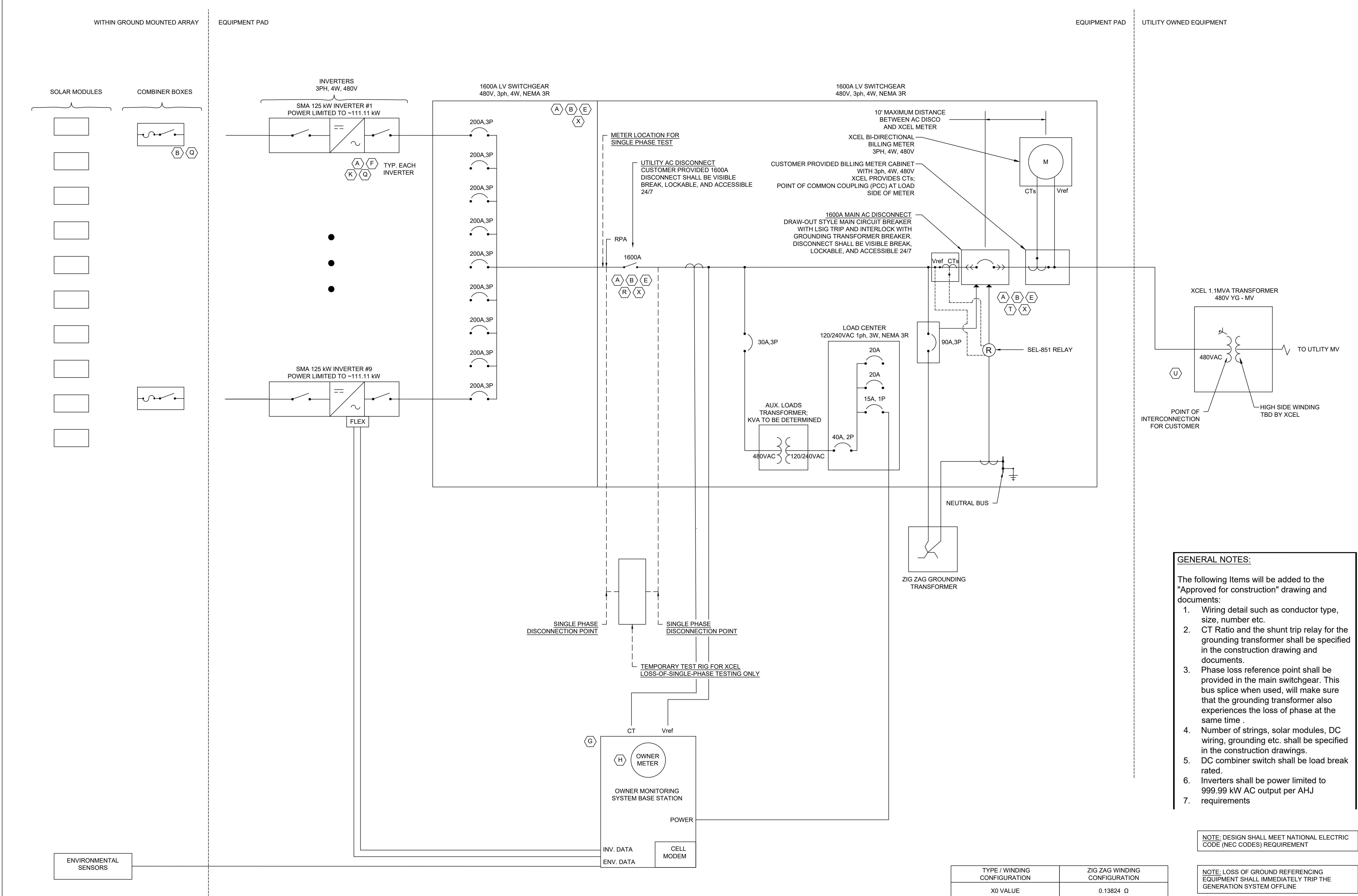


SECTION AA



SECTION BB

2 RIP RAP OVERFLOW
NTS



PROJECT ENTITY: MN CSG 2019-57 LLC

NEW ENERGY EQUITY, LLC
2530 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21041
NEWENERGYEQUITY.COM
443-267-5012

PROJECT ADDRESS
23759 THIRD AVE
MANKATO, MN 56001

LAT: 44.225
LONG: -93.979

SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	1.503 MW
SYSTEM SIZE AC	POWER LIMITED TO 1.000 MW
DC/AC RATIO	1.503
AZIMUTH	180°
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PROJECT NAME

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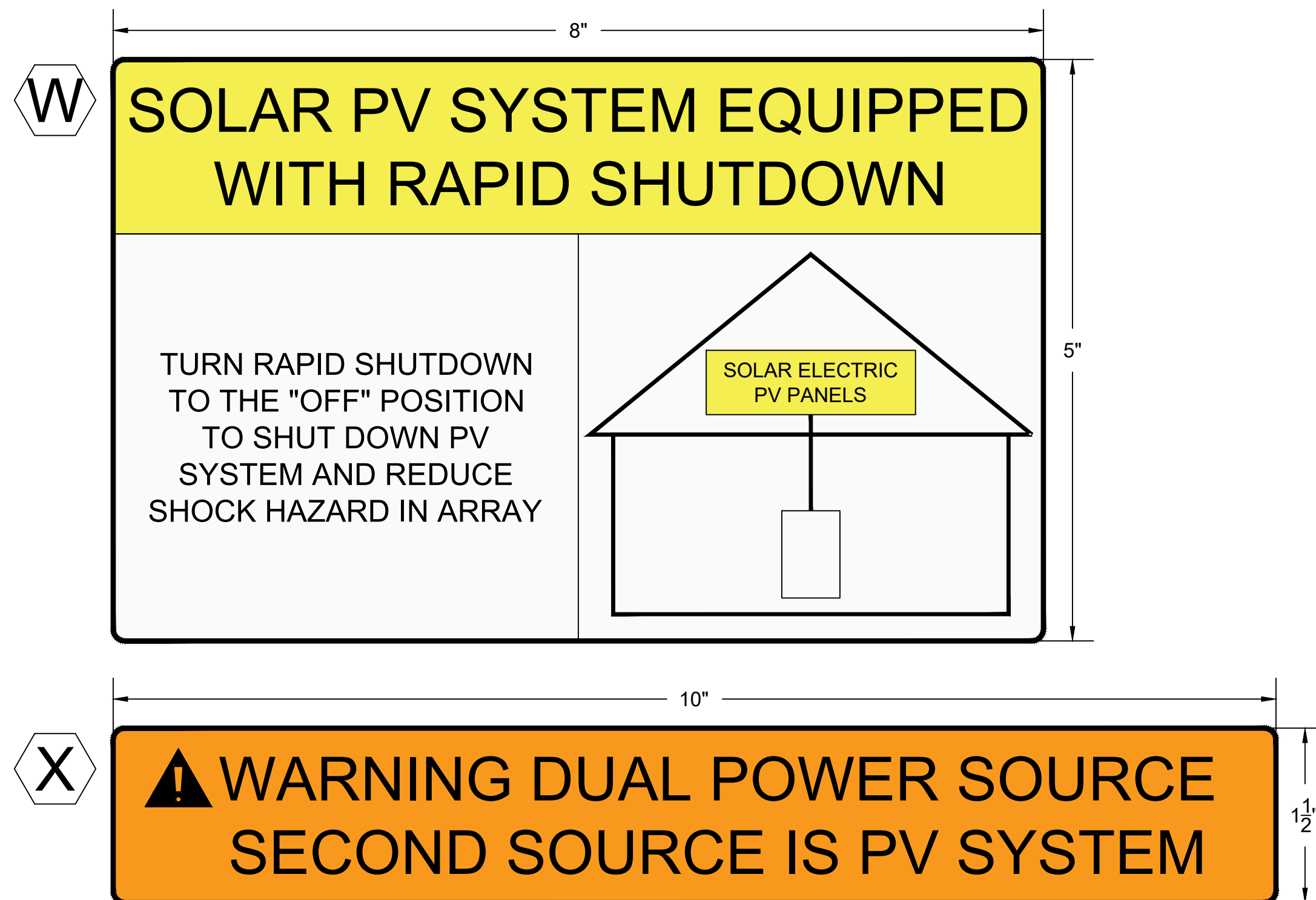
SINGLE LINE

SCALE¹

NTS

SHEET

E1



GENERAL NOTES:

- (1) ALL LABELS MUST COMPLY WITH 2020 NEC 110.21(B):
- (2) LABELS AS PROVIDED AND NOTED ON THIS SHEET MEET WARNING, EFFECTIVE WORDING AND COLOR/SYMBOL REQUIREMENTS
- (3) LABELS SHALL BE PERMANENTLY AFFIXED TO EQUIPMENT OR WIRING METHOD
- (4) LABELS SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. STICKERS OF PROPER DURABILITY AND ADHESION ARE PREFERRED. REFERENCE ANSI Z535.4-2011 FOR GUIDELINES.

SPECIFIC LABEL NOTES:

- A. 2020 NEC 690.13(D)
- B. 2020 NEC 110.16
- C. 2020 NEC 705.12(B)(1)(b)
- D. 2020 NEC 110.27(C)
- E. 2020 NEC 110.27(C)
- F. 2020 NEC 690.53
- G. UTILITY REQUIREMENT
- H. UTILITY REQUIREMENT
- I. LABEL REMOVED
- J. UTILITY REQUIREMENT
- K. 2020 NEC 690.54
- L. 2020 NEC 690.55
- M. LABEL FOR ACCUMULATION PANEL
- N. 2020 NEC 690.31(F)
- O. 2020 NEC 690.56(C)
- P. 2020 NEC 690.13(B)
- Q. 2020 NEC 690.13(B)
- R. 2020 NEC 690.54
- S. 2020 NEC 690.54
- T. 2020 NEC 690.13(B)
- U. LABEL FOR POINT OF INTERCONNECTION
- V. 2020 NEC 705.10 SYSTEM PLACARD
- W. 2020 NEC 690.56(C)(1)
- X. 2020 NEC 690.59

EQUIPMENT	LABELS
ACCUMULATION PANELS, COMBINER BOXES, PULL BOXES, ENCLOSURES	A, B, E, M
DC CONDUIT	N
RAPID SHUTDOWN	O, W
ENERGY STORAGE	L
INVERTERS	K
MONITORING EQUIPMENT	G
METERS	H, J, X, Y
DC DISCONNECT	A, F, Q
AC DISCONNECT	A, B, E, O, P, R, S, T, X
POINT OF INTERCONNECTION	A, C, D, U, V, E



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PROJECT ADDRESS
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RACKING	TBD
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BUILDING HEIGHT	0'-0"

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PROJECT NAME

BOHREREAST CSG

DRAWING TITLE

SYSTEM LABELS B

SCALE¹

NTS

SHEET

E2B

SYSTEM SPECIFICATIONS

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SYSTEM SIZE AC	POWER LIMITED TO 1.000 MW
DC/AC RATIO	1.503
AZIMUTH	180°
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MODULE COUNT	2592
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PROJECT NAME

BOHREREAST CSG

DRAWING TITLE

ELECTRICAL DETAILS

SCALE ¹

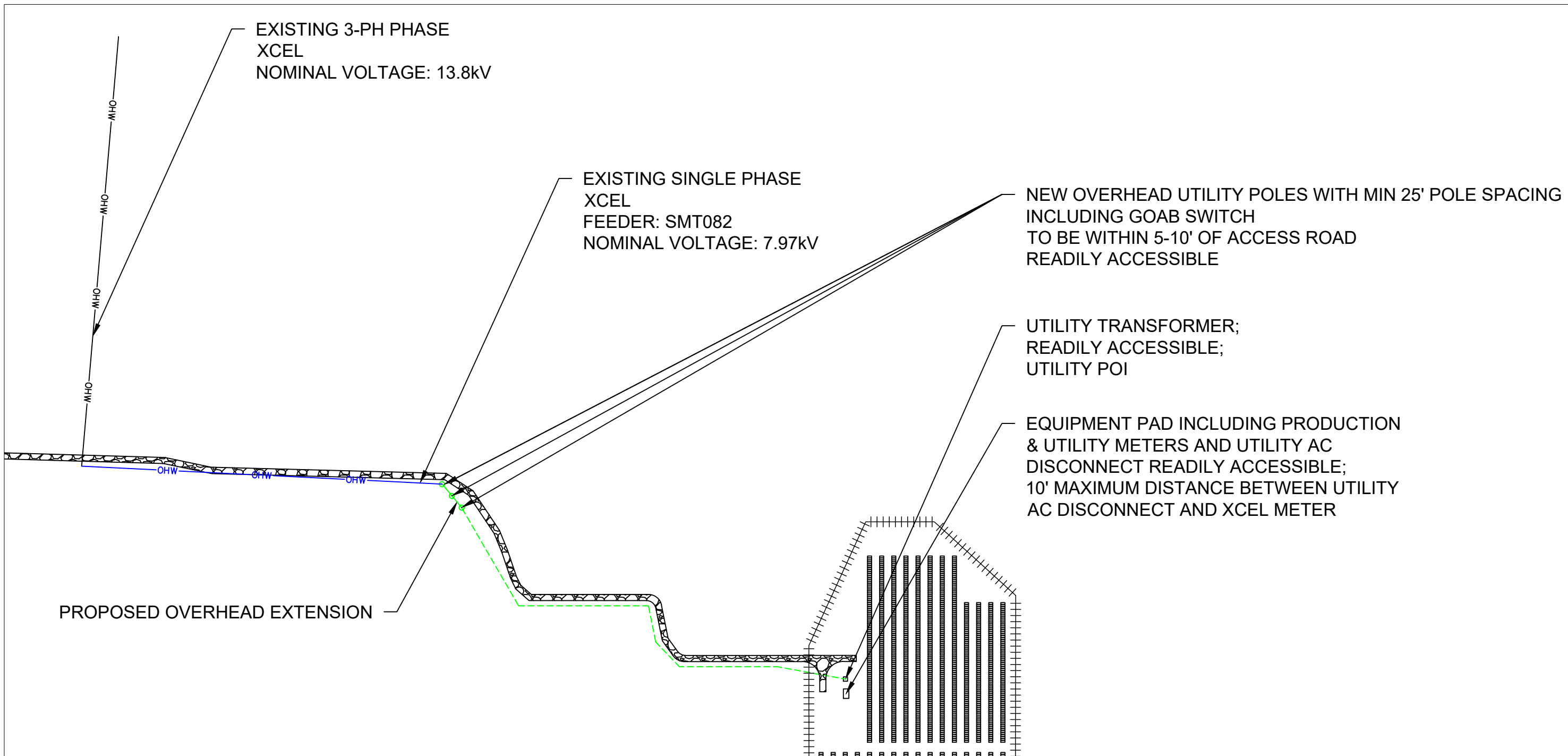
AS NOTED

SHEET

E3

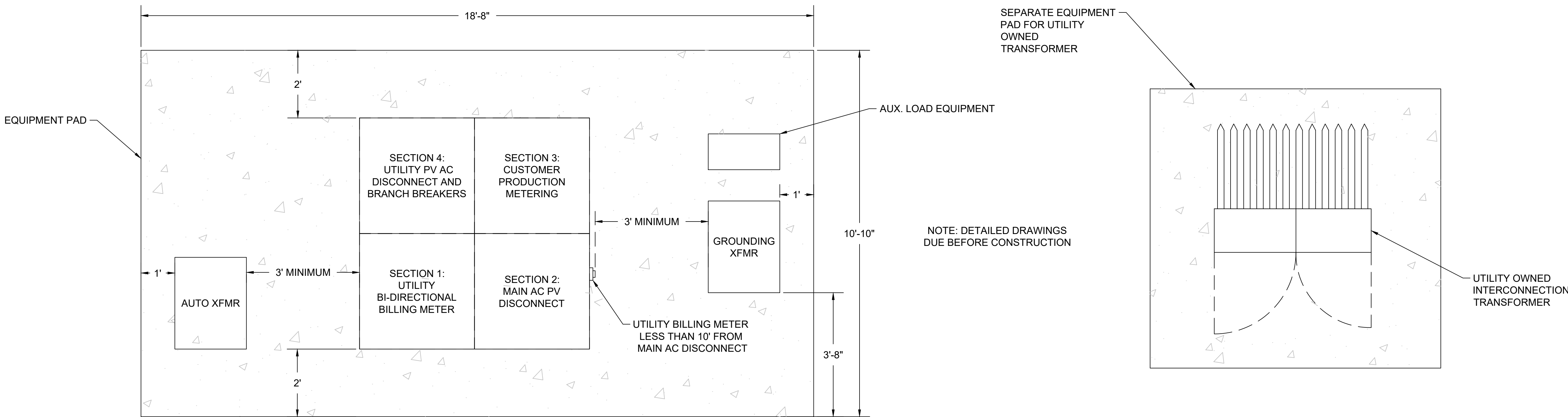
SHEET NOTES:

- Overhead line to underground service
conductors detail - provided by utility
- Fence Detail and Fence Grounding -
provided in the civil engineering
drawings



1 INTERCONNECTION PLAN

Scale: 1" = 200'



2 EQUIPMENT PAD PLAN

Scale: 3/4" = 1'

SPACE FOR PE STAMP:



AN ALLETE COMPANY

BOHREREAST COMMUNITY SOLAR PROJECT SUMMARY

1 MW COMMUNITY SOLAR GARDEN
23759 Third Ave, Mankato, MN 56001
PID: R40.04.29.100.007

Prepared for:

Lime Township Board
3030 N Airport Rd, Mankato, MN 56001

Prepared by:

MNCSG 2019-57 LLC
C/O New Energy Equity
2670 Patton Rd, Roseville, MN 55113

Introduction and Overview:

MNCSG 2019-57 LLC (Applicant) has prepared this Project Summary for the proposed development, installation, and operation of a 1MW AC community solar photovoltaic facility, including the proposed construction and operation of a permanent access road, interconnection poles and line, (the “Solar Facility”) for the purpose of obtaining a Interim Use Permit from the Lime Township Board.

It is the intent of the Applicant to meet or exceed the requirements of all the conditions of the applicable local laws and Zoning without any Variances. Should any misrepresentation or error be found within this project summary and associated exhibits, the Applicant will promptly provide update throughout the permit process.

The Lime Township Ordinance regulates Community Solar Energy Systems under Section 15. The subject property is located within the Rural Conservation zoning district. Pursuant to the Town Zoning Law, a Solar Facility of 1MW, such as this project, is allowed under an Interim Use Permit.

A copy of the completed Zoning Request Application form is attached as **Exhibit A**.

The Solar Facility final design will follow all regulatory, technical, and environmental guidance, requests, rules and requirements of the Utility, County, Involved Agencies, as well as following National Electrical Safety Code, the U.S. Department of Labor and Occupational Safety and Health Standards for the safety and protection of landowners, general public and property.

Interconnection: The Solar Facility will be grid connected to the Xcel service territory, on a distribution level three phase power line that has available hosting capacity and an approved interconnection queue position held by the Applicant. Proof of Project Interconnection Acceptance is attached as **Exhibit B**. The energy generated from the Solar Facility would be distributed to Xcel for daily electrical use by Xcel customers enrolled in the Community Solar Program. The final Solar Facility system size will be determined based on final system design as approved by MN CSG 2019-57 LLC and Xcel.

Table of Contents

Page

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11.	Economic Impact Analysis	21
12.	State Code Clarifications	23
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Exhibit List

Exhibit Letter

•	Zoning Request Application Form	A
•	Proof of Project Interconnection Acceptance	B
•	Wetland Delineation & Natural Heritage Review	C
•	SHPO Review	D
•	Site Plan Set	E
•	Indicative Equipment Specification Sheets	F
•	SGHAT Glare study	G
•	Deed	H
•	(Reserved)	I
•	MN BWSR Habitat Friendly Solar Project Specifications	J
•	Draft Site Rules	K
•	Draft Emergency Response Plan	L
•	Decommissioning Plan Estimate	M
•	(Reserved)	N
•	Community Solar Site Selection Criteria	O
•	About New Energy Equity and Allete	P

1. Design and Interconnection

The proposed location for the Solar Facility is on approximately 7.2 acres of undeveloped land at 23759 Third Ave, Mankato, MN 56001 within the jurisdiction of Lime Township. The parcel is Blue Earth County PID: R40.04.29.200.017.

Applicant has provided a copy of the current Site Plan Set attached as **Exhibit E**. The Site Plan provided has been refined during the development process, working with the landowner, utility company, in consideration of the Town requirements and in recognition of the existing site conditions.

Overview of Solar Facility:

- Grid tied distributed generation system.
- Power generated from a renewable resource free of carbon emissions or any other air pollutants, helping to combat greenhouse gas emissions and reduces our collective dependence fossil fuel.
- The Solar Facility will not use any utility water for electrical power generation.
- Minimal noise generated during solar power generation, none outside project fence, none at night.
- No traffic disturbance during Project operation.
- Minimal visual impact, uniform solar arrays.
- Minimal ground disturbance to the Solar Site, including the surrounding environment.
- Solar panels secured to ground by use of a racking system to minimize ground grading.
- Specified pollinator habitat and fencing to incorporate best practices that ensure the Solar Facility is ready for potential vegetation management via grazing.

Project Description:

The Solar Facility is located on a property is currently used for solar and agricultural purposes.

Description	Total
Land owned by the Property Owner (Acreage)	84.22
Solar Facility Permitted Area (Acreage)	10.82
Modules Covered Area (Acreage)	1.99
Equipment Pads (#)	3

The project consists of 2,592 solar modules mounted to a driven pile, single axis tracker system. Both direct current (DC) and alternating current (AC) conductors will be trenched in conduit. After final circuit consolidation at the PV system pad mounted switchboard, the system's voltage will be stepped-up to distribution level at the Xcel owned transformer and interconnected, onto an existing utility distribution circuit.

The racking system manufacturer's engineer will provide certification that the design of the foundations and panels are within accepted professional standards, given local soil and climate controls. The

equipment is designed to withstand wind up to one hundred five MPH and fifty pounds per square foot of snow. Each Solar Facility will have one to two concrete equipment pads, to support interconnection and metering equipment, and above ground typical utility poles to support interconnection of the distribution powerline. Demonstrative equipment specifications are located within the Site Plan Set, and the Indicative Manufacturer Equipment Specification Sheets are attached as **Exhibit F**

The panels will be arranged into rows arranged from North to South. Rows of solar panels will connect to an inverter. The inverters will be connected by directionally bored underground conduit that is housed inside a PVC housing which will be installed two feet below the surface. The conduit will lead to the concrete equipment. The inverters transform the direct current power generated by the photovoltaic system to alternating current power, which is then connected to the existing distribution line at the point of interconnection. All electrical conduits within the array fence will be buried.

Proposed design will not have any adverse effects the neighboring properties, including no odors, dust, gas, smoke, fumes, vibrations, glare, or noise during operation. During construction we intend to follow general good practices and any recommendations from the County or any Involved Agencies. We do not request the county to provide any services or personnel to support the Solar Facility construction or operation.

There will be signage including utility hazard, company information, and contact information on the fence. No exterior lighting is proposed for the project. Due to the facilities size, wildlife corridors are not expected to be needed. The Solar Facility is small in scale and will not impact wildlife movement.

Construction is expected to start in early 2025. The duration of construction is expected to last three to six months, weather dependent.

Purpose:

The overall purpose of the Solar Facility is to provide customers with a cost-effective source of reliable renewable solar electricity. Additional Project objectives include:

- Develop a generation facility that is feasible, quick to construct and easy to operate while providing the local utility and its customers with a cost-effective, cleaner alternative.
- Establish emission-free solar electricity and reduce greenhouse gas (GHG) emissions while avoiding, minimizing, and mitigating the impacts to the environment.
- Generate electricity without utility water supply needs.
- Provide other important economic and environmental benefits to the local utility and the Municipality, including improving local air quality and public health, developing local energy sources, promoting local jobs and diversifying the energy supply; and
- Render solar energy to the community and meet the State's Energy Plan and Clean Energy Standard.

The Applicants preference would be for the residents and businesses of Lime Township to participate in the Applicants Community Solar Program and be the direct beneficiaries of reduced electricity rates.

2. Pre-development Site Conditions

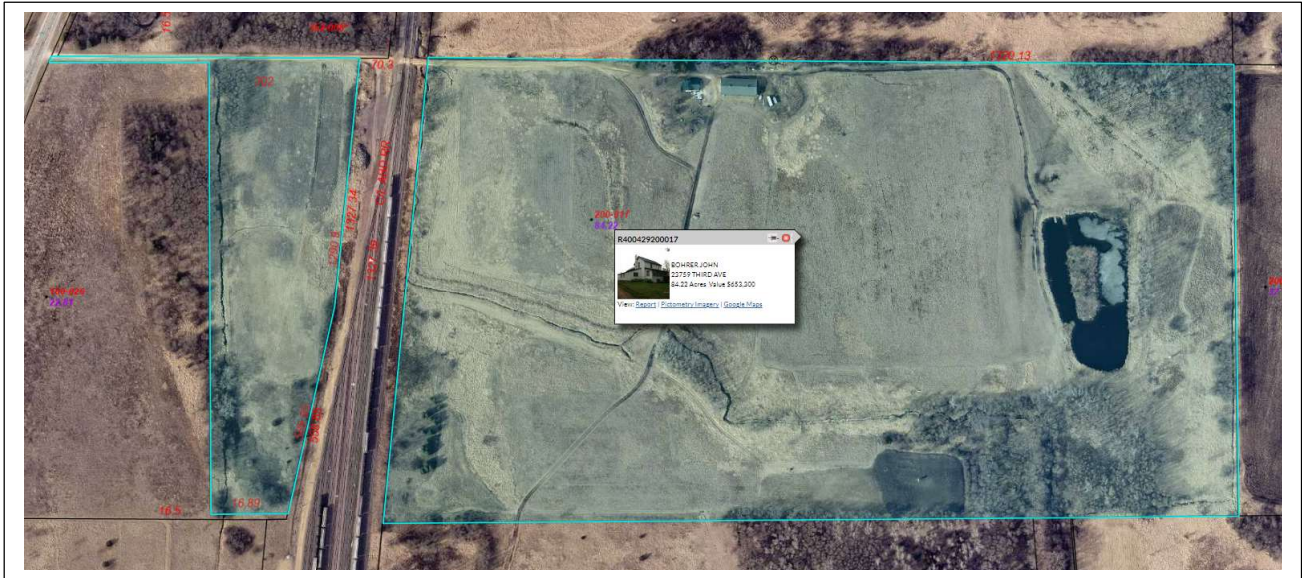


Figure of Aerial depicting Existing Conditions (source Blue Earth County GIS)



Figure of Project Location and adjacent parcels (source Paces.com).



Figure of Topography

Environmental Considerations:

During the planning and development process, the Applicant has completed desktop diligence utilizing internal resources and independent ecological consultants, state, and federal resources to identify Environmental Resources including, but not limited to:

- Significant locations of rare or high-quality wetlands, forests, grasslands, ponds, streams, and other types of habitats, ecosystems, and ecological areas.
- Unique or unusual geological features or landforms.
- Wetlands that are currently mapped under the state's Freshwater Wetlands Act and classified waterbodies.
- Wetlands that are currently mapped by the National Wetlands Inventory
- Animals and plants that are rare in Minnesota, including but not limited to those listed as Endangered and Threatened by the State of MN and/or the U.S. Fish and Wildlife Service.

The applicant involved an independent engineering firm to conduct a level 1 wetland delineation and MN DNR Natural Heritage Information System Review. Reports for both are included in **Exhibit C**. The current Site Plan Set utilizes this combination of data and expertise to avoid and/or minimize impacts, identify as well as identify and implement appropriate setbacks. The Solar Facility as current designed, avoids impact / disturbance of the bed or banks of protected streams, the excavation or placing of fill in navigable waters of the state and/or the U.S., impact of a rare animal or plant, and/or a significant natural community.

The NHIS review listed two State-Listed Species that may be present in the project area. The applicant agrees to comply with the recommendation of the MN DNR provided in the review as well as the MN DNR Rare Species Guide.

The Blue Earth Technical Evaluation Panel met on June 21st to review the submitted report as well as additional aerial imagery. The TEP found the wetland delineation report to be accurate. The property that the project area is on has been visited by the TEP two times in the past for other delineations. This project is to the east of the other delineations and the wetland boundary matches up with the past wetland delineations. Additionally, Blue Earth County did conduct a site visit and verified the boundary.

The TEP also discussed the No-Loss request by the applicant, based off the Bohrereast CSG Site Plan 5.13.24. The TEP determined that access to the project would be from an access road that would not impact the wetland basin identified in the wetland delineation report. The TEP is in concurrence that the project will not impact any wetlands based upon the site plan Bohrereast CSG Site Plan 5,13.24.

The TEP Notice of Decision report is included in Exhibit C

Cultural and Historical:

The applicant has engaged the services of an outside engineering firm to confirm the absence of items of cultural or historical significance on site. This firm has consulted with the MN State Historic Preservation Office (SHPO) to make help make this assessment. A report is included as **Exhibit D**. In addition to that, a field survey will be conducted if a need is indicated by the desktop assessment. It will be complete as soon as possible and prior to application for a building permit. Any cultural resource that would be directly or indirectly impacted, if any, would be subject to further evaluation following SHPO guidelines.

3. Storm Water Management Measures

Indicative stormwater measures are shown on the site plan. A licensed civil engineering firm will determine storm water management measures and a storm water pollution prevention plan ("SWPPP") study will be conducted prior to the submission of the building permit.

Measures will include an analysis of the existing topography, the use of erosion control logs and silt fences where necessary, and establishment a germinated indigenous pollinator friendly vegetative base underneath the project site before construction begins to prevent erosion. The indigenous pollinator friendly seed mix will improve the quality of water and any wetlands nearby by slowing down the velocity of water runoff, improving the permeability of the soil, promoting insect and wildlife habitat, and not using row crop pesticides.

4. Visual Impact Analysis:

Current visual features of the property where the proposed Solar Facility is to be located consist of agricultural fields and rural residence. Adjacent uses consist of railroad lines, former agriculture fields that are now in reserve programs and rural residences.

Harmony with Nearby Residential and Agricultural Property:

- **Appearance:** Large solar projects have similar characteristics to a greenhouse or other agricultural facilities. Usually no more than 8-12 feet high, solar farms are enclosed by fencing and/or landscaping to minimize visual impacts.
- **Noise:** Solar projects are effectively silent. Tracking motors and inverters may produce an ambient hum that is not typically audible from outside the enclosure. There is no noise at night.
- **Odor:** Solar projects do not produce any byproduct or odor.
- **Traffic:** Solar projects do not attract high volumes of additional traffic as they do not require frequent maintenance after installation. The expected traffic volume is less than a single-family home.
- **Hazardous Material:** PV modules are constructed with the solar cells laminated with polymers and the minute amounts of heavy metals used in some panels cannot mix with water or vaporize into the air. Product Safety Data Sheets are included in Exhibit D.

Visual resources in the area of the Solar Facility have been affected by past and present actions including mining, active railroads, highway/roadway construction, utility power lines, sewage, utility water pipes and limited commercial and residential development. The existing terrain along with vegetation / tree lines will act as a visual barrier.

Locations of residential, historical or recreation, have been considered during the project planning and development. The combination of a perimeter Solar Facility fence, natural barrier of trees will mitigate views from surrounding roadways. No known inventoried aesthetic resources are located off-site within the potential visual field of the proposed solar arrays.

The project parcel is 84 acres and adjacent to a 57 acre parcel also owned by John Bohrer. There are significant areas of both properties that have dense existing forest that effectively blocks the view of the project from other adjacent parcels. The parcel is positioned well off any public roadways with over 1,400' to the closest road to the north or east and 2,200' to the west.

Due to the long distance to adjacent properties and the zoning classification of them, the applicant is not proposing to include any vegetative screening.



Figure of Road Views looking towards proposed Solar Facility Location

Glare:

In general, the concept of efficient solar power is to absorb as much light as possible while reflecting as little light as possible, standard solar panels produce less glare and reflectance than standard window glass. The solar panels will be coated with a anti reflective coating. We have included information in **Exhibit F** that shows the low reflective nature of the solar panels.

Considering the existing terrain and vegetation surrounding the Solar Facility as well anti reflective coatings on the solar panels, roadways, buildings, and flights paths will not be impacted by glare from the panels. A Forge Solar SGHAT glare analysis for several adjacent roads and residences is provided as **Exhibit G**. Due to the 2.6 mile distance from the Mankato Airport aviation glare analysis was not required.

5. Agricultural Soil Preservation:

Agricultural Soils:

When considering the design of this project we have put significant focus on minimizing potential project effects on future agricultural land use. This plan includes measures that have been developed to maintain and / or improve the quality of soil resource with the expectation that the site can be returned to row crop agricultural use at the end of the project operation. The Applicant's goal is to improve and maintain soil health during the operational phase of the project by sustaining soil functions including groundwater recharge, carbon sequestration, water quality and minimizing soil loss due to erosion. The Applicant lease has a 25-year standard operating term with the possibility of 10 years extension.

Allowing the land to rest for 35 years will provide an opportunity for it to regain the benefits of natural organic processes that don't happen when the land is constantly worked with modern farming practices.

Agricultural Soil Protection Practices:

- To the extent practical, the solar facility will be developed without modifying grades.
- Wherever possible facility roads are laid out over existing farm roads.
- While the entire site needs to be accessed during construction, routine access patterns will avoid crossing agriculture soils unless necessary.
- When practical, use lower ground pressure tracked equipment and farm carts to haul construction materials across fields.
- Pile drivers will be track mounted to lessen the soil compaction caused.
- Construction equipment travel will be limited in agricultural fields when soils are visibly saturated.
- Use perimeter roads around fields to avoid crossing fields with heavy equipment such as dump trucks or cement trucks.
- Cover crops and deep-rooted perennial vegetation will be used to promote the development of soil structure and reduce compaction potential.
- When trenches need to be installed across farmland, the topsoil will be segregated from the subsoil and substrata. When the trench is backfilled care will be taken to replace topsoil back at the top of the trench.

Temporary Vegetative Cover:

Vegetative cover is important to promote soil health and minimize erosion losses. Maintaining healthy vegetative cover will help reduce the proliferation of noxious and invasive weeds. The goals of maintaining vegetative cover are:

- Protect soils from erosion losses and promote healthy soil by establishing and maintaining a vegetated surface and healthy root zone during construction and throughout the operational phase.
- Increase organic matter content of the soil to improve soil structure, increase the pool of nutrients available for cycling and promote long term carbon sequestration.
- During construction temporary erosion control will be provided by mulching and the use of temporary vegetative cover as well as other measures outlined in the storm water management measures.

Permanent Vegetative Cover:

A properly designed and maintained vegetative cover will improve the surrounding agricultural community, surface, and ground water quality, increase biodiversity, and improve onsite soil health. The goal is to have a vegetative community that stabilizes the site to minimize erosion. The permanent vegetative cover is designed to be sustainable with low maintenance and high ecological and agricultural significance. The Applicant will utilize commercially reasonable efforts to contract with a local company to maintain the Solar Facility.

- The seed mix will be chosen to be consistent with Minnesota Statutes section 216B.1642 and using the guidance of the Minnesota State Board of Soil and Water Resources (Minnesota Habitat Friendly Solar Program) for the creation of native insect pollinator habitat, attached as **Exhibit J**.
- During establishment, mowing may be required to initially control undesirable species before they can become established.
- After successful establishment of the permanent vegetative community, mowing may be required for general maintenance and potential weed and shrub control. Mowing will be limited and only used when necessary. Mowing should not occur within 24 hours after a significant rainfall event when the soil would be susceptible to compaction.
- Ground cover within the fenced portion of the array will follow best management practices for the seed type and seasonal conditions but will not grow exceeding 48 inches at any time.

Perennials And Ornamental Grasses:

- Cut back to a few inches in late fall or early spring.

6. Construction:

Typical Process:

The construction process typically takes approximately three to six months, weather dependent to ensure safe site conditions for work personal. A licensed survey team, prior to any commencement of construction, will stake the Solar Site physical boundaries and construction footprints. The survey team will stake the path through any right of ways (“ROWS”) for the Interconnection Lines and/or provide a detailed map using GPS coordinates. Construction activities would include installation, operation and maintenance facility construction, road and access construction, Interconnection Line trenching, installation of a buried Interconnection Line, cleanup, and site reclamation.

Temporary construction staging areas, including material laydown, storage, equipment assembly, construction trailers, construction worker parking and portable toilet facilities are anticipated during the duration of construction activities. Construction Operating hours during construction will be 8am-6pm. No water supply will be required.

Applicant will use appropriate temporary (construction-related) erosion and sediment control best management practices through construction. Applicant agrees to the Site Rules attached as **Exhibit K**.

Equipment:

Equipment will be used for construction, including but not limited to passenger vehicles, pickup trucks, excavator, road grader, dump trucks, compactor, trencher, skid steer track loader, piling and drilling machine and forklifts will be on site almost every day throughout the construction process.

Drain Tile:

Applicant will be responsible for maintaining any existing drain tile system underneath the array and replacing any damage to tile occurring during construction, or any time prior to or during

decommissioning.

The applicant has obtained a map of the known existing drain tile lines from the landowner. These drain tile lines will be identified upon the completion of the ALTA survey prior to construction.

Transportation Plan:

Multiple truckloads of equipment, gravel and aggregates will be delivered throughout the construction period. Materials would be sourced locally where available. Construction crews will access to the public roadway as depicted in the Site Plan Set, utilizing a permanent access entrance for operations, and a temporary construction entrance for mobilization and construction. To ensure safe access to the site during and after construction of the Solar Facility, Applicant is committed to incorporating all reasonable road improvements and traffic related recommendations from the Town and Involved Agencies. Construction will involve multiple semi-trailer deliveries. Road access will be controlled for erosion control during construction. Construction crew parking will be located entirely within the site. No additional permanent parking is required unless required by local regulations. Maintenance crews will park within the site access road and turnaround area.

Once installation is complete minimal low frequency access is required, as further described in the Operations and Maintenance Basic Scope of Services.

Legal access to the property across the adjacent rail track parcel owned by Union Pacific Railroad is secured in a deed included as **Exhibit H**. A letter supporting the validity of that crossing easement is also included in **Exhibit H**. The applicant is in process of obtaining a Crossing Agreement with Union Pacific as well.

There is an existing private road used to access the property from Third Ave on the west. This road is located along the centerline of parcels owned by John Bohrer and Avamar Properties LLC. There are existing access easements that total 33' wide that were granted to Union Pacific Railroad Company in 2011. John Bohrer and Avamar Properties have entered into a letter of intent to grant each other reciprocal access easements that are similar in nature to the existing ones granted to Union Pacific.

Temporary Roads and Parking Surfaces:

Existing roads will be utilized as much as possible for temporary access during construction. Temporary roads that are not located along existing roads and that require heavy equipment to cross agricultural fields during construction will use the following:

- Install geotextile matting designed for soil separation over exposed topsoil (or subsoil if topsoil is stripped) surface prior to placing a 4-inch layer of crushed rock for the road surface.
- Complete removal of the temporary access fill and geotextile required for temporary access during construction or decommissioning will be removed upon completion of task.
- The topsoil and subsoil shall be de-compacted by tillage after the roads are removed and seeded as described above.

Waste Materials:

The construction of the Solar Facility will generate a variety of non-hazardous wastes during construction, such as paper, cardboard, plastic, and wooden pallets. Any waste or debris will be the responsibility of the Applicant, gathered in a dumpster that will be removed during construction progress as necessary. A waste management plan will be implemented during construction.

7. Operations & Emergency Response:

General:

The Solar Facility site will operate 7 days a week, generating electricity during daylight hours by a qualified operations and maintenance provider, either internal or external and/or manufacturer warranty services, to be determined (the “Operator”).

Service	Description	Frequency
System Monitoring	Operator will monitor the System via the Applicant supplied DAS	Daily
Event Notification	Operator shall create an Event in the Enterprise Asset Management System (Bluepoint) and notify the Asset Manager when: the DAS generates a valid alarm, the System experiences an underperformance condition, or a deficiency is identified onsite during a site visit. Severity: • High Priority events represent conditions that are either causing damage to System or significantly reducing electrical output of System. - Upon Asset Manager approval, truck roll within 24 hours. • Medium Priority events affect System electrical output, but not to a significant degree. - Upon Asset Manager approval, truck roll within 72 hours. • Low Priority events do not impact System electrical output. - Upon Asset Manager approval, truck roll within 7 business days or combined with another previously scheduled visit.	As necessary per occurrence
Diagnostic and troubleshooting	Any diagnostic or troubleshooting work performed on site to develop the Corrective Action Plan, including travel time.	As needed
Equipment Warranty Maintenance and Enforcement	• Operator shall maintain System equipment warranty and perform all preventative maintenance as specified by System equipment manufacturer. • All warranty diagnostic and data collection for the purposes of	As necessary per occurrence

	submitting a system warranty claim included in basic services. • Operator shall perfect and enforce all System warranties and coordinate the corrective actions performed by the manufacturer under the warranty claim. • Operator work performed on System warranty not reimbursed by Manufacturer will be included in Basic Services. • Warranty Maintenance and enforcement that can't be completed due to the good standing and solvency of the System Equipment Manufacturer will be considered Additional Work.	
Warranty Repairs	All labor performed onsite to replace warrantied equipment and return the System to full electrical output.	As needed
Corrective Maintenance	All corrective action, including travel time, performed to complete the Corrective Action Plan.	As needed
Verification of Electric Revenue Meter	Operator shall verify that the electric revenue meter is operational with an accuracy tolerance band of plus or minus 5%. If the Electric Revenue Meter is outside this tolerance band, Operator shall promptly cause the meter to be repaired or replaced pursuant to "Equipment Warranty and Maintenance Enforcement" if considered a warranty claim, or as additional work if not considered a warranty claim.	Once every 5 years
Semi-Annual System Performance Report and Visual and Mechanical Inspection	Will consist of the following: • Performance report (Actual vs Forecast vs Weather adjusted output model) for the report period • List of Events for the report period pulled from Bluepoint • Operator will visit the System between no sooner than five (5) months and no later than seven (7) months after the previous Annual Preventative Maintenance Inspection was completed and complete a visual and mechanical inspection of the System, noting all non-conformances, and documenting through a checklist that will be provided as part of the Semi-Annual System Performance Report.	Once every 6 months
Annual Preventative Maintenance and Performance Report	Will Consist of the Following: TBD	Annually, as mutually agreed upon between Asset Manager and Operator
Annual Report –	Performance report (Actual vs Forecast vs Weather adjusted	Annually, as

Performance Summary	output model) for the report period.	mutually agreed upon between Asset Manager and Operator
Annual Report – Work Order Summary Report	List of Events for the report period from Bluepoint.	Annually, as mutually agreed upon between Asset Manager and Operator
Annual Report – Preventative Maintenance Visual & Mechanical Inspection and Checklist	Visual & Mechanical Inspection checklist which includes inspection and maintenance activities for the following: • General Site Observations • Array • Racking • Tracker (If applicable) • Conduit • Inverters • Accumulation Panel(s) • Disconnect(s) • Transformer(s) • DAS & Weather sensors • Equipment manufacturer warranty maintenance	Annually, as mutually agreed upon between Asset Manager and Operator
Annual Report - Infrared Thermal Imaging	Operator Shall perform infrared thermography of the following: • 25% of system PV modules if handheld IRT is performed. Shall otherwise be 100% completed by aerial drone as part of “Annual Report – System Performance Data” • Hand-held IRT imaging of Inverter enclosures, combiner boxes, accumulation panels, disconnects, and transformers.	Annually, as mutually agreed upon between Asset Manager and Operator
Annual Report - System Performance Data	Operator shall collect one of the following: • Perform I/V curve tracing on a random 25% of the PV Module strings. Comments will accompany any results that suggest there is a problem • Perform Aerial Drone Infrared Thermography of the entire System array. Thermography will be performed at a minimum of 500 w/m2. Drone analysis will be provided to the customer as both a printout and an interactive online report.	Annually, as mutually agreed upon between Asset Manager and Operator
System Performance Analysis	Any System performance analytics, configuration or assessment initiated by Asset Manager will be considered additional work.	As needed

General Requests for Information	Additional System tests, written reports, site visits and other related activities as requested by Asset Manager that are outside of the services detailed in this agreement.	As needed
Solar PV Module Cleaning	Cleaning of the PV Modules as requested by Asset Manager. Operator shall monitor and recommend any special cleaning needs that may be required as a result of System conditions.	As needed
Minimum Vegetation Management and Snow Plowing	Operator shall establish a timeframe for cutting the grass and maintaining other plant material growth in order to maintain the System to the Asset Manager's requirements. Upon Asset Manager's approval, Operator will execute the approved mowing plan.	As needed, estimated 3 x vegetative management trips per year

Emergency Response:

Solar Facility is monitored 24 hours a day, 365 days a year remotely through a computer data acquisition system (DAS) so that appropriate personnel can be dispatched to investigate potential problems.

In the event of an onsite emergency, an AC Generator Disconnect (Isolation) Switch provides 24-hour/7-day unlimited access and manual control. The disconnect switch must be rated for the voltage and current requirements of the installation. Disconnecting means shall be rated to interrupt the maximum generator output; meet applicable Underwriters Laboratories (UL), American National Standards Institute (ANSI), and IEEE standards; and shall be installed to meet the NEC and all applicable local, state, and federal codes. It will be clearly marked with permanent larger letters: "Generator Disconnect Switch".

A draft emergency response plan is attached as **Exhibit L**.

Site Security:

Limiting access to the Solar Facility to non-authorized persons is necessary both to ensure the safety of the public and to protect equipment from potential theft and vandalism. The perimeter of the Solar Facility will be fenced with an approximately eight-foot-high knotted wire fence. Surveillance methods such as security cameras, motion detector, or heat sensors may be installed at locations along the Solar Facility boundary as determined necessary. No lighting will be installed.

8. Decommissioning Plan:

General:

The intent of the decommissioning work will be to fully remove the solar facility, dispose of any components, and restore the site to a grassy field.

Applicant has contractual obligations to the landowner regarding decommissioning arising out of Section 4.4 of the lease. These obligations include removal of all equipment, timelines for removal, owner's rights to remove the solar facility upon failure by the Project Company, and establishment of a monetary security for removal in the form of a bond, escrow, or letter of credit.

The purpose of the security is to ensure there is sufficient money available to return the project site to an appropriate condition at the end of the project's useful life, or earlier. The County will be the designated beneficiary of the fund and will be provided a copy of the document establishing the security before construction commences.

The decommissioning process for the Solar Facility is described below:

Summary Statement of Expected Decommissioning Cost:

The expected residual value of the solar facility is the difference between the removal/restoration cost and the salvage value. The decommissioning cost to remove the solar PV facility and reestablish the property back to a grassy field is not expected to exceed a net expenditure of decommissioning cost.

Basis of Decommissioning Plan Narrative:

The following is a list of assumptions and clarifications to further define the methodology used to establish the scope and values of the removal costs and salvage values:

Civil Infrastructure

- Topsoil used to backfill excavations will be borrowed from onsite locations. No topsoil import is included.
- Remove rip rap at stormwater basins.
- Aggregate removal will be the full depth of the aggregate section for roads, equipment pads, and other areas utilizing aggregate. No aggregate will be buried. Includes subgrade scarification prior to backfilling with topsoil.
- Turf establishment includes mulch, fertilizer, and water as necessary to achieve 70% ground cover as required to satisfy the NPDES Construction General Permit.
- Sediment control cost consists of silt fence but could also be fiber logs. Location of sediment control will be downslope from exposed soils only in areas where sedimentation offsite or into onsite water bodies can reasonably be expected.
- Trees and shrubs shall be protected and shall remain in place.

Structural Infrastructure

- Steel pile foundation removal is estimated at 25% the effort and cost as pile installation.
- Steel racking removal is estimated at 50% the effort and cost of racking installation.

Electrical Infrastructure

- PV modules to be recycled. Assumption is that the modules are 72 cell polysilicon modules, having an approximate dimension of 6' x 3' in dimension.
- Switchgear including transformers will be removed from their respective concrete pads and recycled or returned to the manufacturer.
- Copper wiring will be dug up (if required) and recycled.
- Aluminum wiring will be dug up (if required) and recycled.
- On site riser or interconnection poles shall be removed.
- String inverters/combiner boxes are no more than 130 lbs. in weight and not more than 40" x 25" x 12" in dimension. A two-person crew can dismantle a string inverter and recycle the components.
- Transformers are pad mounted and weigh approximately 8,500 pounds. These are typically dry type transformers, so there is no need for any oil disposal.
- Underground power and communication cables can be removed by excavating with a power trencher or excavator.

Recycling PV Modules:

Recycling solar modules have environmental benefits such as:

- Creating a useful and sustainable method of disposal.
- Providing raw materials for repurposing and reprocessing.
- Recovering up to 90% of the photovoltaic glass and up to 95% of the semiconductor material necessary for further production.
- Recycling of rare earth metal.

Schedule of Removal and Restoration Costs:

The Decommissioning Plan Estimate (the "Engineer's Estimate") is provided in **Exhibit M.** Costs associated with this Engineers Estimate represent a "turnkey" operation for a general contractor to be hired for this work, including permits, mobilization, contingency, etc. Haul costs assume a maximum distance of 60 miles between the project and nearest disposal or recycling facility. "The service life of the facility is assumed to be 35 years. All dollar amounts are in net- present-value. It is assumed that all values will inflate/deflate at consistent with baseline inflation, therefore, the net-present-value comparison of removal cost to salvage value will remain relevant at the end of the service life.

9. Fire Prevention:

This solar array will meet the requirements of the 2012 International Fire Code, specifically to sections 605.11 – 605.11.2 for clearance, markings, and location of underground DC conductors. The Solar Facility will meet the international Building Code (IBC), National Electric Code (NEC), and local electric and fire code. NEC code is produced by the National Fire Protection Agency (NAPA) with safety of the public, contractors, and firefighters as the entire objective. Solar specific Code has been included in the NEC for over a decade. Safety is paramount in our solar PV facilities, as we need them to function optimally for their entire system life.

The local Fire Department will have 24 hour access to the site.

10. Insurance Information:

Applicant's or its successor will provide a certificate of insurance meeting the following requirements:

- Insurance provider must be rated B+ or better by "Best."
- Limits of \$2,000,000 for each occurrence.
- Coverage against claims for damages resulting from bodily injury, wrongful death, and property damage arising out of the Interconnection Customer's ownership and/or operating of the Generation System under the interconnection agreement.
- Contain a severability of interest clause of cross-liability insurance.

11. Economic Impact Analysis:

Benefits Summary:

The development of the typical Solar Facility invests approximately \$2 million dollars for every megawatt of AC capacity of the Solar Facility:

- Energy supply cost savings to subscribers, which will result in an average savings of 10% off the supply of energy on a subscribers existing energy bill. The estimated annual consumer savings is \$30,000 per megawatt AC capacity of the facility. The Applicants preference would be for the residents and businesses of Chippewa County to participate in the Applicants Community Solar Program and be the direct beneficiaries of reduced electricity rates.
- Generate lease dollars for the host landowner annually for the life of the Solar Facility.
- According to the Lawrence Berkeley National Laboratory an acre of solar panels producing zero-emissions electricity saves between 267,526 to 303,513 pounds, or 121 to 138 metric tons, of carbon dioxide per year compared to using a fossil fuel generation. By comparison, according to the EPA, the average acre of forest in the United States sequesters 0.84 metric tons of carbon dioxide per year. Thus, an acre of solar panels reduces approximately 144 to 166 times more carbon dioxide per year than an acre of forest.
- Create or sustain approximately 35 full-time-equivalent on site full-time temporary construction jobs and 2 permanent operations positions.
- The project will incur fees for required applications and construction-related permits.
- No capital expenditures will be required by the City or County to support the project due to the nature of solar facilities and the minimal impact to the regional infrastructure.

Economic Impact Overview:

This Solar Facility is a planned MN Community Solar project. Minnesota's Community Solar program is an effort, established in 2014, which seeks to make solar easier and more affordable through community-driven initiatives.

Community solar is a way of organizing the production and distribution of electricity from solar power.

Community solar refers to local solar facilities shared by multiple community subscribers who receive credit on their electricity bills for their share of the power produced. Community solar facilities provide a means for apartment dwellers, and others living in households without sufficient space to install their own solar panels to use this cleaner source of energy. Some facilities may have an ‘anchor’ customer who purchases 40% or more of the electricity, such as a business or other large user of electricity.

Development of community solar facilities will generate economic impacts in three distinct phases, each with their own unique set of economic impacts: (1) the development phase, when interested landowners are identified, diligence, planning and development of the Solar Facility occurs (2) the construction phase, when the Solar Facility is being created and being connected to the electrical grid and customers are being recruited; and (3) during the operation phase, when the Solar Facility is fully operational, and customers are receiving electricity.

Understanding Economic Impact:

An “economic impact” is a change in the employment, income, and output in an area based on an activity that affects the local economy, such as construction and operation of community solar facilities. Economic impact includes three components: direct impacts, indirect impacts, and induced impacts.

The direct impacts include the changes in employment, worker income, and total economic activity directly related to the community solar facilities.

- During the development phase these direct impacts will include outreach and identification of lease landowners, development payments received by owners of land where the facilities are desired to be studied, payments to the utility company to apply for and study the locations potential for viability, payments to architectural, engineering and related services, advertising, public relations and related services, real estate services, county clerk’s office, permitting and environmental consulting services.
- During the construction phase these direct impacts will include site preparation, installation of solar panels and other equipment onsite, upgrading of electrical lines and equipment to get the electricity produced into electrical networks, and advertising for and recruiting customers.
- During the operation phase, these direct impacts will include operation, maintenance, and repair of the facilities; advertising for and recruiting customers; lease payments received by owners of the land where the facilities are located; and savings accrued by customers of the facilities.

Indirect impacts measure the effect of these direct impacts on the businesses in the economy who sell products or services to the community solar facilities, such as equipment, accounting and legal services, and advertising.

The induced impacts are the effects resulting from changes in spending by employees of the community solar facilities, of employees in other businesses indirectly affected by these facilities, by landowners receiving lease payments, and by consumers who spend the money they saved by subscribing to community solar.

- For example, if employees at an advertising company work more hours because their firm was hired to work on community solar facility-related activities, they'll have more money to spend on things like groceries, clothing, local entertainment, and other household items.

The indirect and induced effects, which measure how money ripples through other sectors of the economy, is also referred to as the Economic Multiplier Effect. These impacts can be measured in three different ways: (1) employment, which reflects the change in full-time equivalent jobs as a result of the community solar facility construction and operation; (2) labor income, which measures the increase in wages, salaries and other remuneration due to these job gains; and (3) output, which reflects the total change in economic activity, including the value of sales and changes in inventory.

12. State Code Clarifications

Intentionally Omitted

13. Interim Use Permit Conditions

The Applicant has compiled this preliminary Project Summary with, to the best of its knowledge, based on the information currently available. The present document is subject to change and may be modified if new information becomes available and as design drawings are finalized prior to construction. The information contained in this document is preliminary and not intended to describe all the relevant information of the Project and is qualified in its entirety by the final application and site plans.

Prior to issuance of a building permit, the Applicant will adhere to the following typical conditions:

- Conduct additional research, studies and/or investigation, including but not limited to Wetlands, ESA, Geotechnical, Title, ALTA and final engineering to fully develop the final Site Plan Set and SWPPP.
- Provide decommissioning bond or surety as required by the local law governing the Interim Use Permit based on the final system size.
- Hold a preconstruction meeting with municipal staff, outside Involved Agencies (as applicable), Project Owner and Project Contractors.

At the request of the Town, additional information can be provided before issuance of the building permit.

We sincerely appreciate all the help we have received from your staff with regard to our application and we look forward to collaborating with you further to develop a great project that we can all be proud of.



EXHIBIT A



City of Mankato
Zoning request application

10 Civic Center Plaza ~ PO Box 3368, Mankato, MN 56002-3368
Phone 311 or 507-387-8600 FAX (507) 387-6845

Primary contact (Check one)	Site address and legal description: 23759 Third Ave, Mankato, MN 56001,(See attached for Legal Description)			
☒	Applicant MN CSG 2019-57 LLC	Address 2530 Riva Rd, Suite 200, Annapolis, MD 21041	Email briank@newenergyequity.com	Phone (612)469-3356
☐	Owner John Bohrer	Address 103 Crestwood Dr, North Mankato, MN 56003	Email johnbohrer6311@yahoo.com	Phone (507)382-7362
☐	Contractor	Address	Email	Phone
☐	Architect/Designer	Address	Email	Phone
☐	Engineer	Address	Email	Phone
☐	Developer New Energy Equity	Address 2530 Riva Rd, Suite 200, Annapolis, MD 21041	Email development@newenergyequity.com	Phone (443)267-5012
☒	Conditional Use Permit (CUP) (3104)	Include the items listed below.		\$335 plus \$2 per notice
☐	Planned Unit Development (PUD) (3154)	Include the items listed below.		\$335 plus \$2 per notice
☐	Variance residential (3132)	Indicate variance requested and practical difficulty making variance necessary. Also furnish a site plan on 8 1/2" X 11" paper showing size of lot, size of structure, and distance from lot lines. Site plan shall be drawn to a tenth scale (1:10, 1:20, etc.)		\$95 plus \$2 per notice
☐	Variance - non-residential (3133)	Indicate variance requested and practical difficulty making variance necessary. Also furnish a site plan on 8 1/2" X 11" paper showing size of lot, size of structure, and distance from lot lines. Site plan shall be drawn to tenth scale (1:10, 1:20, etc.)		\$325 plus \$2 per notice
☐	Rezoning (3108)	Please contact zoning administrator for submittal requirements.		\$335 plus \$2 per notice
☐	Ordinance Amendment	Please contact zoning administrator for submittal requirements.		
☐	Certificate of Design Compliance (CDC) (3152)	Include items listed below.		\$335 plus \$2 per notice
☐	Combined CUP and CDC (3156)	Include items listed below.		\$670 plus \$2 per notice

Zoning request fee: Payable with application (make check payable to City of Mankato):

Hearing notice fee: Payable prior to Planning Commission/Administrative Hearing: _____ notices X \$2/notice = \$ _____.

Public hearing notices are billed to applicant and **must** be paid prior to the Planning Commission/Administrative Hearing.

Summary of request - Attach additional sheets if necessary.

Interim Use Permit for 1MW Community Solar Garden - See attached

Signature of contractor or authorized agent

Dean Eastlake

Dean Eastlake (Feb 20, 2024 15:08 EST)

Signature of owner (if not same as above)

John Bohrer

John Bohrer (Feb 19, 2024 16:35 CST)

Date

02/20/2024

Date

02/19/2024

- ☐ a. The location, dimensions, floor area, type of construction and
- ☐ b. Floor plan showing specific uses within the building.
- ☐ c. The number, the size and type of dwelling units in each building, and the overall dwelling unit density.
- ☐ d. The proposed treatment of open spaces and the exterior surfaces of all structures, with sketches of proposed landscaping and structures, including typical elevations.
- ☐ e. Architectural graphics, including typical floor plans and elevations, profiles, and cross-sections.
- ☐ f. The number, location, and dimensions of parking spaces and loading docks, with means of ingress and egress.
- ☐ g. The proposed traffic circulation pattern within the area of the development, including the location and description of public improvements to be installed, including any streets and access easements.
- ☐ h. The location of all fire hydrants on the property and the location of all fire hydrants within one-hundred fifty (150) feet of the property.

- ☐ i. The location and proposed treatment of all structures for fire and emergency vehicles.
- ☐ j. Statement of whether or not the building will be sprinkled and fire flow availability for the sprinkler system and fire hydrants.
- ☐ k. The location, intensity and design of exterior lighting.
- ☐ l. The location and purpose of any existing or proposed dedication or easement.
- ☐ m. The general drainage plan for the development tract.
- ☐ n. The location and dimensions of adjacent properties, abutting public right-of-ways and easements on the property.
- ☐ o. Significant topographical or physical features of the site including existing trees.
- ☐ p. Wetland delineations for all wetlands on the site.
- ☐ q. The location and proposed treatment of any historical structure or other historical design element or feature.
- ☐ r. Utility service plans (water, sewer, storm).
- ☐ s. Landscaping plans.

Note: All plans shall be drawn to a tenth scale (1:10, 1:20, etc.)

Note: All plans shall be drawn to a tenth scale (1:10, 1:20, etc.)

For staff use

Date received:

Application number: CY____-____

Parcel ID No.: R40.04.29.200.017

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.

BohrerEast Solar Site Permit Application Form

Final Audit Report

2024-02-20

Created:	2024-02-19
By:	Brian Keenan (briank@newenergyequity.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAXWVkoO9omOYKlx0zrt_TxsFZTT0V4_eFw

"BohrerEast Solar Site Permit Application Form" History

-  Document created by Brian Keenan (briank@newenergyequity.com)
2024-02-19 - 9:47:23 PM GMT
-  Document emailed to John Bohrer (johnbohrer6311@yahoo.com) for signature
2024-02-19 - 9:47:27 PM GMT
-  Document emailed to Dean Eastlake (deastlake@newenergyequity.com) for signature
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-  Email viewed by John Bohrer (johnbohrer6311@yahoo.com)
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-  Document e-signed by John Bohrer (johnbohrer6311@yahoo.com)
Signature Date: 2024-02-19 - 10:35:09 PM GMT - Time Source: server
-  Email viewed by Dean Eastlake (deastlake@newenergyequity.com)
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-  Document e-signed by Dean Eastlake (deastlake@newenergyequity.com)
Signature Date: 2024-02-20 - 8:08:17 PM GMT - Time Source: server
-  Agreement completed.
2024-02-20 - 8:08:17 PM GMT



EXHIBIT B

January 30, 2024

Solar*Rewards Community Study Results

Customer Legal Name: MN CSG 2019-57 LLC

Service Address: 23759 Third Ave Mankato, Blue Earth, MN., 56001

Project Description: 1 MW SRC Project

Project Case Number: 05518220

The New Energy Equity MN CSG 2019-57 LLC project, located at 23759 Third Ave, Mankato, Blue Earth, Minnesota, 56001, is Q7 in feeder queue and Q14 in substation queue. There are 10 MWs ahead of this project in the feeder queue and 20.587 MWs ahead of this project in substation queue. The maximum generation possible at this location is 1.0MW at unity power factor. To achieve this amount of generation the following upgrades are required to mitigate steady state overvoltage:

Distribution:

System Upgrades / Right-of-Way:

- Replace existing fuse with a Viper recloser

Area EPS Interconnection / On-site:

- Distribution 3-phase Extension from PCC to POC Required: ~1,150' of 336AL based on developer site plan.
- Install Viper Recloser and Pole
- Install 277/480 pad-mount transformer

Substation:

- None Required

Transmission:

- None Required

DER Facilities Study Summary	
Disclaimer: The dollar amount shown is an estimate only and the amount owed will be the actual costs for this work to be determined and billed after the work is complete, with payment for actual costs due within 30 days after the final bill is sent.	
Summary of Cost Estimate	
Construction Type	Subtotal
Distribution	
System upgrade costs	\$67,600
Area EPS Interconnection Costs	\$161,300
Tariffed Metering	\$2,740
Substation	\$0
Transmission	\$0
Cost Estimate Total	\$231,640
Estimated Design and Construction Time	7-12 Months



EXHIBIT C

Minnesota Wetland Conservation Act Notice of Decision

Local Government Unit: Blue Earth County	County: Blue Earth
Applicant Name: Dean Eastlake – New Energy Equity Area M Consulting	Applicant Representative: Jonathan Knudsen –
Project Name: Bohrereast MN CSG 2019-57 Boundary/Type and No-Loss LGU Project No. (if any): PL2024070	
Date Application Received by LGU: 6/4/24	
Date of LGU Decision: 7/15/24	
Date this Notice was Sent: 7/15/24	

WCA Decision Type - check all that apply

☒ Wetland Boundary/Type	☐ Sequencing	☐ Replacement Plan	☐ Bank Plan (not credit purchase)
☒ No-Loss (8420.0415)	☐ Exemption (8420.0420)		
Part: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ H		Subpart: ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9	

Replacement Plan Impacts (replacement plan decisions only)

Total WCA Wetland Impact Area:	
Wetland Replacement Type:	☐ Project Specific Credits:
	☐ Bank Credits:
Bank Account Number(s):	

Technical Evaluation Panel Findings and Recommendations (attach if any)

☒ Approve ☐ Approve w/Conditions ☐ Deny ☐ No TEP Recommendation
--

LGU Decision

☐ Approved with Conditions (specify below) ¹ List Conditions:	☒ Approved ¹ ☐ Denied
Decision-Maker for this Application: ☒ Staff ☐ Governing Board/Council ☐ Other:	
Decision is valid for: ☒ 5 years (default) ☐ Other (specify):	

¹ Wetland Replacement Plan approval is not valid until BWSR confirms the withdrawal of any required wetland bank credits. For project-specific replacement a financial assurance per MN Rule 8420.0522, Subp. 9 and evidence that all required forms have been recorded on the title of the property on which the replacement wetland is located must be provided to the LGU for the approval to be valid.

LGU Findings – Attach document(s) and/or insert narrative providing the basis for the LGU decision¹.

☐ Attachment(s) (specify): ☒ Summary: The Blue Earth County Technical Evaluation Panel reviewed the request at the June 21st, 2024, Meeting. The TEP reviewed the submitted report and additional aerial imagery resources and found the wetland delineation report to be accurate. The property that the project area is on has been visited by the TEP two times in the past for other delineations. This project is to the east of the other delineations and the wetland boundary matches up with the past wetland delineations. Additional Blue Earth County did conduct a site visit and verified the boundary. The TEP also discussed the No-Loss request by the applicant, based off the Bohrereast CSG- Site Plan - 5.13.24 the TEP determined that access to the project would be from an access road on a separate solar lease site that would not impact the wetland basin identified in the wetland delineation report. The TEP is in concurrence that the project will not impact any wetlands based upon site plan Bohrereast CSG- Site Plan - 5.13.24.

For more information regarding this application go to:

<https://cityview.blueearthcountymn.gov/cityviewportal/Planning/Status?planningId=15086>

¹ Findings must consider any TEP recommendations.

Attached Project Documents

☐ Site Location Map ☒ Project Plan(s)/Descriptions/Reports (specify): Bohereeast MN CSG 2019-57 Boundary-type and No-Loss

Appeals of LGU Decisions

If you wish to appeal this decision, you must provide a written request within 30 calendar days of the date you received the notice. All appeals must be submitted to the Board of Water and Soil Resources Executive Director along with a check payable to BWSR for \$500 *unless* the LGU has adopted a local appeal process as identified below. The check must be sent by mail and the written request to appeal can be submitted by mail or e-mail. The appeal should include a copy of this notice, name and contact information of appellant(s) and their representatives (if applicable), a statement clarifying the intent to appeal and supporting information as to why the decision is in error. Send to:

Appeals & Regulatory Compliance Coordinator
Minnesota Board of Water & Soils Resources
520 Lafayette Road North
St. Paul, MN 55155
travis.germundson@state.mn.us

Does the LGU have a local appeal process applicable to this decision?

☒ Yes¹ ☐ No

¹If yes, all appeals must first be considered via the local appeals process.

Local Appeals Submittal Requirements (LGU must describe how to appeal, submittal requirements, fees, etc. as applicable)

Appeal of an LGU staff decision. Send petition and \$700.00 fee to:
Blue Earth County Property and Environmental Resources
PO BOX 3566
Mankato, MN 56002

Notice Distribution (include name)

Required on all notices:

☒ SWCD TEP Member: Jake Fritz	☒ BWSR TEP Member: Alyssa Core
☐ LGU TEP Member (if different than LGU contact):	
☒ DNR Representative: Erynn Jenzen	
☐ Watershed District or Watershed Mgmt. Org.:	
☒ Applicant (notice only): Dean Eastlake – New Energy Equity ☒ Agent/Consultant (notice only): Jonathan Knudsen – Area M Consulting	

Optional or As Applicable:

☒ Corps of Engineers: Corps of Engineers General Notification	
☐ BWSR Wetland Mitigation Coordinator (required for bank plan applications only):	
☐ Members of the Public (notice only):	☐ Other:

Signature:



Date:

7/15/24

This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.

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: Dean Eastlake – New Energy Equity
Mailing Address: 2530 Riva Road, Suite 200, Annapolis, MD 21401
Phone: 443-267-5011
E-mail Address: deastlake@newenergyequity.com

Authorized Contact (do not complete if same as above):

Mailing Address:
Phone:
E-mail Address:

Agent Name: Jonathan Knudsen
Mailing Address: 2023 Alameda Street, Roseville, MN 55113
Phone: 208.241.5280
E-mail Address: jknudsen@areamconsulting.com

PART TWO: Site Location Information

County: Blue Earth **City/Township:** Mankato
Parcel ID and/or Address: 23759 THIRD AVE
MANKATO, MN 56001
Legal Description (Section, Township, Range): Section 29 T109N:R26W
Lat/Long (decimal degrees): LAT: 44.223832
LONG: -93.977617
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): 10.5

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.

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.

The proposed project is a 1 MW AC community solar garden to be built 3 miles north of Mankato, MN. The Project includes a flat field, currently in CRP. One wetland is present within the review area as delineated by Area M Consulting but will be avoided by all permanent and temporary construction and Project components.

The final proposed Project consists of a short access road, solar array mounted on posts, equipment pads, infiltration basin, and a perimeter fence. The solar panels are made of glass and polysilicon which are fastened to steel racking members which are further attached to steel i-beams. The i-beams are driven into the ground at varying depths dependent on soil characteristics to provide support for the panels and will disturb approximately 3.3 inches of ground surface. A fence will be constructed around the perimeter of the entire area of disturbance. All Project components will avoid aquatic resources, as mapped.

During construction, the project shall utilize erosion control measures to mitigate any silt or material leaving the project site. Upon completion of the project, the site will be seeded using a native grass blend which will be consistent with other uncropped fields in the area. Consequently, the rate, volume, and quality of the surface water runoff is expected to be minimal when compared to runoff generated by a plowed field of row crops. If the project is approved after inspection, it will be operational for at least 35 years. Traffic to the community solar garden will be minimal upon completion of construction—mostly for the purposes of grounds maintenance and performance monitoring. At the completion of the project, once the community solar garden is decommissioned, all project-related fencing and equipment will be removed, and the grounds will be reasonably restored to its initial agricultural use.

PART FOUR: Aquatic Resource Impact¹ 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

¹If 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)".

²Impacts 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).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

⁴Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer 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:

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: 5/20/2024

I hereby authorize _____ 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>

Attachment B

Supporting Information for Applications Involving Exemptions, No Loss Determinations, and Activities Not Requiring Mitigation

Complete this part ***if*** you maintain that the identified aquatic resource impacts in Part Four do not require wetland replacement/compensatory mitigation OR ***if*** you are seeking verification that the proposed water resource impacts are either exempt from replacement or are not under CWA/WCA jurisdiction.

Identify the specific exemption or no-loss provision for which you believe your project or site qualifies:

[MN Rule 8420.0415 Part A](#)

Provide a detailed explanation of how your project or site qualifies for the above. Be specific and provide and refer to attachments and exhibits that support your contention. Applicants should refer to rules (e.g. WCA rules), guidance documents (e.g. BWSR guidance, Corps guidance letters/public notices), and permit conditions (e.g. Corps General Permit conditions) to determine the necessary information to support the application. Applicants are strongly encouraged to contact the WCA LGU and Corps Project Manager prior to submitting an application if they are unsure of what type of information to provide:

All temporary and permanent disturbance associated with the Project, including posts, pads, access roads, and laydown areas, will avoid wetlands. Due to the absence of wetlands within the area of development, this Project meets the criteria of "No-Loss", as described in Part A of MN Rule 8420.0415. Project activities, including dredging or filling of wetlands, will not occur. Although posts and pilings may be excluded under the "fill" definition, under the WCA (Commercial Solar Siting Guidance, MDNR 2016), they will still be placed outside of wetlands to avoid potential future impacts. During construction, standard BMPs such as silt fences or waddles will be employed around surface disturbance to prevent run-off or sedimentation into adjacent wetlands/waterbodies. Due to the proposed array layout avoiding wetlands and the placement of run-off prevention BMPs, impacts to wetlands will not occur.

Level 2 Wetland Delineation Report
MN CSG 2019-57 LLC
Blue Earth County, Minnesota



Prepared for:

MN CSG 2019-57 LLC
2530 Riva Road STE 200
Annapolis, MD 21401

Prepared by:

Area M Consulting, LLC
Environmental Consultants
2023 Alameda Street
Roseville, MN 55113
www.areasmconsulting.com

AREAM

March 2024

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I certify that, to the best of my knowledge, this wetland delineation and report were completed following current wetland standards as set forth by the USACE and BWSR. Findings in this report represent Area M's best judgement based on conditions and information available at the time of the wetland delineation.

A handwritten signature in black ink, reading "Jonathan Knudsen", positioned above a horizontal line.

Jonathan Knudsen, WDC, MS
Principal Biologist/Wetland Specialist
MN Certified Wetland Delineator 1307

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APPENDICES

Appendix A. Maps
Appendix B: Soils Report - Hydric Rating by Soils Unit and Hydric Soil List – All components
Appendix C: Aerial Imagery Slides
Appendix D: Wetland Hydrology from Aerial Imagery – Recording Form - Exhibits 1 & 2
Appendix E: Field Photos
Appendix F: Wetland Data Forms

INTRODUCTION

Area M Consulting (Area M) conducted a wetland delineation for the MN CSG 2019-57 LLC (Project) located within Blue Earth County, Minnesota. The Area M biologist conducted a routine Level 2 Delineation, as defined by the Board of Water and Soil Resources (BWSR), within the entire Project boundaries following procedures and methods outlined by the United States Army Corps of Engineers (USACE) Wetland Delineation Manual (USACE, 1987), Midwest Regional Supplement (USACE, 2012), and BWSR Guidance for Offsite Hydrology/Wetland Determinations (2016). This wetland delineation report is assembled to inform design and to assist the Client with meeting regulatory requirements necessary for permitting a community solar garden (CSG) in Blue Earth County.

PROJECT DESCRIPTION

The Project, encompassing approximately 10.5 acres, is located 3.3 miles north of Mankato, MN in Section 29, T109N:R26W (Study Area) (Appendix A). The Study Area encompasses a gently-rolling, agricultural field bounded to the south by a drainage ditch. The entire Study Area is typically cultivated annually, though the extent of successful crops within the wetland varies by year. This parcel was re-enrolled in CRP in 2024. Natural vegetation was present within the majority of the Study Area during the field survey, though mowed down to 2 inches. A conspicuous emergent wetland, mapped by Area M in 2023, is adjacent and to the west of the Study Area. Open fields border western and eastern boundaries of the Study Area. The surrounding landscape is a mosaic of farmland, gravel pits, wooded ravines, rivers, and infrastructure associated with Mankato. The entire Study Area is on private land.

OFF-SITE REVIEW

Prior to fieldwork, Area M conducted a comprehensive desktop review of data sources available within the public domain to identify the presence/absence and extent of wetlands that could occur within the Study Area. Areas with hydric signatures, suggesting potential wetland conditions, were evaluated in greater detail during the field investigation. The following data sources were reviewed; the analysis of each data set is discussed in greater detail later in this section.

- ☐ Hydrologic soil data
- ☐ Antecedent precipitation data
- ☐ Mapped Wetlands/Waterbodies
 - U.S. Fish and Wildlife Services (USFWS) National Wetland Inventory (NWI)
 - MNDNR updated NWI
 - MNDNR Public Waters Inventory (PWI)
 - National Hydrography Dataset (NHD)
- ☐ Elevation Data
 - MN Department of Natural Resources (MNDNR) Light Detection and Ranging (LiDAR) Data

-
- United States Geological Survey (USGS) topographic maps

Mapped Wetland Data

The NWI (USFWS, 2023), MN NWI update (MNDNR, 2023a), PWI (MNDNR, 2023b), and NHD data sets were reviewed for the presence of mapped wetlands and/or waterbodies within the Study Area. One NHD flowline intersects the southern boundary of the Study Area (Appendix A).

Soils

The Web Soil Survey (NRCS, 2023) was accessed to summarize mapped soil types which occur within the Study Area. Soil units with hydric components are present throughout the entire Study Area. The full list of hydric soils components and attributes is presented in Appendix B.

Topographic Data

Elevation and topographic data from the USGS and MNDNR were reviewed within the Study Area to identify potential basins and depressional areas which could be indicative of wetlands. The Study Area includes a concave area in the northwestern corner of the Study Area (Appendix A). The total topographic relief of the Study Area is approximately 10 feet.

Historic Aerial Photography Review

Historic aerial photographs were analyzed for hydric signatures in conjunction with antecedent precipitation, following the procedures outlined in the Guidance for Offsite Hydrology/Wetland Determinations (BWSR and USACE 2016). Upon review, three areas (Area 1, Area 2, and Area 3) showing potential wetland signatures in the historic imagery was identified within the Study Area; these areas correspond to the concave landforms and NWI features intersecting the northwestern, northern, and southern portions of the Study Area (Appendix C). Exhibit 1 and Exhibit 2, which summarize the data reviewed for the offsite evaluation, are presented in Appendix D. Based on the Decision Matrix in Exhibit 2, two wetlands and one potential wetland are present within the Study Area.

Off-site Summary

Overall, the off-site review suggests two wetlands are present within the Study Area (Appendix A). The entire Study Area was investigated in greater detail during the field survey.

FIELD DELINEATION

Methodology

Suspected wetlands identified during the off-site analysis were investigated in the field using routine on-site delineation methods in accordance with the USACE Wetlands Delineation Manual (USACE, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (USACE, 2010). This included the characterization of vegetation, soils, and hydrology on-site. Wetlands are defined by the USACE as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” For an area to be delineated as a regulated wetland, the vegetative, hydrologic, and soil characteristics must all be present and consistent with federal and state classification criteria.

Transects were established in representative transition zones, perpendicular between suspected wetland and upland areas. Survey Points were recorded along each transect, moving from upland to wetland to identify the wetland boundary. Wetland criteria were evaluated at each Survey Point and a Wetland Determination Form – Midwest Region (Form) was completed. Additional Survey Points were collected within unique vegetation communities (if present) to document and characterize baseline hydrology, soils, and vegetation within the Study Area. Determination of wetland type was based on the classification system developed by Cowardin et al. (1979) and the USFWS Circular 39 system (Shaw & Fredine 1956). Plant communities were classified using Wetland Plants and Plant Communities of Minnesota and Wisconsin system (Eggers and Reed, 1997). The entire Study Area was surveyed in the field to confirm the absence of additional wetlands.

The location and boundaries of wetland features identified by Area M during field surveys were recorded in the field using a Trimble Geoexplorer 6000 which typically achieves accuracy within 2 feet. A map depicting wetland boundaries, survey points, and transects is included in Appendix A. Representative photographs of the Study Area are included in Appendix E. Field Forms are included in Appendix F.

Antecedent Precipitation Analysis

Antecedent Precipitation conditions were evaluated using the NRCS Method for Evaluating Antecedent Moisture Conditions. Data from the Minnesota Climatology Working Group and Natural Resources Conservation Service. WETS Tables suggest moisture conditions were wetter than normal during the field survey on March 7, 2024 (Table 1). These conditions were taken into consideration when conducting the delineation.

Table 1. Study Area precipitation data.

Value	First Prior Month February	Second Prior Month January	Third Prior Month December
estimated precipitation total for this location:	0.56	0.28	1.86
30% chance this location will have less than:	0.56	0.65	0.68
30% chance this location will have more than:	1.23	1.17	1.46
type of month			Wet
monthly score	3 * 2 = 6	2 * 1 = 2	1 * 3 = 3
Multi-Month Score:			10 (Normal)

Field Conditions

Area M conducted the field delineation on March 7, 2024. Field conditions were dry. The temperature was approximately 45 degrees Fahrenheit and mostly sunny with minimal wind. The ground was thawed enough to retrieve soil samples. The entire Study Area had been mowed late 2023 and vegetation was extremely difficult to discern, in addition to the survey being conducted outside of the growing season.

Field Review Summary

Based upon this routine Level 2 Wetland Delineation, it is the professional opinion of Area M that one wetland is present within the Study Area (Appendix A).

Wetland 1: Type 1/Type 2 - Fresh (Wet) Meadow/Seasonally Flooded Basin – 1.52 acres

Wetland 1, within Area 1 and 3, is a Type 1/Type 2 wetland located in a shallow depression in the northern portion of the Study Area. Area 1 and 3 were flagged as wetlands based on the off-site Hydrology Determination (BWSR 2016). At SP 1-1 and SP 2-1, located just inside of the Wetland 1 boundary, soils were hydric, with redox present within a 12-inch stratum (F6). Secondary hydrology indicators were present, including Saturation Visible on Aerial Imagery (C9), FAC-Neutral Test (D5), and Geomorphic Position (D2). The plant community was hydric and dominated by a monoculture of reed canary grass (*Phalaris arundinacea*) during the delineation in 2023. During the recent field visit on March 7, 2024, the plant community could not be evaluated due to it being outside of the growing season. However, reed canary grass could be identified despite being mowed, and was dominant. At SP 1-2 and SP 2-2, adjacent and upland of Wetland 1, the vegetation was evaluated as upland and dominated by reed canary grass, smooth brome (*Bromus inermis*), yarrow (*Achillea millefolium*), and dandelion (*Taraxacum officinale*) in 2023. The plant community was not evaluated in 2024 due to mowing and the survey being conducted outside of the growing season. Soils were non-hydric, with similar matrix coloration. Wetland hydrology indicators were absent. Wetland 1 was mapped by following the slight topographic transition between concave and convex landform and dominance of reed canary grass. The line was extended to include the current Study Area following the extent of wetland signatures and reed canary grass observed in the field. Aerial imagery and lidar review was used to amend the line to coincide with the average of wetland extent during years with normal antecedent precipitation.

Area 2 – Upland

Area 2, identified during off-site review, is located along an irrigation drainage on the southern boundary of the Study Area. Area 2 was flagged as a potential wetland based on the off-site Hydrology Determination (BWSR 2016) and keyed out as needing field verification. Area M determined that an on-site determination was required within Area 2 because the altered cropping patterns were difficult to verify via imagery and contributed to most of the wetland hydrology hits. Many of the images collected in May and June showed Area 2 as not planted yet, potentially due to typical soggy Spring conditions. At SP 4, collected in the center of Area 2, soils were hydric meeting the Depleted Below Dark Surface and Redox Dark Surface indicators (A11, F6). The plant community could not be evaluated due to time of year, but the adjacent Project to the west on the same contour was determined upland. Wetland hydrology indicators were absent. Therefore, Area 2 was confirmed as upland.

RESULTS AND RECOMMENDATIONS

Based upon this routine Level 2 Wetland Delineation, it is the professional opinion of Area M that the Study Area contains one feature (Wetland 1) that satisfies the criteria to be a wetland pursuant to the Army Corps of Engineers' 1987 Manual with subsequent clarification memoranda and pursuant to confirmation by the USACE (Appendix A). Activities impacting wetlands and waterways are regulated through both the Local Government Unit (LGU) and USACE, which administer the Wetland Conservation Act (WCA) and Clean Water Act (CWA), respectively. The wetlands and wetland boundaries described within this report are described based on the conditions in the field at the time of the survey and subject to verification by state, federal, and local agencies, which have final authority over wetland presence, extent, and jurisdictional status.

REFERENCES

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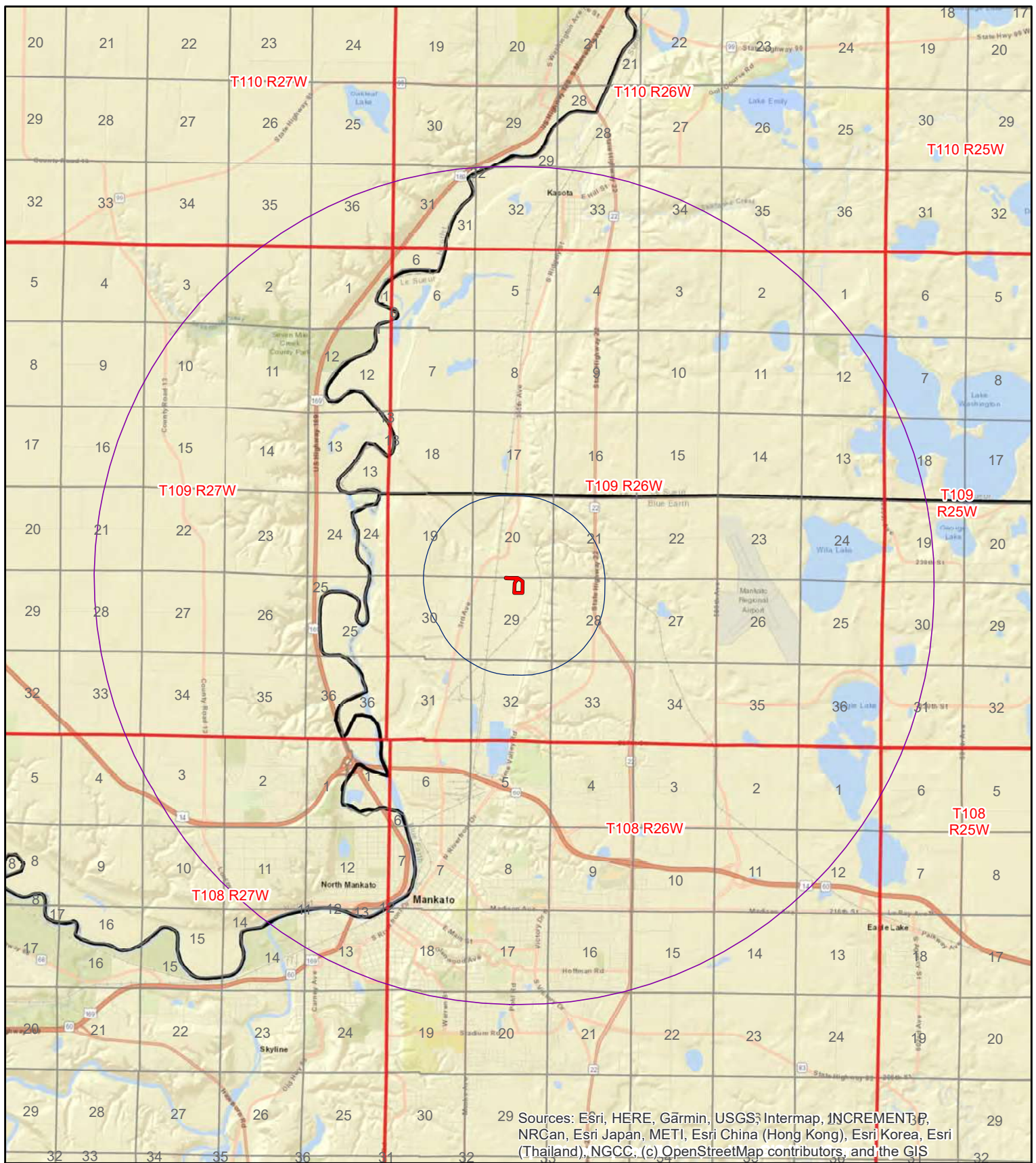
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Minnesota Department of Natural Resources. 2019b. Public Waters Inventory Shapefiles. Downloaded from: <https://gisdata.mn.gov/dataset/water-mn-public-waters>

Minnesota Department of Natural Resources (MNDNR). 2019c. MN State Climatology Website. MNDNR Ecological and Water Resources Division. State Climatology Office. Retrieved from: http://climate.umn.edu/gridded_data/precip/monthly/monthly_gridded_precip.asp

United States Fish and Wildlife Service (USFWS). 2019. National Wetland Inventory: Wetlands Online Mapper. Retrieved from <http://www.fws.gov/wetlands/data/mapper.HTML>

Appendix A: Maps



MN CSG 2019-57 LLC

Blue Earth County, MN

S29 T109N:R26W

10.5 Acres

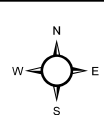
44.223832 Lat

-93.977617 Long

- ★ Project Location
- Study Area
- 1-Mile Buffer
- 5-Mile Buffer
- County Boundary
- Township Boundary
- Section Boundary

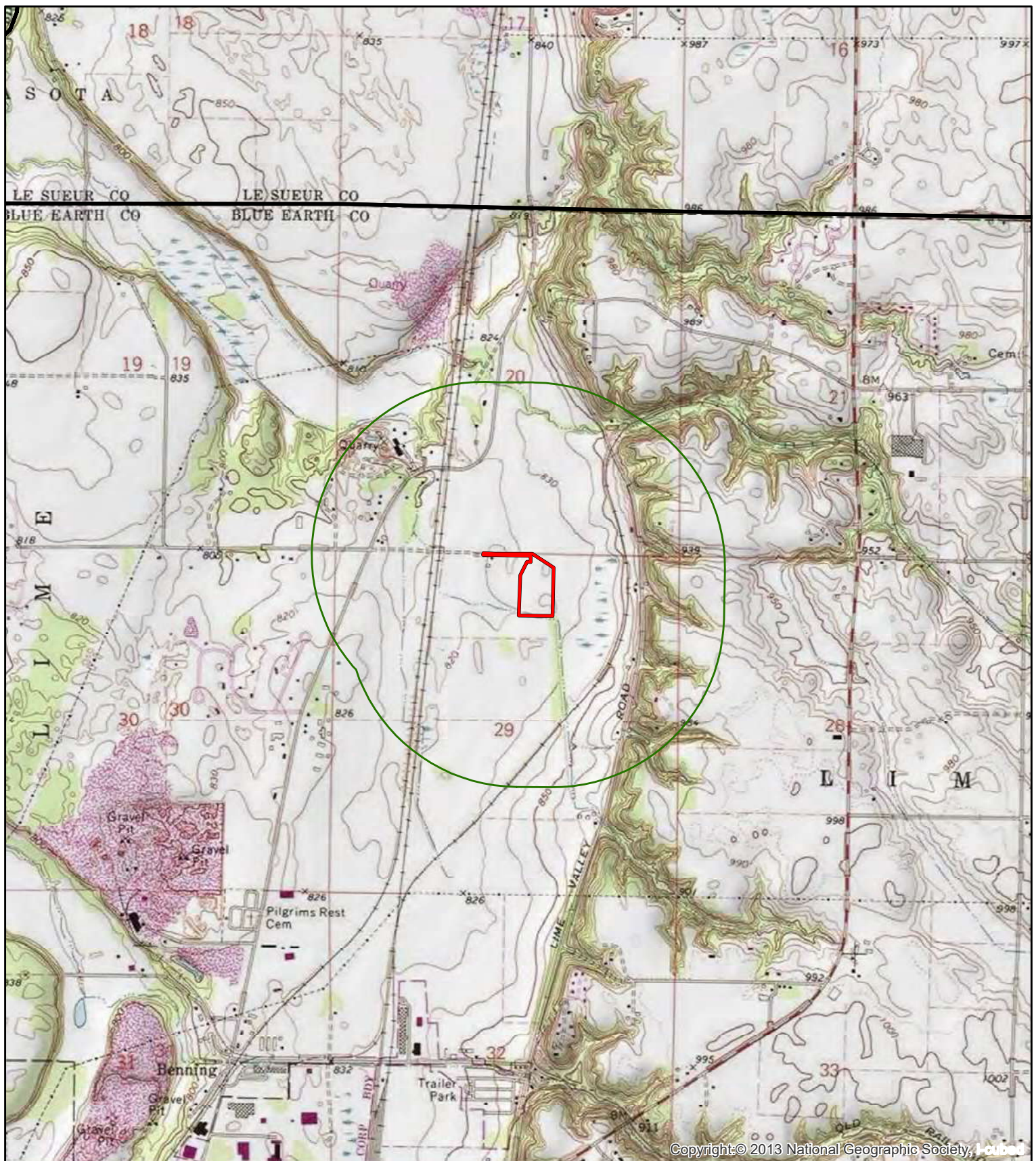


Map 1. Location Map



AREA M

0 2,600 5,200 10,400 feet
1:100,000



MN CSG 2019-57 LLC

Map 2. 1:24,000 Topographic Map

Blue Earth County, MN



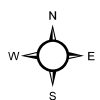
Study Area



County Boundary



0.5-Mile Buffer



AREAM

0 625 1,250 2,500
1:24,000
Feet



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

MN CSG 2019-57 LLC

Map 3. Wetland Resources Map

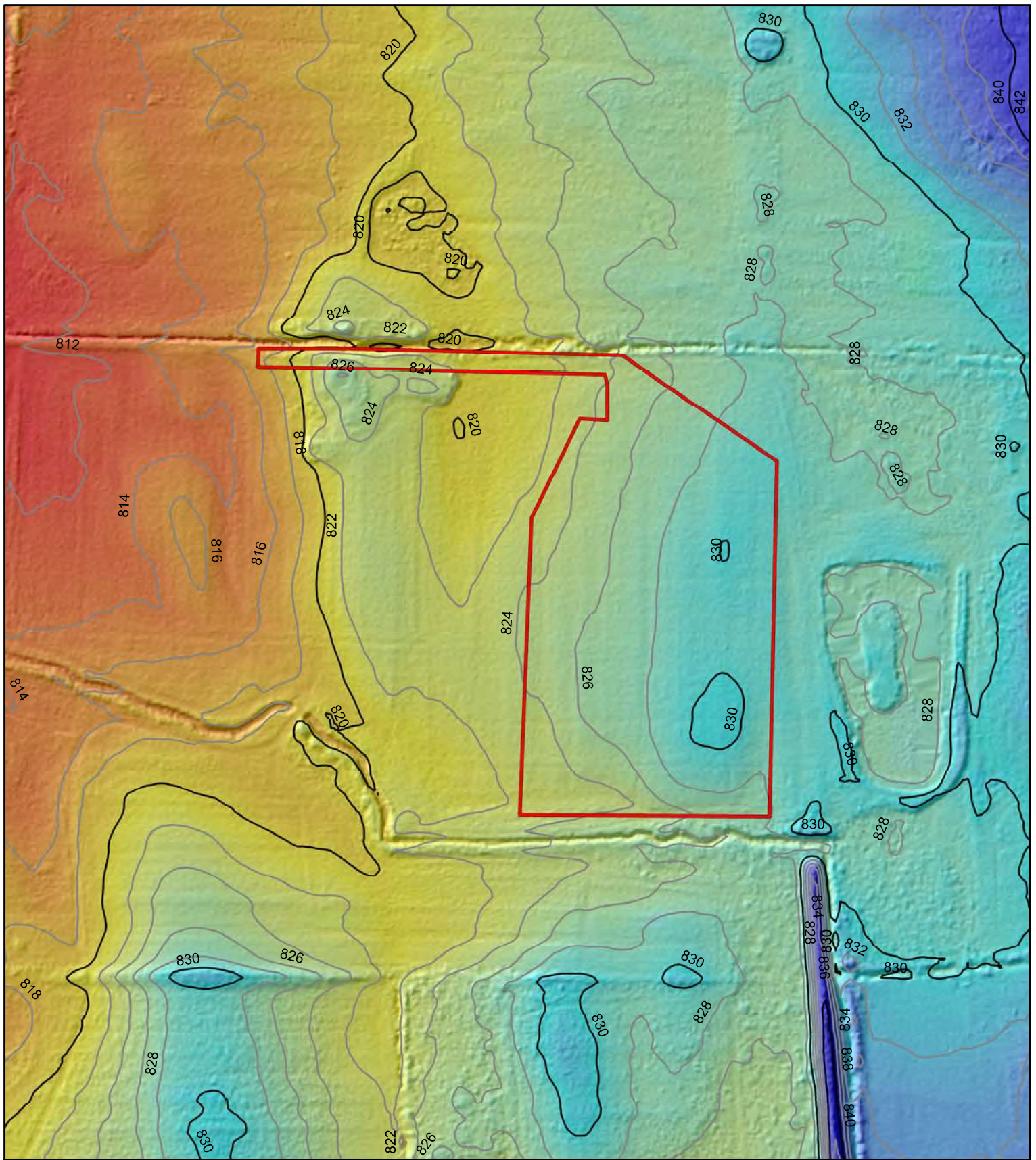
Blue Earth County, MN

- | | | |
|---|---|--|
|  Study Area |  NWI |  Floodway |
|  NHD Flowline |  PWI Flowline |  100-Year Floodplain |
|  NHD Waterbody |  PWI Waterbody | |



AREAM

0 62.5 125 250 Feet



MN CSG 2019-57 LLC

Map 4. Lidar Map

Blue Earth County, MN



Study Area



Delineated - Amended

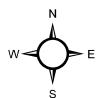
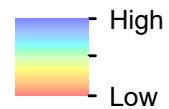


Delineated - Original

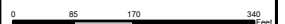
Contour Interval

— Index (10-ft)

— Intermediate (2-ft)



AREAM





Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

MN CSG 2019-57 LLC

Map 5. Delineation Map

Blue Earth County, MN



Study Area

Previously-Delineated Wetland

Delineated Wetland



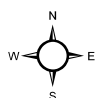
Upland Sampling Point



Wetland Sampling Point



Wetland Transect



AREAM

0 45 90 180 Feet
1:12,000

Appendix B: Soils Report

Hydric Rating by Soils Unit and Hydric Soil List – All components

Hydric Rating by Map Unit—Blue Earth County, Minnesota (Bohrereast_PA)



Hydric Rating by Map Unit—Blue Earth County, Minnesota (Bohrereast_PA)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  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 21, Sep 10, 2023

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.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
35	Blue Earth mucky silt loam, 0 to 1 percent slopes	100	0.3	2.7%
85	Calco silty clay loam, 0 to 2 percent slopes, occasionally flooded	95	7.1	70.1%
160	Fieldon loam, 0 to 2 percent slopes	100	0.1	0.9%
181	Litchfield loamy fine sand, 1 to 3 percent slopes	4	0.1	0.8%
1001	Alluvial land, occasionally flooded	100	2.6	25.5%
Totals for Area of Interest			10.2	100.0%

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Hydric Soil List - All Components

This table lists the map unit components and their hydric status in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - B. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - B. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. Doc. 2012-4733 Filed 2-28-12. February, 28, 2012. Hydric soils of the United States.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.
- Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

Report—Hydric Soil List - All Components

Hydric Soil List - All Components—MN013-Blue Earth County, Minnesota					
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
35: Blue Earth mucky silt loam, 0 to 1 percent slopes	Blue Earth	75-90	Depressions	Yes	2
	Canisteo	5-15	Rims on depressions, ground moraines	Yes	2
	Harps	1-8	Rims on depressions	Yes	2
	Lemond	0-2	Outwash plains, terraces	Yes	2
85: Calco silty clay loam, 0 to 2 percent slopes, occasionally flooded	Calco-Occasionally flooded	75-95	Flood plains	Yes	2
	Colo-Occasionally flooded	5-15	Flood plains	Yes	2
	Spillville-Occasionally flooded	0-10	Flood plains	No	—
160: Fieldon loam, 0 to 2 percent slopes	Fieldon	75-95	Lake plains, outwash plains, terraces	Yes	2
	Biscay	5-15	Outwash plains, terraces	Yes	2
	Okoboji	0-10	Lake plains, depressions	Yes	2
181: Litchfield loamy fine sand, 1 to 3 percent slopes	Litchfield	90	Outwash plains	No	—
	Darfur	4	Flats	Yes	2
	Dickinson	3	Outwash plains	No	—
	Estherville	3	Outwash plains	No	—
1001: Alluvial land, occasionally flooded	Alluvial land-Occasionally flooded	90	Flood plains	Yes	2
	Comfrey	10	Flood plains	Yes	2

Data Source Information

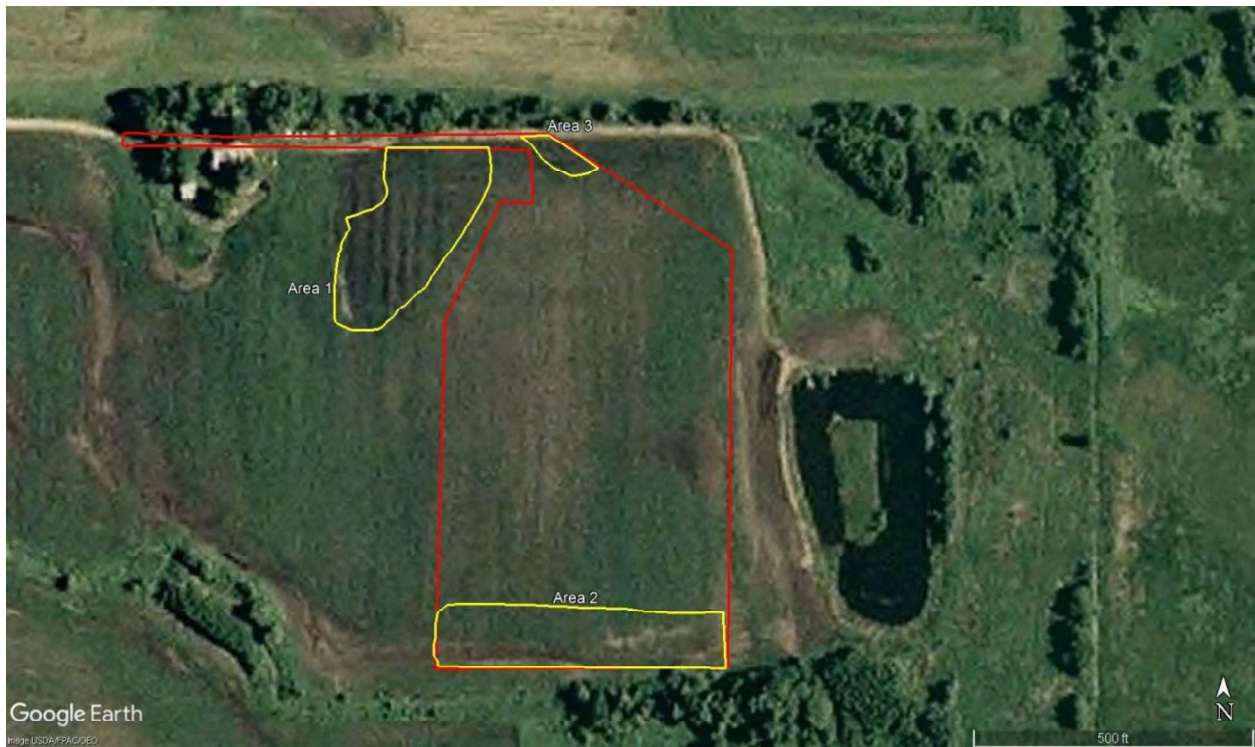
Soil Survey Area: Blue Earth County, Minnesota

Survey Area Data: Version 21, Sep 10, 2023

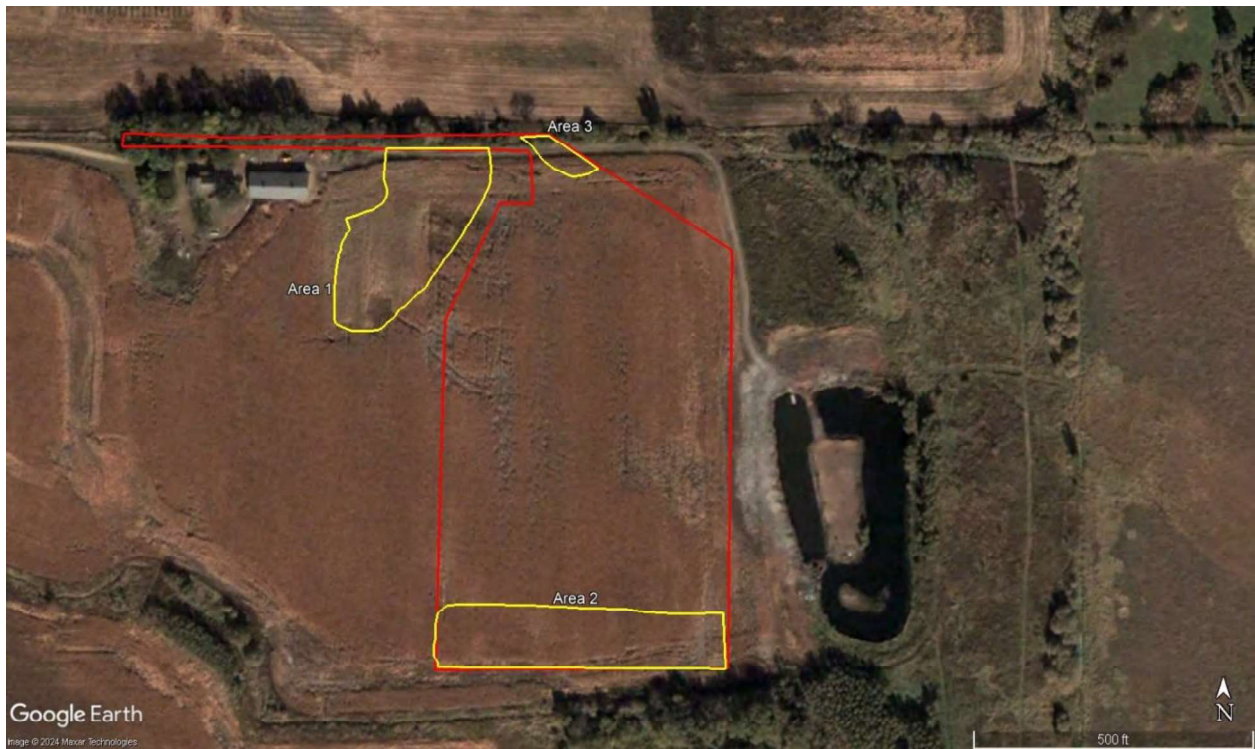
Appendix C: Aerial Imagery Slides



April 1991



June 2003



September 2003



August 2004



May 2006



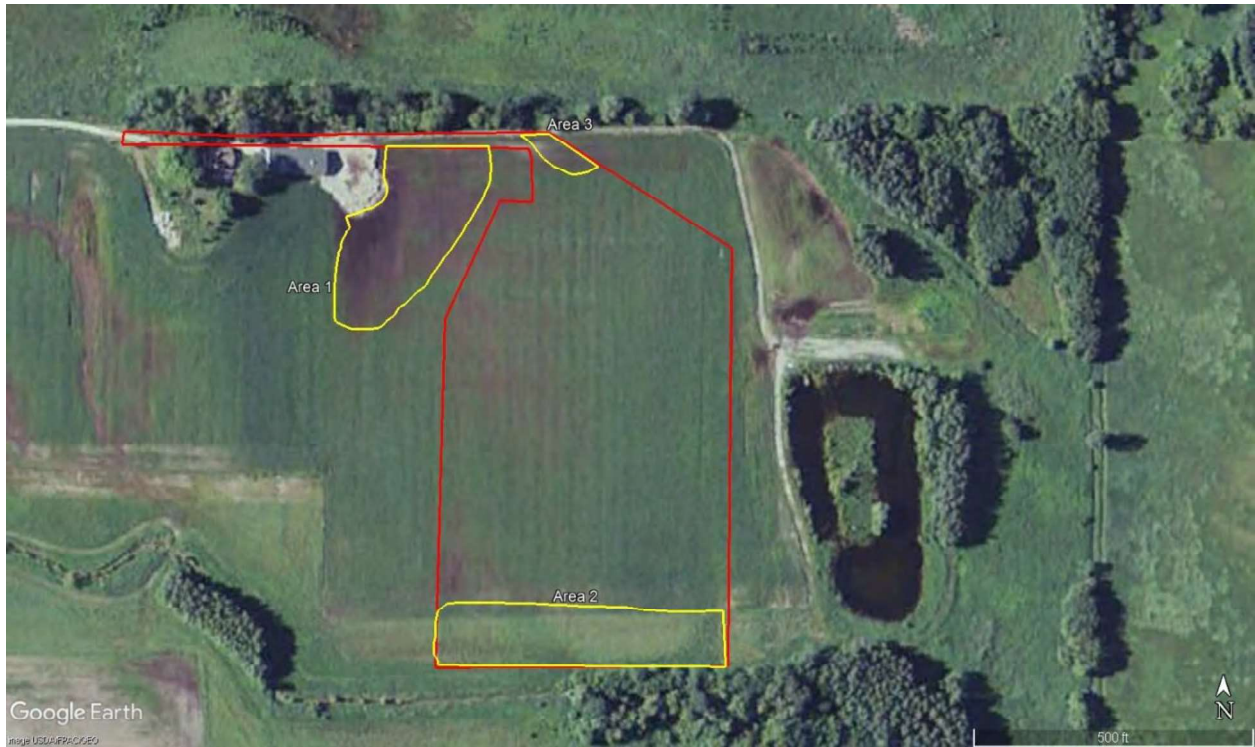
June 2008



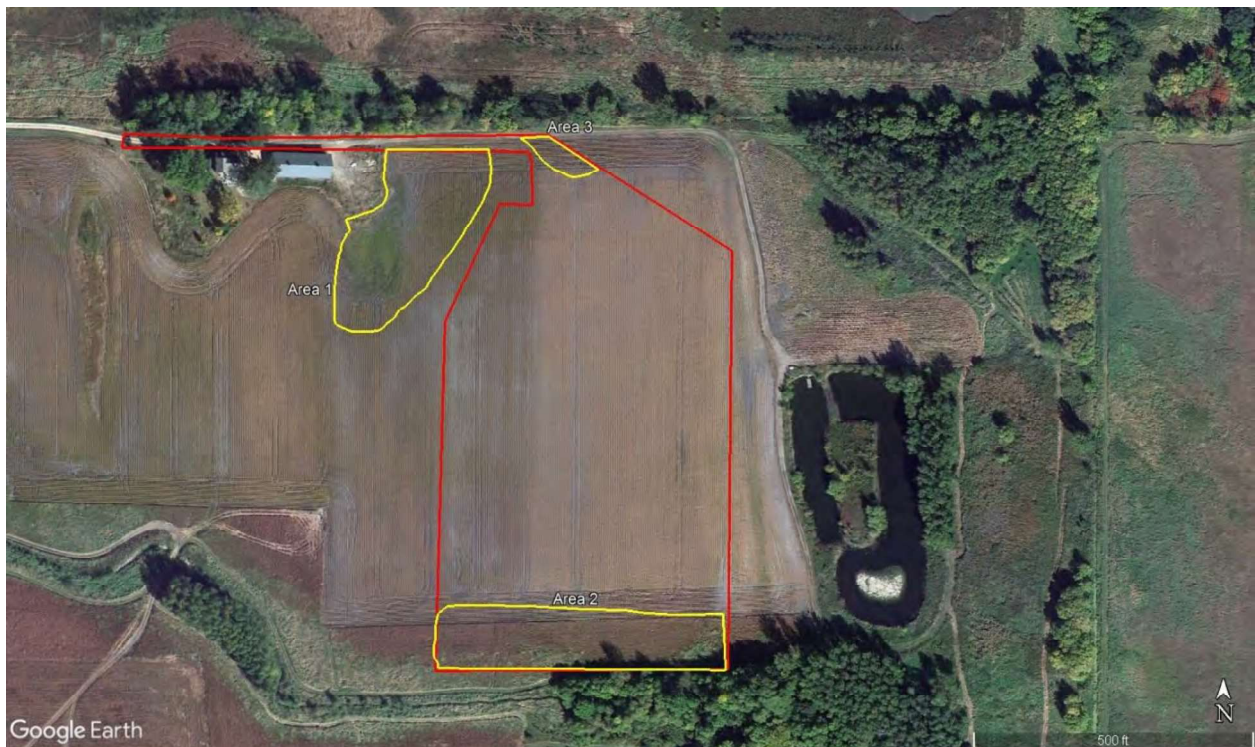
June 2009



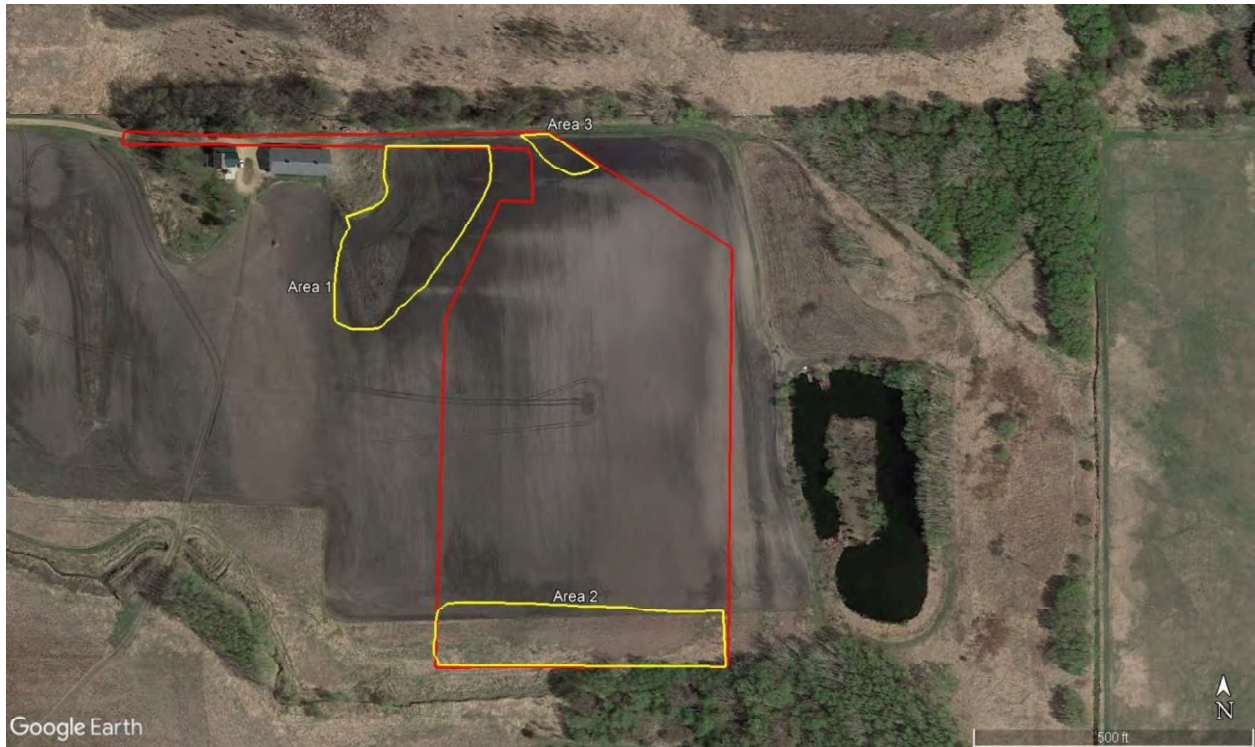
May 2010



June 2010



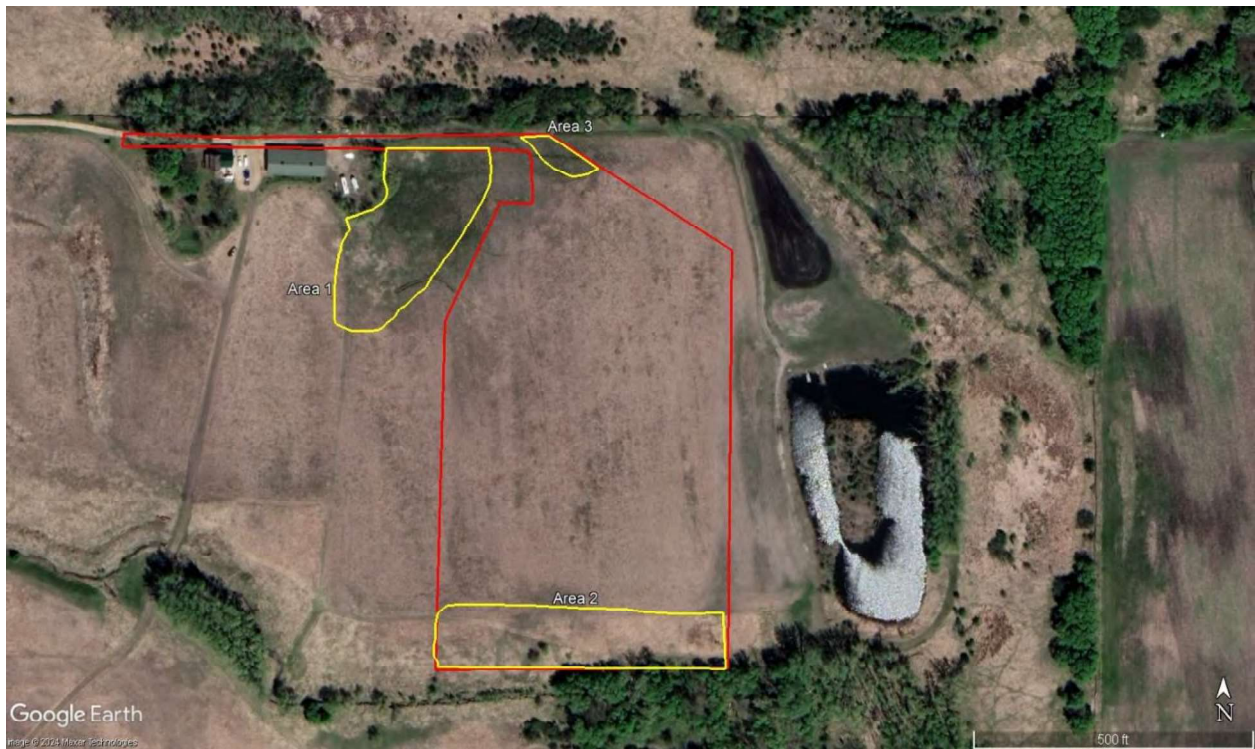
September 2011



April 2015



August 2020



May 2021



June 2023

Appendix D: Wetland Hydrology from Aerial Imagery – Recording Form

Exhibits 1 & 2

Field data sheet reference (if applicable): _____

Project Name: MN CSG 2019-57 LLC Date: 1/30/2024 County: Blue Earth

Investigator: J Knudsen	Legal Description (T, R, S):	109N	26W	29
-------------------------	------------------------------	------	-----	----

Date Image Taken (M-D-Y)	Image Source	Climate Condition (wet, dry, normal) ⁱ	Image Interpretation(s)				
			Area: 1	Area: 2	Area: 3	Area:	Area:
4/1991	USGS	Normal	NV	NV	NV		
6/2003	USDA	Normal	CS	CS	WS		
11/03	Google Earth	Dry	NV	CS	NV		
8/2004	USDA	Wet	CS	NV	NV		
5/2006	USDA	Normal	CS	NV	CS		
6/2008	USDA	Normal	DO	CP	NV		
6/2009	USDA	Dry	WS	CP	NV		
5/2010	USDA	Dry	SS	CP	SS		
6/2010	USDA	Normal	DO	CP	CS		
9/2011	Google Earth	Normal	CS	CP	NV		
4/2015	Google Earth	Dry	WS	CP	NV		
8/2020	Google Earth	Wet	DO	NV	CP		
5/2021	Google Earth	Normal	WS	NV	WS		
6/2021	Google Earth	Dry	WS	NV	NV		
6/2023	Google Earth	Wet	WS	CP	CP		
Normal Climate Condition			Area: 1	Area: 2	Area:	Area:	Area:
Number			7	7	7		
Number with wet signatures			6	5	4		
Percent with wet signatures			86	71	57		

KEY			
WS - wetland signature		SS - soil wetness signature	CS - crop stress
NC - not cropped		AP - altered pattern	NV - normal vegetative cover
DO - drowned out		SW - standing water	NSS – no soil wetness signature
Other labels or comments:			

- Use above key to label image interpretations. It is imperative that the reviewer read and understand the guidance associated with the use of these labels. If alternate labels are used, indicate in box above.
- If less than five (5) images taken during normal climate conditions are available, use an equal number of images taken during wet and dry climate conditions and use as many images as you have available. Describe the results using this methodology in your report.

ⁱ Use [MN State Climatology website](#) to determine climate condition when image was taken.

Wetland Determination from Aerial Imagery – Recording Form

Project Name: MN CSG 2019-57 LLCDate: 1/30/2024County: Blue Earth

Investigator: J KnudsenLegal Description (T, R, S): 109N26W29

Use the Decision Matrix below to complete Table 1.

Hydric Soils present ¹	Identified on NWI or other wetland map ²	Percent with wet signatures from Exhibit 1	Field verification required ³	Wetland?
Yes	Yes	>50%	No	Yes
Yes	Yes	30-50%	No	Yes
Yes	Yes	<30%	Yes	Yes, if other hydrology indicators present
Yes	No	>50%	No	Yes
Yes	No	30-50%	Yes	Yes, if other hydrology indicators present
Yes	No	<30%	No	No
No	Yes	>50%	No	Yes
No	Yes	30-50%	No	Yes
No	Yes	<30%	No	No
No	No	>50%	Yes	Yes, if other hydrology indicators present
No	No	30-50%	Yes	Yes, if other hydrology indicators present
No	No	<30%	No	No

¹ The presence of hydric soils can be determined from the “Hydric Rating by Map Unit Feature” under “Land Classifications” from the Web Soil Survey. “Not Hydric” is the only category considered to not have hydric soils. Field sampling for the presence/absence of hydric soil indicators can be used in lieu of the hydric rating if appropriately documented by providing completed field data sheets.

² At minimum, the most updated NWI data available for the area must be reviewed for this step. Any and all other local or regional wetland maps that are publically available should be reviewed.

³ Area should be reviewed in the field for the presence/absence of wetland hydrology indicators per the applicable 87 Manual Regional Supplement, including the D2 indicator (geomorphic position).

Table 1.

Area	Hydric Soils Present	Identified on NWI or other wetland map	Percent with wet signatures from Exhibit 1	Other hydrology indicators present ¹	Wetland?
1	Yes	No	86	N/A	Yes
2	Yes	No	71	N/A	Field req.
3	Yes	No	57	N/A	Field req.

¹ Answer “N/A” if field verification is not required and was not conducted.

Appendix E: Field Photographs



General upland Project landscape viewed to the east from the western boundary of the Study Area



Wetland 1, viewed to the north from the southern extent of the feature



Wetland 1 (background), viewed to the northwest from the eastern boundary of the Study Area



Northern extent of Wetland 1, a farm road, viewed to the west along the northern boundary of the Study Area



Area 2, viewed to the east along the southern boundary of the Study Area



Excavated pond, viewed to the east from beyond the eastern boundary of the Study Area

Appendix F: Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SV CSG Mankato North 1 City/County: Blue Earth Sampling Date: 6/20/2023
 Applicant/Owner: Sunvest Solar State: MN Sampling Point: SP 1-1
 Investigator(s): J Knudsen Section, Township, Range: 20, 109N, 26W
 Landform (hillside, terrace, etc.): Depressional Local relief (concave, convex, none): concave
 Slope (%): 2 Lat: 44.224221 Long: -93.979026 Datum: NAD 83
 Soil Map Unit Name: 85 - Calco silty clay loam, 0-2 percent slopes, occasionally flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
Hydric Soil Present? Yes ☒ No ☐	
Wetland Hydrology Present? Yes ☒ No ☐	
Remarks: SP within Area 2 in a depression. Climactic conditions were wetter than normal.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>15ft</u>)			
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Herb Stratum	(Plot size: <u>5ft</u>)			
1.	<u>Phalaris arundinacea</u>	<u>70</u>	<u>Yes</u>	<u>FACW</u>
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		<u>70</u> =Total Cover		
Woody Vine Stratum	(Plot size: <u>30ft</u>)			
1.				
2.				
		=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>70</u>	x 2 = <u>140</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>70</u> (A)	<u>140</u> (B)
Prevalence Index = B/A = <u>2.00</u>	

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☒ 2 - Dominance Test is >50%

☒ 3 - Prevalence Index is ≤3.0¹

☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)
monoculture

SOIL

Sampling Point: SP 1-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	95	10YR 5/6	5	C	M	silty loam	Redox in shallow strata
10-20	10YR 3/1	98	10YR 5/6	2	C	M	Silty loam	Slightly lighter - fewer redox

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Coast Prairie Redox (A16)
☐ Histic Epipedon (A2)	☐ Iron-Manganese Masses (F12)
☐ Black Histic (A3)	☐ Red Parent Material (F21)
☐ Hydrogen Sulfide (A4)	☐ Very Shallow Dark Surface (F22)
☐ Stratified Layers (A5)	☐ Other (Explain in Remarks)
☐ 2 cm Muck (A10)	
☐ Depleted Below Dark Surface (A11)	
☐ Thick Dark Surface (A12)	
☐ Sandy Mucky Mineral (S1)	
☐ 5 cm Mucky Peat or Peat (S3)	
☐ Sandy Gleyed Matrix (S4)	
☐ Sandy Redox (S5)	
☐ Stripped Matrix (S6)	
☐ Dark Surface (S7)	
☐ Loamy Mucky Mineral (F1)	
☐ Loamy Gleyed Matrix (F2)	
☐ Depleted Matrix (F3)	
☒ Redox Dark Surface (F6)	
☐ Depleted Dark Surface (F7)	
☐ Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
---	---

Remarks:
Redox at surface

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)	
☐ Saturation (A3)	☐ True Aquatic Plants (B14)	☐ Dry-Season Water Table (C2)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Crayfish Burrows (C8)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☒ Saturation Visible on Aerial Imagery (C9)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Stunted or Stressed Plants (D1)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☒ Geomorphic Position (D2)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ FAC-Neutral Test (D5)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)		
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)		

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
offsite aerial review indicated this area is a wetland.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SV CSG Mankato North 1 City/County: Blue Earth Sampling Date: 6/20/2023
 Applicant/Owner: Sunvest Solar State: MN Sampling Point: SP 1-2
 Investigator(s): J Knudsen Section, Township, Range: 20, 109N, 26W
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 44.224128 Long: -93.979066 Datum: NAD 83
 Soil Map Unit Name: 85 - Calco silt clay loams, 0-2 percent slopes, occasionally flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒	
Wetland Hydrology Present? Yes ☐ No ☒	
Remarks: SP on edge of Area 2 adjacent to monoculture of reed canary grass. Antecedent precipitation condition were wetter than normal.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>15ft</u>)			
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Herb Stratum	(Plot size: <u>5ft</u>)			
1.	<u>Phalaris arundinacea</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>
2.	<u>Bromus inermis</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>
3.	<u>Achillea millefolium</u>	<u>10</u>	<u>No</u>	<u>FACU</u>
4.	<u>Taraxacum officinale</u>	<u>10</u>	<u>No</u>	<u>FACU</u>
5.				
6.				
7.				
8.				
9.				
10.				
		<u>80</u> =Total Cover		
Woody Vine Stratum	(Plot size: <u>30ft</u>)			
1.				
2.				
		=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>30</u>	x 2 = <u>60</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>50</u>	x 4 = <u>200</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>80</u> (A)	<u>260</u> (B)
Prevalence Index = B/A = <u>3.25</u>	

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0¹

☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP 1-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	100					Silty loam	No redox here
10-20	10YR 3/1	100					Silty loam	No redox here

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Coast Prairie Redox (A16)
☐ Histic Epipedon (A2)	☐ Iron-Manganese Masses (F12)
☐ Black Histic (A3)	☐ Red Parent Material (F21)
☐ Hydrogen Sulfide (A4)	☐ Very Shallow Dark Surface (F22)
☐ Stratified Layers (A5)	☐ Other (Explain in Remarks)
☐ 2 cm Muck (A10)	
☐ Depleted Below Dark Surface (A11)	
☐ Thick Dark Surface (A12)	
☐ Sandy Mucky Mineral (S1)	
☐ 5 cm Mucky Peat or Peat (S3)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☐ No ☒
---	---

Remarks:
Mucky

HYDROLOGY

Wetland Hydrology Indicators:			
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)	
☐ Saturation (A3)	☐ True Aquatic Plants (B14)	☐ Dry-Season Water Table (C2)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Crayfish Burrows (C8)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Stunted or Stressed Plants (D1)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Geomorphic Position (D2)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ FAC-Neutral Test (D5)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)		
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)		

Field Observations: Surface Water Present? Yes ☐ No ☐ Depth (inches): _____ Water Table Present? Yes ☐ No ☐ Depth (inches): _____ Saturation Present? Yes ☐ No ☐ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Mucky, greasy soils

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: MN CSG 2019-57 LLC City/County: Blue Earth Sampling Date: 3/12/2024
 Applicant/Owner: NEE State: MN Sampling Point: SP 2-1
 Investigator(s): J Knudsen Section, Township, Range: 29, 109N, 26W
 Landform (hillside, terrace, etc.): Depressional Local relief (concave, convex, none): concave
 Slope (%): 2 Lat: 44.224933 Long: -93.977857 Datum: NAD 83
 Soil Map Unit Name: 85 - Calco silty clay loam, 0-2 percent slopes, occasionally flooded NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: SP within Area 1 in a depression. Portion already delineated in 2023 for adjacent Project. Climactic conditions were normal. Not in growing season..	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover			Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>30</u> (A)</td> <td><u>60</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>30</u> (A)	<u>60</u> (B)	Prevalence Index = B/A = <u>2.00</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>30</u>	x 2 = <u>60</u>																				
FAC species <u>0</u>	x 3 = <u>0</u>																				
FACU species <u>0</u>	x 4 = <u>0</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>30</u> (A)	<u>60</u> (B)																				
Prevalence Index = B/A = <u>2.00</u>																					
		=Total Cover																			
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																					
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
Herb Stratum (Plot size: <u>5ft</u>)																					
1.	<u>Phalaris arundinacea</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>																	
2.																					
3.																					
4.																					
5.																					
6.																					
7.																					
8.																					
9.																					
10.																					
		<u>30</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>30ft</u>)																					
1.																					
2.																					
		=Total Cover																			
Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																					
Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																					
Remarks: (Include photo numbers here or on a separate sheet.) RCG could be identified, even though mowed, by color and leaf thickness.																					

SOIL

Sampling Point: SP 2-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	95	10YR 5/6	5	C	M	Clay loam	Redox close to surface
10-20	10YR 4/1	95	10YR 5/6	5	C	M	Clay loam	Lighter stratum with redox

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Coast Prairie Redox (A16)
☐ Histic Epipedon (A2)	☐ Iron-Manganese Masses (F12)
☐ Black Histic (A3)	☐ Red Parent Material (F21)
☐ Hydrogen Sulfide (A4)	☐ Very Shallow Dark Surface (F22)
☐ Stratified Layers (A5)	☐ Other (Explain in Remarks)
☐ 2 cm Muck (A10)	
☒ Depleted Below Dark Surface (A11)	
☐ Thick Dark Surface (A12)	
☐ Sandy Mucky Mineral (S1)	
☐ 5 cm Mucky Peat or Peat (S3)	
☐ Sandy Gleyed Matrix (S4)	
☐ Sandy Redox (S5)	
☐ Stripped Matrix (S6)	
☐ Dark Surface (S7)	
☐ Loamy Mucky Mineral (F1)	
☐ Loamy Gleyed Matrix (F2)	
☐ Depleted Matrix (F3)	
☒ Redox Dark Surface (F6)	
☐ Depleted Dark Surface (F7)	
☐ Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
Remarks: Redox at surface	

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)	
☐ Saturation (A3)	☐ True Aquatic Plants (B14)	☐ Dry-Season Water Table (C2)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Crayfish Burrows (C8)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☒ Saturation Visible on Aerial Imagery (C9)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Stunted or Stressed Plants (D1)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☒ Geomorphic Position (D2)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ FAC-Neutral Test (D5)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)		
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)		

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): 3 (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: offsite aerial review indicated this area is a wetland.	

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: MN CSG 2019-57 LLC City/County: Blue Earth Sampling Date: 3/12/2024
 Applicant/Owner: NEE State: MN Sampling Point: SP 2-2
 Investigator(s): J Knudsen Section, Township, Range: 29, 109N, 26W
 Landform (hillside, terrace, etc.): Depressional Local relief (concave, convex, none): None
 Slope (%): 3 Lat: 44.224933 Long: -93.977857 Datum: NAD 83
 Soil Map Unit Name: 85 - Calco silty clay loam, 0-2 percent slopes, occassionally flooded NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	
Remarks: SP outside boundary of aerial imagery wetland signatures. Climactic conditions were normal. Not in growing season..	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>15ft</u>)			
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Herb Stratum	(Plot size: <u>5ft</u>)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		=Total Cover		
Woody Vine Stratum	(Plot size: <u>30ft</u>)			
1.				
2.				
		=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u> </u>	x 1 = <u> </u>
FACW species <u> </u>	x 2 = <u> </u>
FAC species <u> </u>	x 3 = <u> </u>
FACU species <u> </u>	x 4 = <u> </u>
UPL species <u> </u>	x 5 = <u> </u>
Column Totals: <u> </u> (A)	<u> </u> (B)
Prevalence Index = B/A = <u> </u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation not evaluated or used as wetland criteria due to growing season

SOIL

Sampling Point: SP 2-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-11	10YR 2/1	95	10YR 5/6	5	C	M	Clay loam	Redox close to surface
11-15	10YR 4/1	95	10YR 5/6	5	C	M	Clay loam	Lighter stratum with redox

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Coast Prairie Redox (A16)
☐ Histic Epipedon (A2)	☐ Iron-Manganese Masses (F12)
☐ Black Histic (A3)	☐ Red Parent Material (F21)
☐ Hydrogen Sulfide (A4)	☐ Very Shallow Dark Surface (F22)
☐ Stratified Layers (A5)	☐ Other (Explain in Remarks)
☐ 2 cm Muck (A10)	
☒ Depleted Below Dark Surface (A11)	
☐ Thick Dark Surface (A12)	
☐ Sandy Mucky Mineral (S1)	
☐ 5 cm Mucky Peat or Peat (S3)	
☐ Sandy Gleyed Matrix (S4)	
☐ Sandy Redox (S5)	
☐ Stripped Matrix (S6)	
☐ Dark Surface (S7)	
☐ Loamy Mucky Mineral (F1)	
☐ Loamy Gleyed Matrix (F2)	
☐ Depleted Matrix (F3)	
☒ Redox Dark Surface (F6)	
☐ Depleted Dark Surface (F7)	
☐ Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
---	---

Remarks:
Redox at surface

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)	
☐ Saturation (A3)	☐ True Aquatic Plants (B14)	☐ Dry-Season Water Table (C2)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Crayfish Burrows (C8)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Stunted or Stressed Plants (D1)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Geomorphic Position (D2)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ FAC-Neutral Test (D5)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)		
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)		

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
offsite aerial review indicated this area beyond wetland boundary.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: MN CSG 2019-57 LLC City/County: Blue Earth Sampling Date: 3/12/2024
 Applicant/Owner: NEE State: MN Sampling Point: SP 3
 Investigator(s): J Knudsen Section, Township, Range: 29, 109N, 26W
 Landform (hillside, terrace, etc.): Field Local relief (concave, convex, none): None
 Slope (%): 3 Lat: 44.224165 Long: -93.976633 Datum: NAD 83
 Soil Map Unit Name: 1001 - Alluvial land, occassionally flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: SP on edge of Project area neare excavated pond. Climactic conditions were normal. Not in growing season..	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> </u> (A) Total Number of Dominant Species Across All Strata: <u> </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> </u> (A/B)																
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover			Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u> </u></td> <td>x 1 = <u> </u></td> </tr> <tr> <td>FACW species <u> </u></td> <td>x 2 = <u> </u></td> </tr> <tr> <td>FAC species <u> </u></td> <td>x 3 = <u> </u></td> </tr> <tr> <td>FACU species <u> </u></td> <td>x 4 = <u> </u></td> </tr> <tr> <td>UPL species <u> </u></td> <td>x 5 = <u> </u></td> </tr> <tr> <td>Column Totals: <u> </u> (A)</td> <td><u> </u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u> </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> </u>	x 1 = <u> </u>	FACW species <u> </u>	x 2 = <u> </u>	FAC species <u> </u>	x 3 = <u> </u>	FACU species <u> </u>	x 4 = <u> </u>	UPL species <u> </u>	x 5 = <u> </u>	Column Totals: <u> </u> (A)	<u> </u> (B)	Prevalence Index = B/A = <u> </u>	
Total % Cover of:	Multiply by:																				
OBL species <u> </u>	x 1 = <u> </u>																				
FACW species <u> </u>	x 2 = <u> </u>																				
FAC species <u> </u>	x 3 = <u> </u>																				
FACU species <u> </u>	x 4 = <u> </u>																				
UPL species <u> </u>	x 5 = <u> </u>																				
Column Totals: <u> </u> (A)	<u> </u> (B)																				
Prevalence Index = B/A = <u> </u>																					
		=Total Cover																			
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)					Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
Herb Stratum (Plot size: <u>5ft</u>)					Hydrophytic Vegetation Present? Yes <u> </u> No <u> </u>																
1.																					
2.																					
3.																					
4.																					
5.																					
		=Total Cover																			
Woody Vine Stratum (Plot size: <u>30ft</u>)																					
1.																					
2.																					
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) Vegetation not evaluated or used as wetland criteria due to growing season																					

SOIL

Sampling Point: SP 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/1	95	10YR 5/6	5	C	M	Clay loam	Redox close to surface
8-10	10YR 4/1	95	10YR 5/6	5	C	M	Clay loam	Lighter stratum with redox

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Coast Prairie Redox (A16)
☐ Histic Epipedon (A2)	☐ Iron-Manganese Masses (F12)
☐ Black Histic (A3)	☐ Red Parent Material (F21)
☐ Hydrogen Sulfide (A4)	☐ Very Shallow Dark Surface (F22)
☐ Stratified Layers (A5)	☐ Other (Explain in Remarks)
☐ 2 cm Muck (A10)	
☒ Depleted Below Dark Surface (A11)	
☐ Thick Dark Surface (A12)	
☐ Sandy Mucky Mineral (S1)	
☐ 5 cm Mucky Peat or Peat (S3)	
☐ Sandy Gleyed Matrix (S4)	
☐ Sandy Redox (S5)	
☐ Stripped Matrix (S6)	
☐ Dark Surface (S7)	
☐ Loamy Mucky Mineral (F1)	
☐ Loamy Gleyed Matrix (F2)	
☐ Depleted Matrix (F3)	
☒ Redox Dark Surface (F6)	
☐ Depleted Dark Surface (F7)	
☐ Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
Remarks: Redox at surface	

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)	
☐ Saturation (A3)	☐ True Aquatic Plants (B14)	☐ Dry-Season Water Table (C2)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Crayfish Burrows (C8)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Stunted or Stressed Plants (D1)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Geomorphic Position (D2)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ FAC-Neutral Test (D5)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)		
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)		

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: offsite aerial review indicated this area is upland	

Project/Site: MN CSG 2019-57 LLC City/County: Blue Earth Sampling Date: 3/12/2024

Applicant/Owner: NEE State: MN Sampling Point: SP 4

Investigator(s): J Knudsen Section, Township, Range: 29, 109N, 26W

Landform (hillside, terrace, etc.): Field - mowed Local relief (concave, convex, none): None

Slope (%): 3 Lat: 44.224165 Long: -93.97663 Datum: NAD 83

Soil Map Unit Name: 85 - Calco silty clay loam, 0-2 percent slopes, occassionaly flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present? Yes <u> </u> No <u> </u> Hydric Soil Present? Yes <u> X </u> No <u> </u> Wetland Hydrology Present? Yes <u> </u> No <u> X </u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u> X </u>
Remarks: SP on edge of area that is is plowed. Climactic conditions were normal. Not in growing season..	

Tree Stratum	(Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Sapling/Shrub Stratum	(Plot size: 15ft)			
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
Herb Stratum	(Plot size: 5ft)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
			=Total Cover	
Woody Vine Stratum	(Plot size: 30ft)			
1.				
2.				
			=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is $\leq 3.0^1$

____ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Vegetation not evaluated or used as wetland criteria due to growing season

SOIL

Sampling Point: SP 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	95	10YR 5/6	5	C	M	Clay loam	Redox close to surface
10-15	10YR 4/1	95	10YR 5/6	5	C	M	Clay loam	Lighter stratum with redox

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Coast Prairie Redox (A16)
☐ Histic Epipedon (A2)	☐ Iron-Manganese Masses (F12)
☐ Black Histic (A3)	☐ Red Parent Material (F21)
☐ Hydrogen Sulfide (A4)	☐ Very Shallow Dark Surface (F22)
☐ Stratified Layers (A5)	☐ Other (Explain in Remarks)
☐ 2 cm Muck (A10)	
☒ Depleted Below Dark Surface (A11)	
☐ Thick Dark Surface (A12)	
☐ Sandy Mucky Mineral (S1)	
☐ 5 cm Mucky Peat or Peat (S3)	
☐ Sandy Gleyed Matrix (S4)	
☐ Sandy Redox (S5)	
☐ Stripped Matrix (S6)	
☐ Dark Surface (S7)	
☐ Loamy Mucky Mineral (F1)	
☐ Loamy Gleyed Matrix (F2)	
☐ Depleted Matrix (F3)	
☒ Redox Dark Surface (F6)	
☐ Depleted Dark Surface (F7)	
☐ Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
---	---

Remarks:
Redox at surface

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)	
☐ Saturation (A3)	☐ True Aquatic Plants (B14)	☐ Dry-Season Water Table (C2)	
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Crayfish Burrows (C8)	
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Saturation Visible on Aerial Imagery (C9)	
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)	☐ Stunted or Stressed Plants (D1)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Geomorphic Position (D2)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ FAC-Neutral Test (D5)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)		
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)		

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
offsite aerial review indicated this area is upland



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: MN CSG 2019-57 LLC

Project Proposer: Area M Consulting, LLC

Project Type: Power, Solar

Project Type Activities: Wetland impacts (e.g., dewatering, tiling, drainage, discharge, excavation, fill, runoff, sedimentation, changes in hydrology)

TRS: T109 R26 S29

County(s): Blue Earth

DNR Admin Region(s): South

Reason Requested: Other

Project Description: 1-2 MW community solar garden consisting of I-beams supporting the array, and access road, various equipment pads, an infiltration pond, fencing, and vegetative ...

Existing Land Uses: Agricultural, but the parcel has been in CRP until 2023.

Landcover / Habitat Impacted: Cropland and disturbed prairie

Waterbodies Affected: There is a PEM wetland in the northwest corner of the Review Area. There may be additional wetlands, but they have not been delineated at this point.

Groundwater Resources Affected: None - appropriate BMPs will be employed, and wetlands will be avoided where possible.

Previous Natural Heritage Review: No

Previous Habitat Assessments / Surveys: No

SUMMARY OF AUTOMATED RESULTS

Category	Results	Response By Category
Project Details	No Comments	No Further Review Required
Ecologically Significant Area	Comments	Protected Wetlands: Calcareous Fens
State-Listed Endangered or Threatened Species	Needs Further Review	State-protected Species in Vicinity
State-Listed Species of Special Concern	Comments	Recommendations
Federally Listed Species	No Records	Visit IPaC For Federal Review



February 14, 2024

Project Name: MN CSG 2019-57 LLC

Project Proposer: Area M Consulting, LLC

Project Type: Power, Solar

Project ID: MCE #2024-00184

AUTOMATED RESULTS: FURTHER REVIEW IS NEEDED

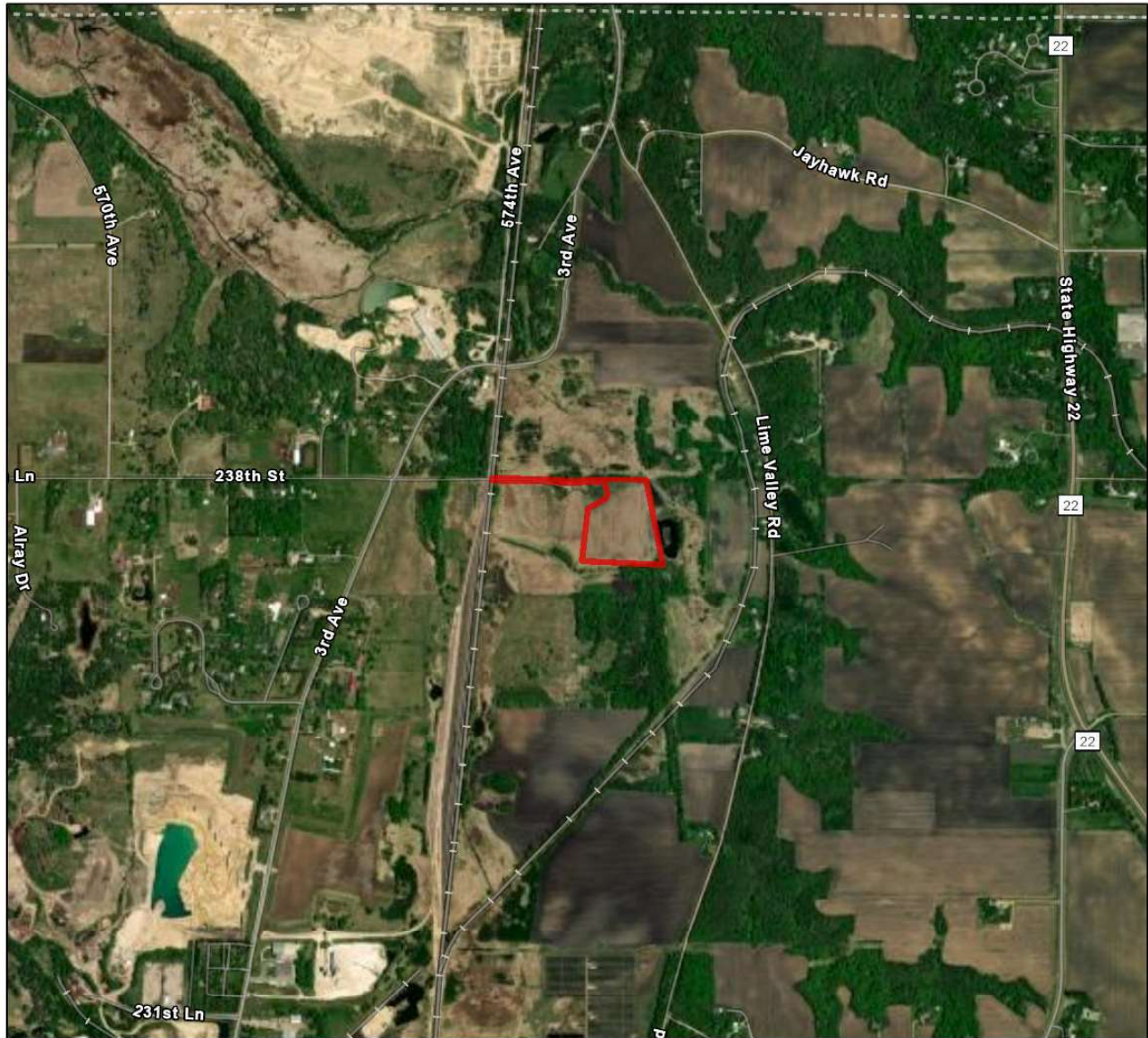
As requested, the above project has undergone an automated review for potential impacts to rare features. Based on this review, one or more rare features may be impacted by the proposed project and further review by the Natural Heritage Review Team is needed. You will receive a separate notification email when the review process is complete and the Natural Heritage Review letter has been posted.

Please refer to the table on the cover page of this report for a summary of potential impacts to rare features. For additional information or planning purposes, use the Explore Page in Minnesota Conservation Explorer to view the potentially impacted rare features or to create a Conservation Planning Report for the proposed project.

If you have additional information to help resolve the potential impacts listed in the summary results, please attach related project documentation in the Edit Details tab of the Project page. Relevant information includes, but is not limited to, additional project details, completed habitat assessments, or survey results. This additional information will be considered during the project review.

MN CSG 2019-57 LLC

Aerial Imagery With Locator Map



0 0.130.25 0.5 0.75 1 Miles

 Project_Boundary

Project Type: Power, Solar

Project Size (acres): 16.11

County(s): Blue Earth

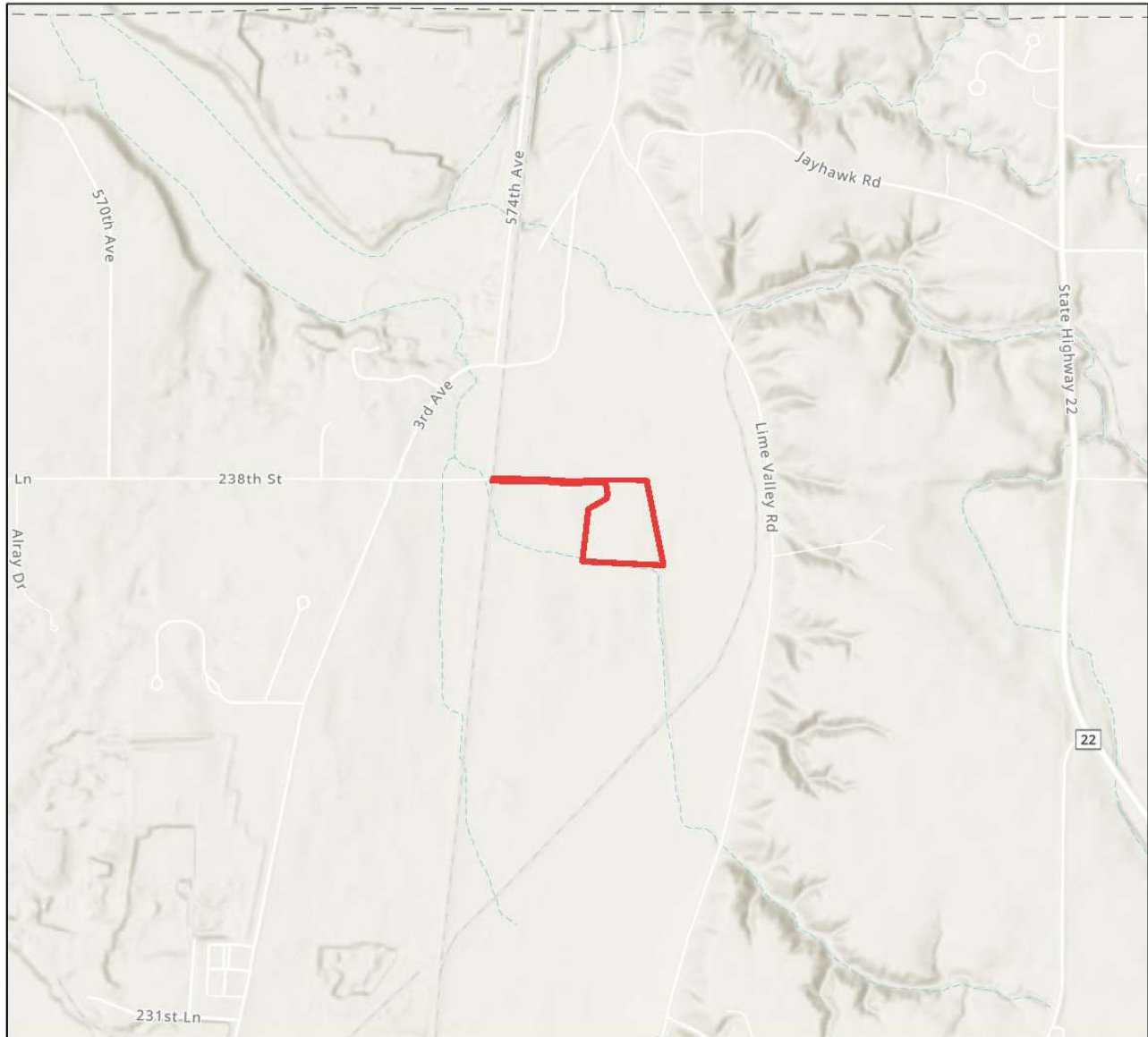
TRS: T109 R26 S29

Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS
Maxar
Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,



MN CSG 2019-57 LLC

USA Topo Basemap With Locator Map



0 0.130.25 0.5 0.75 1 Miles

 Project_Boundary

Project Type: Power, Solar

Project Size (acres): 16.11

County(s): Blue Earth

TRS: T109 R26 S29

Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS
Esri, NASA, NGA, USGS, FEMA
Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,





Minnesota Department of Natural Resources
Division of Ecological & Water Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155-4025

April 15, 2024

Jonathan Knudsen
Area M Consulting

RE: Natural Heritage Review of the proposed MN CSG 2019-57 LLC,
T109N R26W Section 29; Blue Earth County

Dear Jonathan Knudsen,

For all correspondence regarding the Natural Heritage Review of this project please include the project ID **MCE-2024-00** in the email subject line.

As requested, the [Minnesota Natural Heritage Information System](#) has been reviewed to determine if the proposed project has the potential to impact any rare species or other significant natural features. Based on the project details provided with the request, the following rare features may be impacted by the proposed project:

State-listed Species

- The lark sparrow (*Chondestes grammacus*), a state-listed bird species of special concern, has been documented in the vicinity of the project. This bird species is found in open, dry grassland areas with scattered trees and shrubs. They build their nest on the ground, in a shrub or a small tree. **If feasible, avoid initial disturbance to grassland areas and tree/shrub removal from May 15th through August 15th to avoid disturbance of nesting birds.**
- The North American racer (*Coluber constrictor*), a state-listed species of special concern, has been documented in the vicinity of the proposed project and may be encountered on site. These snakes occupy a variety of habitats in the deciduous forest region including forested hillsides, bluff prairies, grasslands, and open woods. Woodland margins and field edges are the preferred summer habitat. During winter months, North American racers hibernate in mammal burrows, caves, rock crevices, gravel banks, stone foundations, and old wells. North American racers have relatively large home ranges, making long-distance movements to and from their hibernacula each year. The North American racer emerges from hibernation in late April. Given the presence

of these rare snakes, the DNR recommends that the use of erosion control mesh, if any, be limited to [wildlife-friendly materials](#).

- Please visit the [DNR Rare Species Guide](#) for more information on the habitat use of these species and recommended measures to avoid or minimize impacts.

Federally Protected Species

- To ensure compliance with federal law, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online [Information for Planning and Consultation \(IPaC\) tool](#).

Environmental Review and Permitting

- Please include a copy of this letter and the MCE-generated Final Project Report in any state or local license or permit application. Please note that measures to avoid or minimize disturbance to the above rare features may be included as restrictions or conditions in any required permits or licenses.

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 project description provided with the request. If project details change or the project has not occurred within one year, please resubmit the project for review within one year of 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. Visit the [Natural Heritage Review website](#) for additional information regarding this process, survey guidance, and other related information. 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,

A handwritten signature in cursive script that reads "James Drake". The ink is dark and the signature is fluid.

James Drake
Natural Heritage Review Specialist
James.F.Drake@state.mn.us

Cc: Haley Byron



EXHIBIT D



July 23, 2024

New Energy Equity, LLC
2530 Riva Road, Suite 200
Annapolis, Maryland 21401

Subject: No MN SHPO Comment for MN CSG 2019-57, LLC's *Phase I Archaeological Reconnaissance Survey for the Bohrereast Community Solar Project - MN CSG 2019-57, Blue Earth County, Minnesota*

To Whom it May Concern,

Area M Consulting, LLC (Area M) has completed the *Phase I Archaeological Reconnaissance Survey for the Bohrereast Community Solar Project - MN CSG 2019-57* (April 2024) on behalf of MN CSG 2019-57, LLC in Blue Earth County, Minnesota; this cultural resources study was conducted in accordance with appropriate Minnesota State Historic Preservation Office (SHPO) and Minnesota Office of the State Archaeologist (OSA) guidelines. Based on the results of this study, Area M recommends:

...the Project may proceed as planned with no negative impact to cultural resources

As currently defined, the Project is not considered a federal undertaking as defined by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR 800); Community Solar projects are typically subject to municipal-level or county-level permitting only.

The Minnesota State Historic Preservation Office (MN SHPO), charged with assisting *federal and state agencies in meeting their responsibility to take historic properties into account in planning and carrying out their projects*, as set forth in Section 101b of the National Historic Preservation Act of 1966.

As such, MN SHPO is obligated to comment on all Projects with a Federal nexus or when MN State land, permits, or oversight are required. MN SHPO are not obligated to issue comment on projects which require only county-level or municipal-level oversight which occur on privately-owned, County-owned, or Municipal-owned land. This has been confirmed through multiple phone calls with various MN SHPO staff over the previous 12 month, email correspondence (see Exhibit A), and published review policy changes (<https://content.govdelivery.com/accounts/MNADMIN/bulletins/395fc82>).

Area M attests — based on knowledge at the time this is written — that the study, standards, and recommendations contained herein for the Bohrereast Community Solar Project - MN CSG 2019-57 LLC are valid, satisfy local permitting requirements for Project construction, and constitute comprehensive de-risking and due diligence efforts with respect to cultural resources. Accordingly, based on the foregoing, MN SHPO concurrence and/or comment is not and will not be required for the Bohrereast Community

Solar Project - MN CSG 2019-57 LLC; if official comment becomes available, Area M will seek and transmit any correspondence immediately.

If you have any questions, or need additional information, please contact me as needed.

Sincerely,

A handwritten signature in black ink, appearing to be 'G. Knudsen', written in a cursive style.

Garrett L. Knudsen
Executive Director & Principal Investigator

AREAM

651.802.8323

gknudsen@areaMconsulting.com

EXHIBIT A

SUPPORTING MN SHPO EMAIL CORRESPONDENCE

From: GraggJohnson, Kelly (ADM) <kelly.graggjohnson@state.mn.us>
Sent: Tuesday, April 30, 2024 2:21 PM
To: Joe Pnewski <jpnewski@areamconsulting.com>; Harrington, Lucy (She/Her/Hers) (ADM) <Lucy.Harrington@state.mn.us>
Subject: RE: Questions on Review of Private Solar Developments

Hi Joe – Given our current staffing constraints and given that these projects are on private land and are not receiving federal or state funding (or permitting), we will not be providing formal comments on these projects as they are not subject to review under state or federal preservation laws. We don't have the capacity right now to provide technical assistance. If the projects are subject to review under state or federal preservation laws, we will provide comments. Please let me know if you have any additional questions.

Thanks,

Kelly



Kelly Gragg-Johnson (she/her/hers) | **Environmental Review Program Specialist**

50 Sherburne Avenue, Suite 203

Saint Paul, MN 55155

(651) 201-3285 | kelly.graggjohnson@state.mn.us

Please reference this [SHPO Environmental Review Program Update](#) regarding current project review timelines and staffing changes for the Environmental Review Program.



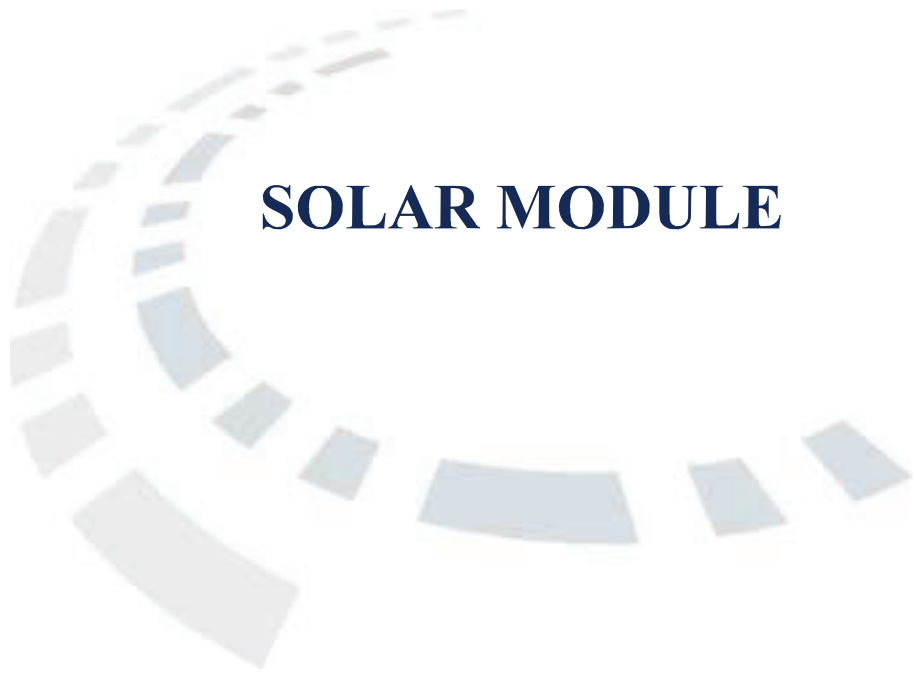
EXHIBIT E

Please find Exhibit E Site Plan Set attached as a separate document file.



EXHIBIT F

INDICATIVE EQUIPMENT SPECIFICATION SHEET:



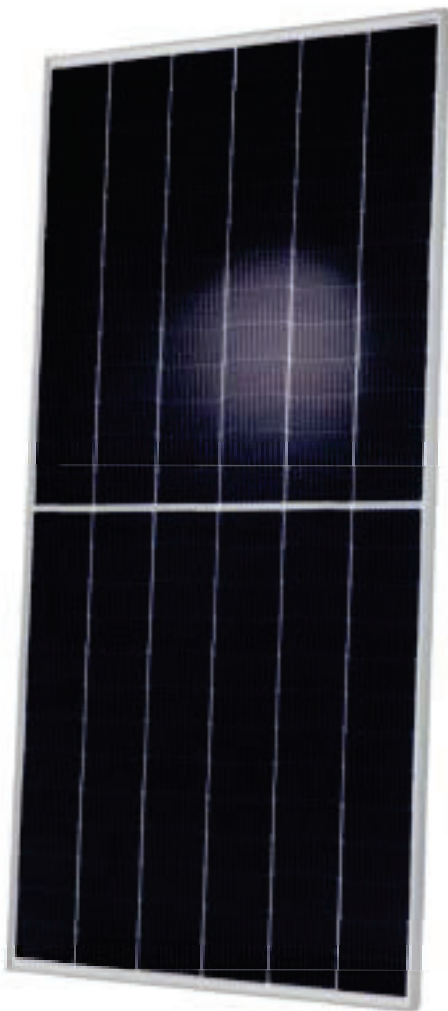
SOLAR MODULE

Q.PEAK DUO XL-G11 SERIES



570-585 Wp | 156 Cells
21.4% Maximum Module Efficiency

MODEL Q.PEAK DUO XL-G11.3/BFG



Bifacial energy yield gain of up to 20 %

Bifacial Q.ANTUM solar cells make efficient use of light shining on the module rear-side for radically improved LCOE.



Low electricity generation costs

Q.ANTUM DUO Z combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology for higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 21.4 %.



A reliable investment

Double glass module design enables extended lifetime with 12-year product warranty and improved 30-year performance warranty¹.



Enduring high performance

Long-term yield security with Anti LeTID and Anti PID Technology², Hot-Spot Protect.



Frame for versatile mounting options

High-tech aluminum alloy frame protects from damage, enables use of a wide range of mounting structures and is certified regarding IEC for high snow (5400 Pa) and wind loads (2400 Pa).



Innovative all-weather technology

Optimal yields, whatever the weather with excellent low-light and temperature behavior.

¹ See data sheet on rear for further information.

² APT test conditions according to IEC/TS 62804-1:2015 method B (-1500V, 168h) including post treatment according to IEC 61215-1-1 Ed. 2.0 (CD)

The ideal solution for:



Ground mounted
solar panels

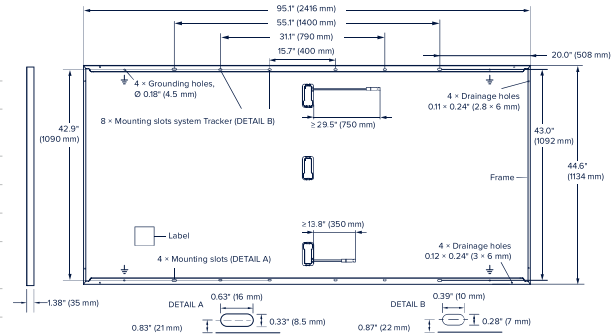
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Q.PEAK DUO XL-G11 SERIES

Mechanical Specification

Format	95.1in × 44.7in × 1.38in (including frame) (2416mm × 1134mm × 35mm)
Weight	75.8lbs (34.4kg)
Front Cover	0.08 in (2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	0.08 in (2 mm) semi-tempered glass
Frame	Anodised aluminium
Cell	6 × 26 monocrystalline Q.ANTUM solar half cells
Junction box	2.09-3.98 × 1.26-2.36 × 0.59-0.71in (53-101mm × 32-60mm × 15-18mm), Protection class IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 29.5in (750mm), (-) ≥ 13.8in (350mm)
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4; IP68



Electrical Characteristics

POWER CLASS	570	575	580	585
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MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5 W/-0 W)

Minimum	Power at MPP ¹	P _{MPP}	[W]	570	BSTC*	575	BSTC*	629.0	580	BSTC*	634.4	585	BSTC*	639.9
	Short Circuit Current ¹	I _{SC}	[A]	13.50	14.77	13.52	14.80	13.55	14.83	13.57	14.86			
	Open Circuit Voltage ¹	V _{OC}	[V]	53.50	53.69	53.53	53.72	53.56	53.75	53.59	53.78			
	Current at MPP	I _{MPP}	[A]	12.83	14.03	12.87	14.09	12.92	14.14	12.97	14.19			
	Voltage at MPP	V _{MPP}	[V]	44.44	44.43	44.66	44.65	44.88	44.87	45.10	45.09			
	Efficiency ¹	η	[%]	≥ 20.8		≥ 21.0		≥ 21.2		≥ 21.4				

Bifaciality of P_{MPP} and I_{SC} 70% ± 5% • Bifaciality given for rear side irradiation on top of STC (front side) • According to IEC 60904-1-2

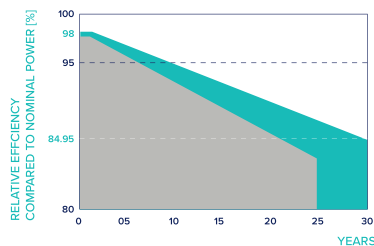
¹Measurement tolerances P_{MPP} ± 3%; I_{SC}, V_{OC} ± 5% at STC: 1000 W/m²; *at BSTC: 1000 W/m² + φ × 135 W/m², φ = 70% ± 5%, 25 ± 2°C, AM 1.5 according to IEC 60904-3

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²

			429.1	432.9	436.6	440.4
Power at MPP	P _{MPP}	[W]	429.1	432.9	436.6	440.4
Short Circuit Current	I _{SC}	[A]	10.87	10.89	10.91	10.93
Open Circuit Voltage	V _{OC}	[V]	50.60	50.63	50.66	50.68
Current at MPP	I _{MPP}	[A]	10.09	10.14	10.18	10.22
Voltage at MPP	V _{MPP}	[V]	42.51	42.71	42.89	43.08

²800 W/m², NMOT, spectrum AM 1.5

Qcells PERFORMANCE WARRANTY

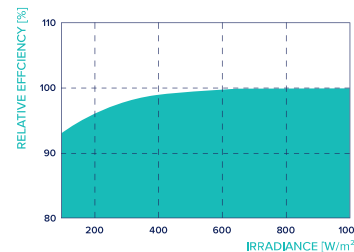


At least 98% of nominal power during first year. Thereafter max. 0.45% degradation per year. At least 93.95% of nominal power up to 10 years. At least 84.95% of nominal power up to 30 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organisation of your respective country.

*Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25°C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I _{SC}	α	[%/K]	+0.04	Temperature Coefficient of V _{OC}	β	[%/K]	-0.27
Temperature Coefficient of P _{MPP}	γ	[%/K]	-0.34	Nominal Module Operating Temperature	NMOT	[°F]	109 ± 5.4 (43 ± 3 °C)

Properties for System Design

Maximum System Voltage	V _{sys}	[V]	1500	PV module classification	Class II
Maximum Series Fuse Rating		[A DC]	25	Fire Rating based on ANSI/UL 61730	TYPE 29 ⁴
Max. Design Load, Push/Pull ³		[lbs/ft ²]	75 (3600 Pa)/33 (1600 Pa)	Permitted Module Temperature on Continuous Duty	-40°F up to +185°F (-40°C up to +85°C)
Max. Test Load, Push/Pull ³		[lbs/ft ²]	113 (5400 Pa)/50 (2400 Pa)		

³ See Installation Manual

⁴ New Type is similar to Type 3 but with metallic frame

Qualifications and Certificates

UL 61730, CE-compliant,
IEC 61215:2016,
IEC 61730:2016,
U.S. Patent No. 9,893,215
(solar cells)



Specifications subject to technical changes © Qcells Q.PEAK DUO XL-G11-BFG_series_570-585_2022-07_Rev01_NA

Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.

Hanwha Q CELLS America Inc. 400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL hqc-inquiry@qcells.com | WEB www.qcells.com

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qcells

PRODUCT SAFETY DATA SHEET

Q CELLS SOLAR PV MODULES ARE ARTICLES AS DEFINED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION HAZARD COMMUNICATION STANDARD (HCS), 29 C.F.R. § 1910.1200 AND ARE EXEMPT FROM THE LABELING AND SAFETY DATA SHEETS (SDS) REQUIREMENTS OF THE STANDARD.

Q CELLS provides this product safety data sheet only for convenience of interested parties in the United States of America who are used to the format of safety data sheets in order to assess the product safety. This product safety data sheet does not replace any other documents provided by Q CELLS such as Safety Information, Installation and Operation Manual, Packaging and Transport Information, Product Data Sheet as well as Warranty Terms of the respective product.

1. SECTION: IDENTIFICATION

Solar PV modules convert light into electricity. Light-sensitive cells are electrically interconnected in series and sealed between glass and plastic foils for this purpose. This product safety data sheet is applicable to the following solar PV modules of the Q CELLS brand made by Hanwha Q CELLS America Inc.:

- Q.PEAK DUO-G5, Q.PEAK DUO BLK-G5, Q.PEAK DUO L-G5, Q.PEAK DUO-G5.X, Q.PEAK DUO BLK-G5.X, Q.PEAK DUO L-G5.X,
- Q.PEAK DUO-G6, Q.PEAK DUO BLK-G6, Q.PEAK DUO L-G6, Q.PEAK DUO-G6.X, Q.PEAK DUO BLK-G6.X, Q.PEAK DUO L-G6.X,
- Q.PEAK DUO-G7, Q.PEAK DUO BLK-G7, Q.PEAK DUO L-G7, Q.PEAK DUO-G7.X, Q.PEAK DUO BLK-G7.X, Q.PEAK DUO L-G7.X,
- Q.PEAK DUO-G8, Q.PEAK DUO BLK-G8, Q.PEAK DUO L-G8, Q.PEAK DUO-G8.X, Q.PEAK DUO BLK-G8.X, Q.PEAK DUO L-G8.X,
- Q.PEAK DUO-G9, Q.PEAK DUO MS-G9, Q.PEAK DUO ML-G9, Q.PEAK DUO BLK ML-G9, Q.PEAK DUO XL-G9, Q.PEAK DUO ML-G9.X, Q.PEAK DUO BLK ML-G9.X, Q.PEAK DUO XL-G9.X,
- Q.PEAK DUO ML-G10, Q.PEAK DUO BLK ML-G10, Q.PEAK DUO XL-G10, Q.PEAK DUO ML-G10.X, Q.PEAK DUO BLK ML-G10.X, Q.PEAK DUO XL-G10.X
- Q.PEAK DUO XL-G11.X

Minor variations within the product families listed above can be identified by a versioning system which replaces character “X” with numerals and lower case letters of either “1”, “2”, “3” or “a”, “b”, “c”, “d” to form G8.1, G6.2, G7.3 or G10.a, G10.c, G10.d for example. All of these variants as well as the ones with additional suffixes “/TAA” and / or “+” are covered by this product safety data sheet. This is also true for B-grade modules which have minor optical imperfections. Product names of these replace “Q.” with “B.LINE”. B-grade modules of Q.PEAK DUO L-G6.2 are named B.LINE PEAK DUO L-G6.2 for example.

Responsible Party as Importer:

Name: Hanwha Q CELLS America Inc.

Address: 400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA

Phone: 1 949 748 59 96

2. SECTION: IDENTIFICATION OF SAFETY RISKS (HAZARDS IDENTIFICATION)

Q CELLS solar PV modules do not pose any risk of hazardous chemicals. Hazard symbols and precautionary hazard statements for hazardous chemicals are not applicable. No symptoms or effects – neither acute nor delayed – have to be expected when Q CELLS solar PV modules are handled as stipulated in the Installation and Operation Manual. Q CELLS provides a Safety Information sheet with all modules shipments. This document contains detailed risk statements and recommendations for installation and operation. Before installing the module, read the Installation and Operation Manual for Q CELLS modules carefully. You can obtain the complete Installation and Operation Manual from your retailer.

Attention: Only qualified and authorized specialists may install modules and put them into operation. Keep children and unauthorized persons away from the modules.

Risks:

- Risk of death from electrocution! Solar modules generate electricity and are energized as soon as they are exposed to light.
- In rare cases, solar PV modules – as any other electrical device – can cause fire due to worn electrical contacts which result in electrical arcing.
- Solar PV modules can reach high temperatures which can cause skin burns.



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PRODUCT SAFETY DATA SHEET

- Sharp edges, corners and broken glass can cause injuries.
- Solar PV modules can cause Injuries due to their weight.
 - Falling solar PV modules can cause injuries.
 - Lifting solar PV modules can cause injuries.

For precautionary statements, please refer to the Installation and Operations Manual of the respective product.

MISUSE OR INCORRECT USE OF SOLAR MODULES VOIDS THE LIMITED WARRANTY AND MAY CREATE A SAFETY HAZARD AND RISK PROPERTY DAMAGE. THIS INCLUDES IMPROPER INSTALLATION OR CONFIGURATION, IMPROPER MAINTENANCE, UNINTENDED USE, AND UNAUTHORIZED MODIFICATION.

3. SECTION: COMPOSITION / INFORMATION ON INGREDIENTS

Safety data sheets are only required for hazardous chemicals covered by the Hazard Communication Standard (HCS). Solar PV modules made by Q CELLS are not covered by HCS. The following table provides an overview of materials solar PV modules by Q CELLS are made of. The values given for the share of weight are targets and can vary for the products covered by this Product Safety Data Sheet.

Component	Material	Total Share	Remark
Frame	Aluminum	8 % – 16 %	not hazardous
	Silicone	< 2 %	not hazardous, see section 8
Laminate	Glass	60 % – 80 %	not hazardous
	Plastics (EVA, PET, PE, PPE, PC)	8 % – 16 %	no hazards known
	Silicon	2 % – 4 %	not hazardous
	Metals (Aluminum, Copper, Tin)	< 2 %	not hazardous
	Lead	< 0,1 %	hazardous
	Silver	< 0,05 %	not hazardous

4. SECTION: FIRST-AID MEASURES

In case of electrocution:

- Always protect yourself by taking all necessary safety precautions before rescuing persons injured.
- **Attention:** Stay away from sources of high voltage and leave the rescue to qualified personnel with appropriate personal protection equipment!
- Call emergency rescue services.
- Do not touch live parts. Qualified personnel should shut down the PV system as far as possible – e.g. disconnect the modules at the inverter before uncovering any live electrical parts. Be sure to observe the specified time intervals after switching off the inverter. High voltage components need time to discharge. Follow OSHA requirements for control of hazardous energy at 29 C.F.R. § 1910.147.
- In the event a person is electrocuted or affected by electrical energy of the solar PV module, CALL 911. Before attempting rescue, SHUT-DOWN THE POWER SOURCE.
- Remove the victim from the power source using only insulated tools ONLY IF CONTACT WITH LIVE ELECTRICAL COMPONENTS CAN BE PREVENTED.
- Carefully move the injured from the zone of danger.
- After moving to a safe location, check heartbeat, respiration and consciousness of the injured person.
- Apply appropriate life-saving measures (CPR) accordingly before taking care of minor injuries.
- Consult a medical professional even if there are no visible injuries.
 - Flush thermal skin burns caused by touching hot surfaces of solar PV modules with cool water. Consult a medical professional.
 - Injuries due to sharp edges, corners and broken glass need to be appropriately treated. Consult a medical professional.

PRODUCT SAFETY DATA SHEET

- Other types of injuries need to be treated appropriately as well. Consult a medical professional.

5. SECTION: FIRE-FIGHTING MEASURES

- Q CELLS solar PV modules are fire rated as Class C according to IEC and UL 1703/UL 61730 as well as Type 1 and 2 according to UL 1703/UL 61730.
- Q CELLS solar PV modules are extensively tested at the factory to ensure electrical safety of the product before shipment.
- In rare cases, solar PV modules – as any other electrical device – can cause fire due to worn electrical contacts which result in electrical arcing.
- In case solar PV modules which are not part of an array are on fire, USE FIRE EXTINGUISHERS RATED FOR ELECTRICAL EQUIPMENT, Class C.
- IN CASE A SOLAR PV MODULE ARRAY IS PRESENT, ANY FIRE SHOULD ONLY BE FOUGHT BY PROFESSIONAL FIREFIGHTERS. FIREFIGHTERS NEED TO TAKE PRECAUTIONS FOR ELECTRICAL VOLTAGES UP TO 1,500 VOLTS (DC).
- Some components of the modules can burn. Potential combustion products include oxides of carbon, nitrogen and silicon.
- In case of prolonged fire, solar PV modules may lose their structural integrity.

General recommendations from the below-mentioned reports:

- Fire service personnel should follow their normal tactics and strategies at structure fires involving solar power systems, but do so with awareness and understanding of exposure to energized electrical equipment. Emergency response personnel should operate normally, and approach this subject area with awareness, caution, and understanding to assure that conditions are maintained as safely as possible.
- Care must be exercised during all operations, both interior and exterior.
- Responding personnel must stay back from the roofline in the event modules or sections of an array may slide off the roof.
- Contacting a local professional PV installation company should be considered to mitigate potential hazards.
- Turning off an array is not as simple as opening a disconnect switch. As long as the array is illuminated, parts of the system will remain energized.
- When illuminated by artificial light sources such as fire department light trucks or an exposure fire, PV systems are capable of producing electrical power sufficient to cause inability to let go from electricity as a result of stimulation of muscle tissue, also known as lock-on hazard.
- Firefighting foam should not be relied upon to block light.
- The electric shock hazard due to application of water is dependent on voltage, water conductivity, distance and spray pattern.
- It is recommendable to fight fire with water instead of foam if a PV system is present. Salt water should not be used.
- Firefighter's gloves and boots afford limited protection against electrical shock provided the insulating surface is intact and dry. They should not be considered equivalent to electrical personal protection equipment.

Readers interested in more details may refer to the following reports:

- National Fire Protection Association, Fire Protection Research Foundation report "Fire Fighter Safety and Emergency Response for Solar Power Systems" issued May 2010, revised October 2013
- Important recommendations from a report called "Firefighter Safety and Photovoltaic Installations Research Project" issued by Underwriters Laboratories on November 29, 2011

6. SECTION: ACCIDENTAL RELEASE MEASURES

This section is not applicable.

7. SECTION: HANDLING AND STORAGE

Before installing the module, read the Installation and Operation Manual for Q CELLS modules carefully. Noncompliance with the instructions may result in damage and physical injury or death. Only qualified and authorized specialists may install modules and put them into operation.



PRODUCT SAFETY DATA SHEET

You can obtain the complete installation manual from your retailer. Details about transport and storage of palletized Q CELLS solar PV modules can be found in the Packaging and Transport Information of the respective module type.

Storage, transport and unpacking:

- Store the module dry, well-ventilated and properly secured. The original packaging is not weatherproof.
- Always transport the module in its original packaging.
- Do not stack the modules. This prevents damage of the junction box.
- The module is made of glass. Take great care when unpacking, storing and transporting it.
- Do not subject the module glass to any mechanical stress (e.g. through torsion or deflection). Do not step on the module or place any objects onto the module.
- Protect both sides of the module against scratching and other damage.
- Carry the module by holding the edges with both hands, or use a glass suction lifter.
- Never lift or carry the module using the module junction box or wiring. Avoid pulling on the wiring at all costs.

8. SECTION: EXPOSURE CONTROLS / PERSONAL PROTECTION

Before installing the module, read the Installation and Operation Manual carefully. Noncompliance with the instructions may result in damage and physical injury. Only qualified and authorized specialists may install modules and put them into operation. You can obtain the complete installation manual from your retailer.

- Please follow the valid national regulations and safety guidelines for the installation of electrical devices and systems.
- Please make sure to take all necessary safety precautions.
- Ensure that all personnel are aware of and adhere to accident-prevention and safety regulations.
- For handling of modules wear suitable protective gloves.
- Do not install damaged modules. Ensure that all electrical components are in a proper, dry, and safe condition.
- Do not modify the module (e.g. do not drill any additional holes). Never open the junction box.
- Ensure that modules and tools are not subject to moisture or rain at any time during installation. Only use dry, insulated tools for electrical work.
- Only connect cables with plugs. Ensure for a tight connection between the plugs. Plugs click together audibly.
- Cover the modules with an opaque material during installation. Cover the modules to be disconnected.

Silicones used in manufacturing release methanol during curing. Once cured, no additional methanol is released during use. Small amounts of these chemicals may be present in shipping cartons. Upon receipt, open container in a well-ventilated location and allow to stand for 5 minutes before removing units from cartons. Exposures above recommended limits for methanol of 200 ppm eight-hour time-weighted-average (TWA) will not occur.

9. SECTION: PHYSICAL AND CHEMICAL PROPERTIES

- Physical state: solid
- Voltage: refer to data sheet (below 50 volts for a single module)

Attention: Voltage of single modules add up when modules are electrically connected in series. Q CELLS solar PV modules are designed and certified for voltages up to 1,000 volts or even up to 1,500 volts. Connection of modules in series is only permitted up to the maximum system voltage as listed in the applicable data sheet.

- Weight: refer to data sheet



PRODUCT SAFETY DATA SHEET

- Solubility in water: insoluble in water

10. SECTION: STABILITY AND REACTIVITY

Under normal operating conditions as specified in the Product Data Sheet, Q CELLS solar PV modules are chemically stable.

- Q CELLS solar PV modules are tested for salt spray and ammonia resistance according to IEC 61701 and IEC 62716, respectively.
- Q CELLS solar PV modules support ambient operating temperatures from -40°C to $+85^{\circ}\text{C}$ (-40°F to $+185^{\circ}\text{F}$).
- Do not install modules above 13.120 ft (4000 m) altitude above sea level.
- Some components of the modules can burn. Potential combustion products include oxides of carbon, nitrogen and silicon.
- Do not scratch off dirt. Use a soft cellulose cloth or sponge to carefully wipe off stubborn dirt. Do not use micro fleece wool or cotton cloths.
- Rinse dirt off with lukewarm water (dust, leaves, etc.)
- Use an alcohol based glass cleaner. Do not use abrasive detergents or tensides.
- Isopropyl alcohol (IPA) can be used selectively to remove stubborn dirt and stains within one hour after it appeared.
- Follow the safety guidelines provided by the IPA manufacturer.
- Do not let IPA run down between the module and the frame or into the module edges.

11. SECTION: TOXICOLOGICAL INFORMATION

Small amounts of methanol may be present inside shipping cartons. Open cartons and allow to vent before removing units. No exposure to hazardous chemicals will occur when the units are in use.

12. SECTION: ECOLOGICAL INFORMATION

Q CELLS solar PV modules are designed to withstand outdoor operating conditions for 25 years. Biodegradation is not expected due to high chemical stability of the components.

13. SECTION: DISPOSAL CONSIDERATIONS

Q CELLS solar PV modules should be recycled rather than dumped in a landfill. Raw materials of the product can be recovered by recycling companies. Disposal must be in accordance with national and local laws and regulations for electric / electronic waste.

14. SECTION: TRANSPORT INFORMATION

Q CELLS solar PV modules can be shipped via standardized container freight. Regulations for hazardous goods do not apply. For further details, please refer to the Packaging and Transport Information which can be provided as a separate document by Q CELLS.

15. SECTION: REGULATORY INFORMATION

- Q CELLS solar PV modules are tested according to international standards IEC 61215, IEC 61730 as well as US standards UL 1703 / UL 61730.
- Please refer to the Installation and Operation Manual and Product Data Sheet of the respective Q CELLS solar PV module.

16. SECTION: OTHER INFORMATION

- Date of initial creation of this product safety data sheet: July 1, 2016
- Date of last revision: October 01, 2021

Hanwha Q CELLS America Inc.

400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | [TEL +1 949 748 59 96](tel:+19497485996) | [EMAIL claims@us.q-cells.com](mailto:claims@us.q-cells.com) | inquiry@us.q-cells.com | [WEB www.q-cells.us](http://www.q-cells.us)



INDICATIVE - NOT FOR CONSTRUCTION

PV MODULE REFLECTION – GLARE

PV MODULE REFLECTION – GLARE

When light falls on a surface it is split; some of the light traverses the surface (transmission), some light enters the surface and is lost (absorption) and some is redirected away from the surface (reflection). In order for a PV module to produce as much power as possible, the cover glass is optimized for high transmission. This is why Hanwha Q CELLS PV modules have cutting-edge anti-reflective coatings (ARC) in order to maximize transmission and limiting the possibility for reflections.

Each of these actions, transmission, absorption and reflection, can be measured as a proportion of the original light falling on the surface, eg. $T + A + R = 100\%$. For our purposes it is only necessary to look at the proportion of this original light, as the intensity of the light falling on the surface of the PV module glass will change with numerous factors including different system configurations, locations and times of both the day and year.

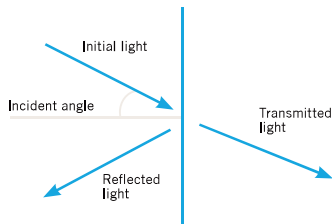


Figure 1: Light falling on a surface

The proportion of light reflected from any surface is dependent upon the angle at which the light hits the glass, called the incident angle where 0° is direct light and 90° is parallel to the surface. The proportion of reflected light can be calculated for different incident angles using the Fresnel equations. For a sheet of glass it would be necessary to calculate the reflection twice, once for the frontside of the glass and once for the backside. However as the rear of PV module glass is connected to an EVA and light absorbing PV cell it is only necessary to consider the frontside effect. To calculate the reflection the refractive index of the involved media is needed. As an example air has an index of 1, for normal “window” glass the value is around 1.5, for water it is 1.33 and for PV module glass it is around 1.25. From these figures alone it is possible to, correctly, presume that the glass used in PV modules creates less reflected light than normal “window” glass or a body of water. Figure 2 shows the curves of these different cases, along with measurements by TÜV Rheinland of Hanwha Q CELLS modules. It can be seen that the proportion of light reflected starts close to zero but rises as the incident angle gets closer to 90° .

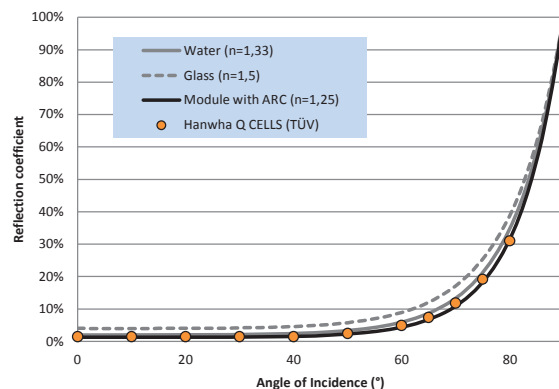


Figure 2: Reflection vs. incident angle

CONCLUSION

From both the theoretical and measured data it is clear that ARC glass used in all Hanwha Q CELLS currently produced PV modules reflects less light than both naturally occurring features, such as bodies of water, and common manmade structures. Moreover for incident angles below 55° less than 4 % of the initial light is reflected away from the PV module.

EMAIL: service@q-cells.com
TEL: +49 (0)3494 66 99 23222

PRODUCT SAFETY DATA SHEET

HANWHA Q CELLS SOLAR PV MODULES ARE ARTICLES AS DEFINED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION HAZARD COMMUNICATION STANDARD (HCS), 29 C.F.R. § 1910.1200 AND ARE EXEMPT FROM THE LABELING AND SAFETY DATA SHEETS (SDS) REQUIREMENTS OF THE STANDARD.

Hanwha Q CELLS provides this product safety data sheet only for convenience of interested parties in the United States of America who are used to the format of safety data sheets in order to assess the product safety. This product safety data sheet does not replace any other documents provided by Hanwha Q CELLS such as Safety Information, Installation and Operation Manual, Packaging and Transport Information, Product Data Sheet as well as Warranty Terms of the respective product.

SECTION 1: IDENTIFICATION

Solar PV modules convert light into electricity. Light-sensitive cells are electrically interconnected in series and sealed between glass and plastic foils for this purpose. This product safety data sheet is applicable to the following solar PV modules of the Q CELLS brand made by Hanwha Q CELLS:

- Q.PLUS-G4.X, Q.PLUS BFR-G4.X, Q.PLUS L-G4.X, Q.PEAK-G4.X, Q.PEAK BLK-G4.X, Q.PEAK L-G4.X,
- Q.PLUS DUO-G5, Q.PLUS DUO BLK-G5, Q.PLUS DUO L-G5, Q.PLUS DUO-G5.X, Q.PLUS DUO BLK-G5.X, Q.PLUS DUO L-G5.X,
- Q.PEAK DUO-G5, Q.PEAK DUO BLK-G5, Q.PEAK DUO L-G5, Q.PEAK DUO-G5.X, Q.PEAK DUO BLK-G5.X, Q.PEAK DUO L-G5.X,
- Q.PEAK DUO-G6, Q.PEAK DUO BLK-G6, Q.PEAK DUO L-G6, Q.PEAK DUO-G6.X, Q.PEAK DUO BLK-G6.X, Q.PEAK DUO L-G6.X

Minor variations within the product families listed above can be identified by a versioning system which replaces character “X” with numerals of either “1”, “2” or “3” to form G4.1, G4.2, G4.3, G5.1, G5.2, G5.3, G6.1, G6.2 and G6.3, respectively. All of these variants as well as the ones with additional suffix “/TAA” are covered by this product safety data sheet. This is also true for B-grade modules which have minor optical imperfections. Product names of these replace “Q.” with “B.LINE”. B-grade modules of Q.PEAK-G4.1 are named B.LINE PEAK-G4.1 for example.

Responsible Party as Importer:

Name: Hanwha Q CELLS America

Address: 300 Spectrum Center Drive, Suite 1250, Irvine, CA 92618

Phone: 1-949-748-5996

SECTION 2: IDENTIFICATION OF SAFETY RISKS (HAZARDS IDENTIFICATION)

Hanwha Q CELLS solar PV modules do not pose any risk of hazardous chemicals. Hazard symbols and precautionary hazard statements for hazardous chemicals are not applicable. No symptoms or effects – neither acute nor delayed – have to be expected when Hanwha Q CELLS solar PV modules are handled as stipulated in the Installation and Operation Manual. Hanwha Q CELLS provides a Safety Information sheet with all modules shipments. This document contains detailed risk statements and recommendations for installation and operation. Before installing the module, read the Installation and Operation Manual for Q CELLS modules carefully. You can obtain the complete Installation and Operation Manual from your retailer.

Attention: Only qualified and authorized specialists may install modules and put them into operation. Keep children and unauthorized persons away from the modules.

Risks:

- Risk of death from electrocution! Solar modules generate electricity and are energized as soon as they are exposed to light.
- In rare cases, solar PV modules – as any other electrical device – can cause fire due to worn electrical contacts which result in electrical arcing.
- Solar PV modules can reach high temperatures which can cause skin burns.
- Sharp edges, corners and broken glass can cause injuries.
- Solar PV modules can cause Injuries due to their weight.
 - Falling solar PV modules can cause injuries.
 - Lifting solar PV modules can cause injuries.

For precautionary statements, please refer to the Installation and Operations Manual of the respective product.

MISUSE OR INCORRECT USE OF SOLAR MODULES VOIDS THE LIMITED WARRANTY AND MAY CREATE A SAFETY HAZARD AND RISK PROPERTY DAMAGE. THIS INCLUDES IMPROPER INSTALLATION OR CONFIGURATION, IMPROPER MAINTENANCE, UNINTENDED USE, AND UNAUTHORIZED MODIFICATION.

PRODUCT SAFETY DATA SHEET

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Safety data sheets are only required for hazardous chemicals covered by the Hazard Communication Standard (HCS). Solar PV modules made by Hanwha Q CELLS are not covered by HCS. The following table provides an overview of materials solar PV modules by Hanwha Q CELLS are made of. The values given for the share of weight are targets and can vary for the products covered by this Product Safety Data Sheet.

COMPONENT	MATERIAL	TOTAL SHARE	REMARK
FRAME	Aluminum	8 % – 16 %	not hazardous
	Silicone	<2 %	not hazardous, see section 8
LAMINATE	Glass	60 % – 80 %	not hazardous
	Plastics (EVA, PET, PE, PPE, PC)	8 % – 16 %	no hazards known
	Silicon	2 % – 4 %	not hazardous
	Metals (Aluminum, Copper, Tin)	1 % – 3 %	not hazardous
	Lead	<0,1 %	hazardous
	Silver	<0,05 %	not hazardous

SECTION 4: FIRST-AID MEASURES

In case of electrocution:

- Always protect yourself by taking all necessary safety precautions before rescuing persons injured.
- Attention: Stay away from sources of high voltage and leave the rescue to qualified personnel with appropriate personal protection equipment!
- Call emergency rescue services.
- Do not touch live parts. Qualified personnel should shut down the PV system as far as possible – e.g. disconnect the modules at the inverter before uncovering any live electrical parts. Be sure to observe the specified time intervals after switching off the inverter. Highvoltage components need time to discharge. Follow OSHA requirements for control of hazardous energy at 29 C.F.R. § 1910.147.
- In the event a person is electrocuted or affected by electrical energy of the solar PV module, CALL 911. Before attempting rescue, SHUTDOWN THE POWER SOURCE.
- Remove the victim from the power source using only insulated tools ONLY IF CONTACT WITH LIVE ELECTRICAL COMPONENTS CAN BE PREVENTED.
- Carefully move the injured from the zone of danger.
- After moving to a safe location, check heartbeat, respiration and consciousness of the injured person.
- Apply appropriate life-saving measures (CPR) accordingly before taking care of minor injuries.
- Consult a medical professional even if there are no visible injuries.
 - Flush thermal skin burns caused by touching hot surfaces of solar PV modules with cool water. Consult a medical professional.
 - Injuries due to sharp edges, corners and broken glass need to be appropriately treated. Consult a medical professional.
 - Other types of injuries need to be treated appropriately as well. Consult a medical professional.

SECTION 5: FIRE-FIGHTING MEASURES

- Hanwha Q CELLS solar PV modules are fire rated as Class C according to IEC and UL 1703 as well as Type 1 according to UL 1703.
- Hanwha Q CELLS solar PV modules are extensively tested at the factory to ensure electrical safety of the product before shipment.
- In rare cases, solar PV modules – as any other electrical device – can cause fire due to worn electrical contacts which result in electrical arcing.
- In case solar PV modules which are not part of an array are on fire, USE FIRE EXTINGUISHERS RATED FOR ELECTRICAL EQUIPMENT, Class C.
- IN CASE A SOLAR PV MODULE ARRAY IS PRESENT, ANY FIRE SHOULD ONLY BE FOUGHT BY PROFESSIONAL FIREFIGHTERS. FIREFIGHTERS NEED TO TAKE PRECAUTIONS FOR ELECTRICAL VOLTAGES UP TO 1,500 VOLTS (DC).
- Some components of the modules can burn. Potential combustion products include oxides of carbon, nitrogen and silicon.
- In case of prolonged fire, solar PV modules may lose their structural integrity.

PRODUCT SAFETY DATA SHEET

General recommendations from the below-mentioned reports:

- Fire service personnel should follow their normal tactics and strategies at structure fires involving solar power systems, but do so with awareness and understanding of exposure to energized electrical equipment. Emergency response personnel should operate normally, and approach this subject area with awareness, caution, and understanding to assure that conditions are maintained as safely as possible.
- Care must be exercised during all operations, both interior and exterior.
- Responding personnel must stay back from the roofline in the event modules or sections of an array may slide off the roof.
- Contacting a local professional PV installation company should be considered to mitigate potential hazards.
- Turning off an array is not as simple as opening a disconnect switch. As long as the array is illuminated, parts of the system will remain energized.
- When illuminated by artificial light sources such as fire department light trucks or an exposure fire, PV systems are capable of producing electrical power sufficient to cause inability to let go from electricity as a result of stimulation of muscle tissue, also known as lock-on hazard.
- Firefighting foam should not be relied upon to block light.
- The electric shock hazard due to application of water is dependent on voltage, water conductivity, distance and spray pattern.
- It is recommendable to fight fire with water instead of foam if a PV system is present. Salt water should not be used.
- Firefighter's gloves and boots afford limited protection against electrical shock provided the insulating surface is intact and dry. They should not be considered equivalent to electrical personal protection equipment.

Readers interested in more details may refer to the following reports:

- National Fire Protection Association, Fire Protection Research Foundation report "Fire Fighter Safety and Emergency Response for Solar Power Systems" issued May 2010, revised October 2013
- Important recommendations from a report called "Firefighter Safety and Photovoltaic Installations Research Project" issued by Underwriters Laboratories on November 29, 2011

SECTION 6: FIRE-FIGHTING MEASURES

This section is not applicable.

SECTION 7: HANDLING AND STORAGE

Before installing the module, read the Installation and Operation Manual for Q CELLS modules carefully. Noncompliance with the instructions may result in damage and physical injury or death. Only qualified and authorized specialists may install modules and put them into operation. You can obtain the complete installation manual from your retailer.

Details about transport and storage of palletized Hanwha Q CELLS solar PV modules can be found in the Packaging and Transport Information of the respective module type.

Storage, transport and unpacking:

- Store the module dry, well-ventilated and properly secured. The original packaging is not weatherproof.
- Always transport the module in its original packaging.
- Do not stack the modules. This prevents damage of the junction box.
- The module is made of glass. Take great care when unpacking, storing and transporting it.
- Do not subject the module glass to any mechanical stress (e.g. through torsion or deflection). Do not step on the module or place any objects onto the module.
- Protect both sides of the module against scratching and other damage.
- Carry the module by holding the edges with both hands, or use a glass suction lifter.
- Never lift or carry the module using the module junction box or wiring. Avoid pulling on the wiring at all costs.

PRODUCT SAFETY DATA SHEET

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Before installing the module, read the Installation and Operation Manual carefully. Noncompliance with the instructions may result in damage and physical injury. Only qualified and authorized specialists may install modules and put them into operation. You can obtain the complete installation manual from your retailer.

- Please follow the valid national regulations and safety guidelines for the installation of electrical devices and systems.
- Please make sure to take all necessary safety precautions.
- Ensure that all personnel are aware of and adhere to accident-prevention and safety regulations.
- For handling of modules wear suitable protective gloves.
- Do not install damaged modules. Ensure that all electrical components are in a proper, dry, and safe condition.
- Do not modify the module (e.g. do not drill any additional holes). Never open the junction box.
- Ensure that modules and tools are not subject to moisture or rain at any time during installation. Only use dry, insulated tools for electrical work.
- Only connect cables with plugs. Ensure for a tight connection between the plugs. Plugs click together audibly.
- Cover the modules with an opaque material during installation. Cover the modules to be disconnected.

Silicones used in manufacturing release methanol during curing. Once cured, no additional methanol is released during use. Small amounts of these chemicals may be present in shipping cartons. Upon receipt, open container in a well ventilated location and allow to stand for 5 minutes before removing units from cartons. Exposures above recommended limits for methanol of 200 ppm eight-hour time-weighted-average (TWA) will not occur.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- Physical state: solid
- Voltage: refer to data sheet (below 50 volts for a single module)

Attention: Voltage of single modules add up when modules are electrically connected in series. Hanwha Q CELLS solar PV modules are designed and certified for voltages up to 1,000 volts or even up to 1,500 volts. Connection of modules in series is only permitted up to the maximum system voltage as listed in the applicable data sheet.

- Weight: refer to data sheet
- Solubility in water: insoluble in water

SECTION 10: STABILITY AND REACTIVITY

Under normal operating conditions as specified in the Product Data Sheet, Hanwha Q CELLS solar PV modules are chemically stable.

- Hanwha Q CELLS solar PV modules are tested for salt spray and ammonia resistance according to IEC 61701 and IEC 62716, respectively.
- Hanwha Q CELLS solar PV modules support ambient operating temperatures from -40°C to $+85^{\circ}\text{C}$ (-40°F to $+185^{\circ}\text{F}$).
- Do not install modules above 13,120 ft (4000 m) altitude above sea level.
- Some components of the modules can burn. Potential combustion products include oxides of carbon, nitrogen and silicon.
- Do not scratch off dirt. Use a soft cellulose cloth or sponge to carefully wipe off stubborn dirt. Do not use micro fleece wool or cotton cloths.
- Rinse dirt off with lukewarm water (dust, leaves, etc.)
- Use an alcohol based glass cleaner. Do not use abrasive detergents or tensides.
- Isopropyl alcohol (IPA) can be used selectively to remove stubborn dirt and stains within one hour after it appeared.
- Follow the safety guidelines provided by the IPA manufacturer.
- Do not let IPA run down between the module and the frame or into the module edges.

PRODUCT SAFETY DATA SHEET

SECTION 11: TOXICOLOGICAL INFORMATION

Small amounts of methanol may be present inside shipping cartons. Open cartons and allow to vent before removing units. No exposure to hazardous chemicals will occur when the units are in use.

SECTION 12: ECOLOGICAL INFORMATION

Hanwha Q CELLS solar PV modules are designed to withstand outdoor operating conditions for 25 years. Biodegradation is not expected due to high chemical stability of the components.

SECTION 13: DISPOSAL CONSIDERATIONS

Hanwha Q CELLS solar PV modules should be recycled rather than dumped in a landfill. Raw materials of the product can be recovered by recycling companies. Disposal must be in accordance with national and local laws and regulations for electric/electronic waste.

SECTION 14: TRANSPORT INFORMATION

Hanwha Q CELLS solar PV modules can be shipped via standardized container freight. Regulations for hazardous goods do not apply. For further details, please refer to the Packaging and Transport Information which can be provided as a separate document by Hanwha Q CELLS.

SECTION 15: REGULATORY INFORMATION

- Hanwha Q CELLS solar PV modules are tested according to international standards IEC 61215, IEC 61730 as well as US standards UL 1703.
- Please refer to the Installation and Operation Manual and Product Data Sheet of the respective Hanwha Q CELLS solar PV module.

SECTION 16: OTHER INFORMATION

- Date of initial creation of this product safety data sheet: July 1, 2016
- Date of last revision: August 14, 2018

INDICATIVE EQUIPMENT SPECIFICATION SHEET:



INVERTER

SUNNY HIGHPOWER PEAK3

SHP 100-20 / SHP 150-20



Efficient

- High power density with 150 kW thanks to its compact structure
- Max. yield due to possible DC/AC ratio of up to 150%

Reliable

- Superior PV system availability with 150 kW units
- Innovative digital features aligned with the energy management platform ennexOS

Flexible

- For DC input voltages up to 1500 V
- Flexible DC solutions with customer-specific PV array junction boxes

Easy to install

- Ergonomic handling and simple connection for quick installation
- Centralized commissioning and control of the PV power plant via SMA Data Manager

SUNNY HIGHPOWER PEAK3

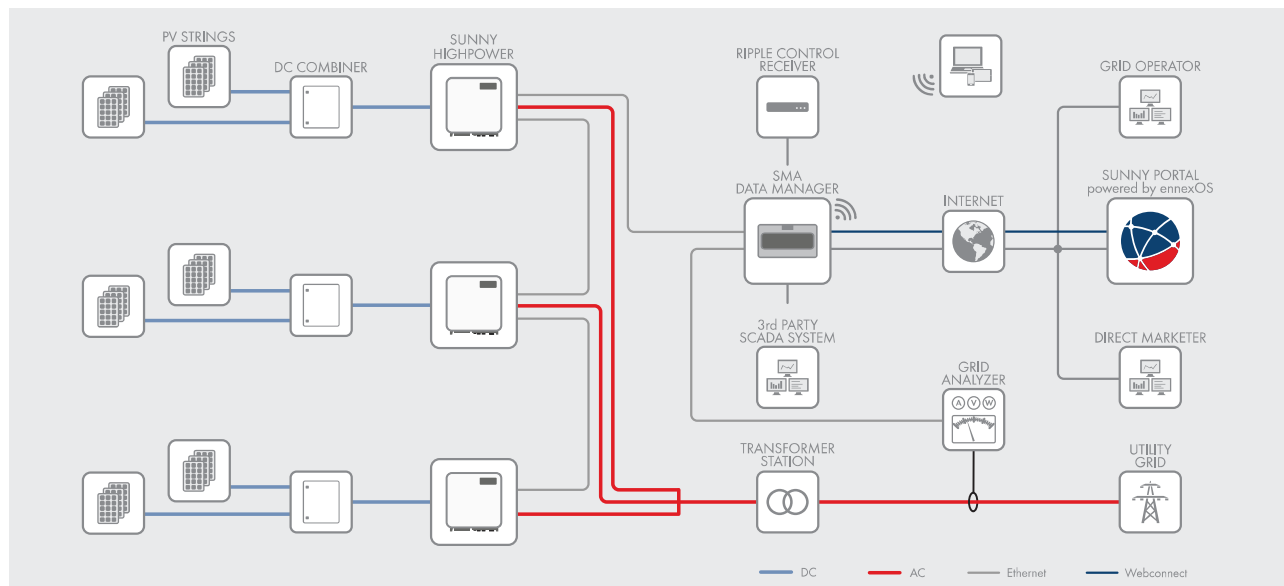
Customized for tomorrow today

The Sunny Highpower PEAK3 is the central component of the SMA solution for PV power plants with a decentralized architecture and system voltages of 1500 V DC. This compact string inverter enables cost-optimized solutions for industrial PV applications thanks to its high power density. It also provides a simple way of transport and allows for quick installation and commissioning. This string inverter with 150 kW of power is equipped with the automatic SMA Smart Connected service for proactive servicing that facilitates operation and maintenance and reduces service costs throughout the entire project lifetime.

INDICATIVE EQUIPMENT SPECIFICATION SHEET:



RACKING



Technical Data	Sunny Highpower 100-20	Sunny Highpower 150-20
Input (DC)		
Max. PV array power	150000 Wp	225000 Wp
Max. input voltage	1000 V	1500 V
MPP voltage range / rated input voltage	590 V to 1000 V / 590 V	880 V to 1450 V / 880 V
Max. input current / max. short-circuit current	180 A / 325 A	180 A / 325 A
Number of independent MPP trackers	1	1
Number of inputs	1 or 2 (optional) for external PV array junction boxes	
Output (AC)		
Rated power at nominal voltage	100000 W	150000 W
Max. apparent power	100000 VA	150000 VA
Nominal AC voltage / AC voltage range	400 V / 304 V to 477 V	600 V / 480 V to 690 V
AC grid frequency / range	50 Hz / 44 Hz to 55 Hz 60 Hz / 54 Hz to 66 Hz	50 Hz / 44 Hz to 55 Hz 60 Hz / 54 Hz to 66 Hz
Rated grid frequency	50 Hz	50 Hz
Max. output current	151 A	151 A
Power factor at rated power / displacement power factor adjustable	1 / 0 overexcited to 0 underexcited	
Harmonic (THD)	< 3%	< 3%
Feed-in phases / AC connection	3 / 3-PE	3 / 3-PE
Efficiency		
Max. efficiency / European efficiency	98.8% / 98.6%	99.1% / 98.8%
Protective devices		
Ground fault monitoring / grid monitoring / DC reverse polarity protection	● / ● / ●	● / ● / ●
AC short-circuit current capability / galvanically isolated	● / -	● / -
All-pole-sensitive residual-current monitoring unit	●	●
Monitored surge arrester (type II) AC / DC	● / ●	● / ●
Protection class (according to IEC 62109-1) / overvoltage category (as per IEC 62109-1)	I / AC: III; DC: II	I / AC: III; DC: II
General Data		
Dimensions (W / H / D)	770 mm / 830 mm / 444 mm (30.3 in / 32.7 in / 17.5 in)	
Weight	98 kg (216 lbs)	
Operating temperature range	-25 °C to +60 °C (-13 °F to +140 °F)	
Noise emission (typical)	< 65 dB(A)	
Self-consumption (at night)	< 5 W	
Topology	transformerless	
Cooling method	OptiCool, active cooling, speed-controlled fan	
Degree of protection (according to IEC 60529)	IP65	
Max. permissible value for relative humidity (non-condensing)	100%	
Features / function / accessories		
DC connection / AC connection	Terminal lug (up to 300 mm ²) / Screw terminal (up to 150 mm ²)	
LED display (Status / Fault / Communication)	●	
Ethernet interface	● (2 ports)	
Data interface: SMA Modbus / SunSpec Modbus / Speedwire, Webconnect	● / ● / ●	
Mounting type	Rack mounting	
OptiTrac Global Peak / Integrated Plant Control / Q on Demand 24/7	● / ● / ●	
Off-grid capable / SMA Fuel Save Controller compatible	● / ●	
Warranty: 5 / 10 / 15 / 20 years	● / ○ / ○ / ○	
Certificates and approvals (planned)	IEC 62109-1/-2, AR N-4110, AR N-4120, CEI 0-16, C10/11:2012, EN 50549, PEA 2017, DEWA	
● Standard features ○ Optional features — Not available Data at nominal conditions Status: 12/ 2018		
Type designation	SHP 100-20	SHP 150-20



DuraTrack® HZ v3

RELIABILITY IS POWER.

167×

fewer components than
competitive trackers

25,000+

Megawatt Years of Operation

ARRAY TECHNOLOGIES, INC.

3901 Midway Place NE
Albuquerque, NM 87109 USA

+1 505.881.7567
+1 855.TRACKPV (872.2578)
+1 505.881.7572

sales@arraytechinc.com

arraytechinc.com

THE MOST RELIABLE TRACKER UNDER THE SUN

HIGHEST POWER DENSITY.

Higher density means more power and more profit. DuraTrack HZ v3 offers the unique ability to maximize the power density of each site, boasting 6% more density than our closest competitor.

LEADING TERRAIN ADAPTABILITY.

Uneven terrain? Hill yes! Our flexibly linked architecture, with articulating driveline joints and forgiving tolerances, create the most adaptable system in market for following natural land contours and creates the greatest power generation potential from every site.

FEWER COMPONENTS. GREATER RELIABILITY.

Less is more. Array was founded on a philosophy of engineered simplicity. Minimizing potential failure points (167 times fewer components than competitors), DuraTrack HZ v3 consistently delivers higher reliability and superior uptime.

FAILURE-FREE WIND DESIGN.

DuraTrack HZ v3 was designed and field tested to withstand some of the harshest conditions on the planet. It is the only tracker on the market that reliably handles wind events with a fully integrated, fully automatic wind-load mitigation system.

ZERO SCHEDULED MAINTENANCE.

Three decades of solar tracker system design, engineering and testing has resulted in uncompromising reliability. Maintenance-free motors and gears, fewer moving parts, and industrial-grade components means maintenance-free energy generation.

INDICATIVE - NOT FOR CONSTRUCTION



DuraTrack® HZ v3

COST VERSUS VALUE

We believe value is more than the cost of a tracking system. It's about building with forgiving tolerances and fewer parts so construction crews can work efficiently. It means protecting your investment with a failure-free wind management system. It also includes increasing power density. But most of all, value is measured in operational uptime, or reliability.

THE GLOBAL LEADER IN RELIABILITY

Array has spent decades designing and perfecting the most reliable tracker on the planet. Fewer moving parts, stronger components and intelligent design that protects your investment in the harshest weather are but a few of the innovative differences that keep your system running flawlessly all day and you resting easy at night.



STRUCTURAL & MECHANICAL FEATURES/SPECIFICATIONS	
Tracking Type	Horizontal single axis
MW per Drive Motor	Up to 1.036800 MW DC using 360W crystalline
String Voltage	Up to 1,500V DC
Maximum Linked Rows	32
Maximum Row Size	100 modules crystalline, glass-on-glass, and bifacial; 240 modules First Solar 4; 72 modules First Solar 6
Drive Type	Rotating gear drive
Motor Type	2 HP, 3 PH, 480V AC
Motors per 1 MW DC	Less than 1
East-West / North-South Dimensions	Site / module specific
Array Height	54" standard, adjustable (48" min height above grade)
Ground Coverage Ratio (GCR)	Flexible, 28–45% typical, others supported on request
Terrain Flexibility	N-S tolerance: 0° - 8.5° standard, 15° optional Driveline: 40° in all directions
Modules Supported	Most commercially available, including frameless crystalline, thin film, and bifacial
Tracking Range of Motion	± 52° standard
Operating Temperature Range	-30°F to 140°F [-34°C to 55°C]
Module Configuration	Single-in-portrait standard, including bifacial. Two-or-three in landscape (frameless), four-in-landscape (thin film) also available.
Module Attachment	Single fastener, high-speed mounting clamps with integrated grounding. Traditional rails for crystalline in landscape, custom racking for thin film and frameless crystalline and bifacial per manufacturer specs.
Materials	HDG steel and aluminum structural members
Allowable Wind Load (IBC 2012)	135 mph, 3-second gust exposure C
Wind Protection	Passive mechanical system relieves wind and obstruction damage — no power required
ELECTRONIC CONTROLLER FEATURES/SPECIFICATIONS	
Solar Tracking Method	Algorithm with GPS input
Control Electronics	MCU plus Central Controller
Data Feed	MODBUS over Ethernet to SCADA system
Night-time Stow	Yes
Tracking Accuracy	± 2° standard, field adjustable
Backtracking	Yes
INSTALLATION, OPERATION & MAINTENANCE	
PE Stamped Structural Calculations & Drawings	Yes
On-site Training & System Commissioning	Yes
Connection Type	Fully bolted connections, no welding
In-field Fabrication Required	No
Dry Slide Bearings & Articulating Driveline Connections	No lubrication required
Scheduled Maintenance	None required
Module Cleaning Compatibility	Robotic, Tractor, Manual
GENERAL	
Annual Power Consumption (kWh per 1 MW)	400 kWh per MW per year, estimated
Land Area Required per 1 MW	Approx. 4 to 4.5 acres per MW @ 33% GCR (site and design specific)
Energy Gain vs. Fixed-Tilt	Up to 25%, site specific
Warranty	10 year structural, 5 year drive & control components
Patent Numbers	US patent 8,459,249 US patent 9,281,778 US patent 9,581,678 B2 and patents pending
Codes and Standards	UL Certified (3703 & 2703); IEC 62817

INDICATIVE EQUIPMENT SPECIFICATION SHEET:



TRANSFORMER

Three-phase pad-mounted compartmental type transformer



General

At Eaton, we are constantly striving to introduce new innovations to the transformer industry, bringing you the highest quality, most reliable transformers. Eaton's Cooper Power series Transformer Products are ISO 9001 compliant, emphasizing process improvement in all phases of design, manufacture, and testing. In order to drive this innovation, we have invested both time and money in the Thomas A. Edison Technical Center, our premier research facility in Franksville, Wisconsin. Such revolutionary products as distribution-class UltraSIL™ Polymer-Housed Evolution™ surge arresters and Envirotemp™ FR3™ fluid have been developed at our Franksville lab.

With transformer sizes ranging from 45 kVA to 12 MVA and high voltages ranging from 2400 V to 46 kV, Eaton has you covered. From fabrication of the tanks and cabinets to winding of the cores and coils, to production of arresters, switches, tap changers, expulsion fuses, current limit fuses, bushings (live and dead) and molded rubber goods, Eaton does it all. Eaton's Cooper Power series transformers are available with electrical grade mineral oil or Envirotemp™ FR3™ fluid, a less-flammable and bio-degradable fluid. Electrical codes recognize the advantages of using Envirotemp™ FR3™ fluid both indoors and outdoors for fire sensitive applications. The bio-based fluid meets Occupational Safety and Health Administration (OSHA) and Section 450.23 NEC Requirements.



Powering Business Worldwide

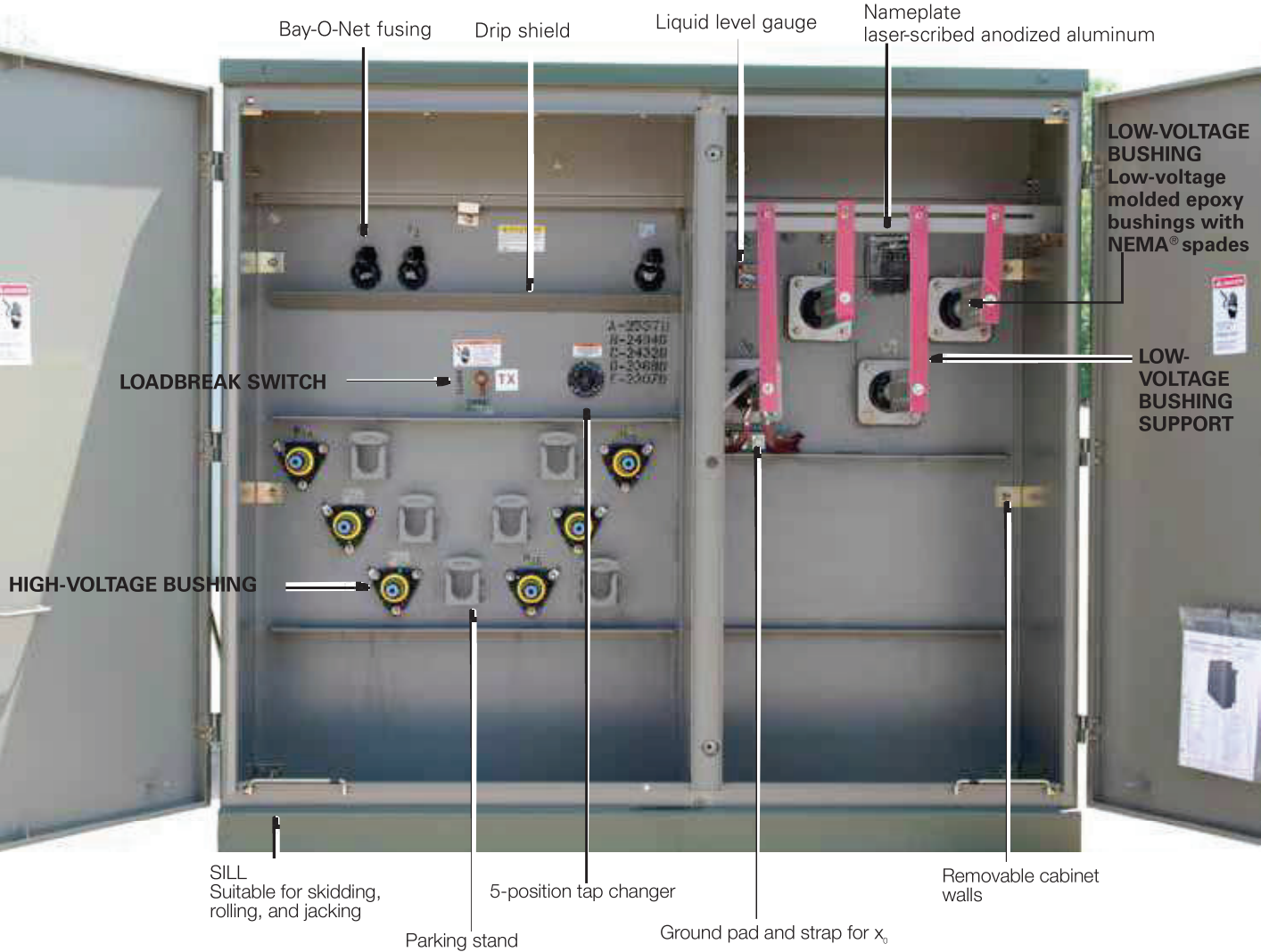


Figure 1. Three-phase pad-mounted compartmental type transformer.

Table 1. Product Scope

Type	Three Phase, 50 or 60 Hz, 65 °C Rise (55 °C, 55/65 °C), 65/75 °C, 75 °C
Fluid Type	Mineral oil or Envirotemp™ FR3™ fluid
Coil Configuration	2-winding or 4-winding or 3-winding (Low-High-Low), 3-winding (Low-Low-High)
Size	45 – 10,000 kVA
Primary Voltage	2,400 – 46,000 V
Secondary Voltage	208Y/120 V to 14,400 V
Specialty Designs	Inverter/Rectifier Bridge
	K-Factor (up to K-19)
	Vacuum Fault Interrupter (VFI)
	UL® Listed & Labeled and Classified
	Factory Mutual (FM) Approved®
	Solar/Wind Designs
	Differential Protection
	Seismic Applications (including OSHPD)
	Hardened Data Center

Table 2. Three-Phase Ratings**Three-Phase 50 or 60 Hz**kVA Available¹

45, 75, 112.5, 150, 225, 300, 500, 750, 1000, 1500, 2000, 2500, 3000, 3750, 5000, 7500, 10000

¹Transformers are available in the standard ratings and configurations shown or can be customized to meet specific needs.**Table 3. Impedance Voltage**

Rating (kVA)	Low-voltage rating		
	≤ 600 V	2400 Δ through 4800 Δ	6900 Δ through 13800GY/7970 or 13800 Δ
45-75	2.70-5.75	2.70-5.75	2.70-5.75
112.5-300	3.10-5.75	3.10-5.75	3.10-5.75
500	4.35-5.75	4.35-5.75	4.35-5.75
750-2500	5.75	5.75	5.75
3750	5.75	5.75	6.00
5000		6.00	6.50

Note: The standard tolerance is ± 7.5%**Table 4. Audible Sound Levels**

Self-Cooled, Two Winding kVA Rating	NEMA® TR-1 Average
	Decibels (dB)
45-500	56
501-700	57
701-1000	58
1001-1500	60
1501-2000	61
2001-2500	62
2501-3000	63
3001-4000	64
4001-5000	65
5001-6000	66
6001-7500	67
7501-10000	68

Table 5. Insulation Test Levels

KV Class	Induced Test 180 or 400 Hz 7200 Cycle	kV BIL Distribution	Applied Test 60 Hz (kV)
1.2	Twice Rated Voltage	30	10
2.5		45	15
5		60	19
8.7		75	26
15		95	34
25		125	40
34.5		150	50

Table 6. Temperature Rise Ratings 0-3300 Feet (0-1000 meters)

	Standard	Optional
Unit Rating (Temperature Rise Winding)	65 °C	55 °C, 55/65 °C, 75 °C
Ambient Temperature Max	40 °C	50 °C
Ambient Temperature 24 Hour Average	30 °C	40 °C
Temperature Rise Hotspot	80 °C	65 °C

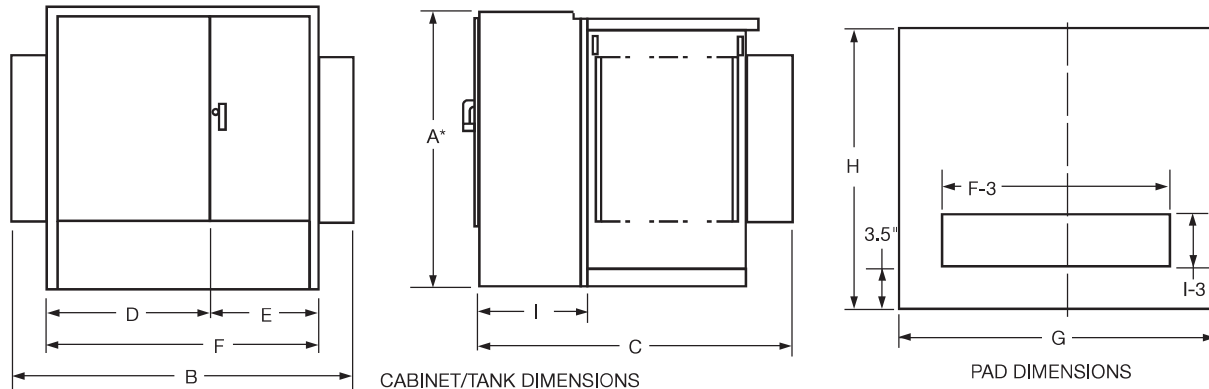


Figure 2. Transformer and pad dimensions.

* Add 9" for Bay-O-Net fusing.

Table 7. Fluid-filled—aluminum windings 55/65 °C Rise¹

65° Rise	DEAD-FRONT—LOOP OR RADIAL FEED—BAY-O-NET FUSING OIL FILLED—ALUMINUM WINDINGS										Gallons of Fluid	Approx. Total Weight (lbs.)
	OUTLINE DIMENSIONS (in.)											
kVA Rating	A*	B	C	D	E	F	G	H	I			
45	50	68	39	42	26	68	72	43	20	110	2,100	
75	50	68	39	42	26	68	72	43	20	115	2,250	
112.5	50	68	49	42	26	68	72	53	20	120	2,350	
150	50	68	49	42	26	68	72	53	20	125	2,700	
225	50	72	51	42	30	72	76	55	20	140	3,150	
300	50	72	51	42	30	72	76	55	20	160	3,650	
500	50	89	53	42	30	72	93	57	20	190	4,650	
750	64	89	57	42	30	72	93	61	20	270	6,500	
1000	64	89	59	42	30	72	93	63	20	350	8,200	
1500	73	89	86	42	30	72	93	90	24	410	10,300	
2000	73	72	87	42	30	72	76	91	24	490	12,500	
2500	73	72	99	42	30	72	76	103	24	530	14,500	
3000	73	84	99	46	37	84	88	103	24	620	16,700	
3750	84	85	108	47	38	85	88	112	24	660	19,300	
5000	84	96	108	48	48	96	100	112	24	930	25,000	
7500	94	102	122	54	48	102	100	126	24	1,580	41,900	

¹ Weights, gallons of fluid, and dimensions are for reference only and not for construction. Please contact Eaton for exact dimensions.

* Add 9" for Bay-O-Net fusing.

Table 8. Fluid-Filled—Copper Windings 55/65 °C Rise¹

65° Rise	DEAD-FRONT—LOOP OR RADIAL FEED—BAY-O-NET FUSING OIL FILLED—COPPER WINDINGS										Gallons of Fluid	Approx. Total Weight (lbs.)
	OUTLINE DIMENSIONS (in.)											
kVA Rating	A*	B	C	D	E	F	G	H	I			
45	50	64	39	34	30	64	69	43	20	110	2,100	
75	50	64	39	34	30	64	69	43	20	115	2,350	
112.5	50	64	49	34	30	64	69	53	20	115	2,500	
150	50	64	49	34	30	64	69	53	20	120	2,700	
225	50	64	51	34	30	64	73	55	20	140	3,250	
300	50	64	51	34	30	64	75	55	20	160	3,800	
500	50	81	53	34	30	64	85	57	20	200	4,800	
750	64	89	57	42	30	72	93	61	20	255	6,500	
1000	64	89	59	42	30	72	93	63	20	300	7,800	
1500	73	89	86	42	30	72	93	90	24	410	10,300	
2000	73	72	87	42	30	72	76	91	24	420	11,600	
2500	73	72	99	42	30	72	76	103	24	500	14,000	
3000	73	84	99	46	37	84	88	103	24	720	18,700	
3750	84	85	108	47	38	85	88	112	24	800	20,500	
5000	84	96	108	48	48	96	100	112	24	850	25,000	
7500	94	102	122	54	48	102	100	126	24	1,620	46,900	

¹ Weights, gallons of fluid, and dimensions are for reference only and not for construction. Please contact Eaton for exact dimensions.

* Add 9" for Bay-O-Net fusing.

Standard features

Connections and neutral configurations

- Delta - Wye: Low voltage neutral shall be a fully insulated XO bushing with removable ground strap.
- Grounded Wye-Wye: High voltage neutral shall be internally tied to the low voltage neutral and brought out as the H0X0 bushing in the secondary compartment with a removable ground strap.
- Delta-Delta: Transformer shall be provided without a neutral bushing.
- Wye-Wye: High voltage neutral shall be brought out as the H0 bushing in the primary compartment and the low voltage neutral shall be brought as the XO- bushing in the secondary compartment.
- Wye-Delta: High voltage neutral shall be brought out as the H0 bushing in the primary compartment. No ground strap shall be provided (line to line rated fusing is required).

High and low voltage bushings

- 200 A bushing wells (15, 25, and 35 kV)
- 200 A, 35 kV Large Interface
- 600 A (15, 25, and 35 kV) Integral bushings (dead-front)
- Electrical-grade wet-process porcelain bushings (live-front)

Tank/cabinet features

- Bolted cover for tank access (45-2500 kVA)
- Welded cover with hand hole (>2500 kVA)
- Three-point latching door for security
- Removable sill for easy installation
- Lifting lugs (4)
- Stainless steel cabinet hinges and mounting studs
- Steel divider between HV and LV compartment
- 20" Deep cabinet (45-1000 kVA)
- 24" Deep cabinet (1500-7500 kVA)
- 30" Deep cabinet (34.5/19.92 kV)
- Pentahead captive bolt
- Stainless steel 1-hole ground pads (45-500 kVA)
- Stainless steel 2-hole ground pads (750-10,000 kVA)
- Parking Stands (dead-front)

Valves/plugs

- One-inch upper filling plug
- One-inch drain plug (45-500 kVA)
- One-inch combination drain valve with sampling device in low voltage compartment (750-10,000 kVA)
- Automatic pressure relief valve

Nameplate

- Laser-scribed anodized aluminum nameplate



Figure 3. Drain valve with sampler.

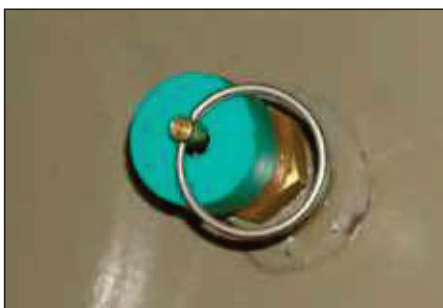


Figure 4. Automatic Pressure relief valve.



Figure 5. Liquid level gauge.



Figure 6. External Gauges.



Figure 7. External visible break with gauges.

Optional features

High and low voltage bushings

- 200 A (15, 25 kV) bushing inserts
- 200 A (15, 25 kV) feed thru inserts
- 200 A (15, 25 kV) (HTN) bushing wells with removable studs
- High-voltage 600 A (15, 25, 35 kV) deadbreak one-piece bushings
- Low voltage 6-, 8-holes spade
- Low voltage 12-, 16-, 20-holes spade (750-2500 kVA)
- Low voltage bushing supports

Tank/cabinet features

- Stainless steel tank base and cabinet
- Stainless steel tank base, cabinet sides and sill
- 100% stainless steel unit
- Service entrance (2 inch) in sill or cabinet side
- Touch-up paint (domestic)
- Copper ground bus bar
- Kirk-Key provisions
- Nitrogen blanket
- Bus duct cutout

Special designs

- Factory Mutual (FM)
- UL® Classified
- Triplex
- High altitude
- K-Factors
- Step-up
- Critical application
- Modulation transformers
- Seismic applications (including OSHPD)

Switches

- One, two, or three On/Off loadbreak switches
- 4-position loadbreak V-blade switch or T-blade switch
- Delta-wye switch
- 3-position V-Blade selector switch
- 100 A, 150 A, 300 A tap changers
- Dual voltage switch
- Visible break with VFI interrupter interlock
- External visible break (15, 25, and 35 kV, up to 3 MVA)
- External visible break with gauges (15, 25, and 35 kV, up to 3 MVA)

Gauges and devices

- Liquid level gauge (optional contacts)
- Pressure vacuum gauge (optional contacts and bleeder)
- Dial-type thermometer (optional alarm contacts)
- Cover mounted pressure relief device (optional alarm contacts)
- Ground connectors
- Hexhead captive bolt
- Molded case circuit breaker mounting provisions
- External gauges in padlockable box

Overcurrent protection

- Bay-O-Net fusing (Current sensing, dual sensing, dual element, high amperage overload)
- Bay-O-Net expulsion fuse in series with a partial range under-oil ELSP current limiting fuse (below 23 kV)
- Cartridge fusing in series with a partial range under-oil ELSP current limiting fuse (above 23 kV)
- MagneX™ interrupter with ELSP current-limiting fuse
- Vacuum Fault Interrupter (VFI)
- Visible break window
- Fuse/switch interlock

Valves/plugs

- Drain/sampling valve in high-voltage compartment
- Globe type upper fill valve

Overvoltage protection

- Distribution-, intermediate-, or station-class surge arresters
- Elbow arresters (for dead-front connections)

Metering/fan/control

- Full metering package
- Current Transformers (CTs)
- Metering Socket
- NEMA® 4 control box (optional stainless steel)
- NEMA® 7 control box (explosion proof)
- Fan Packages

Testing

- Customer test witness
- Customer final inspection
- Zero Sequence Impedance Test
- Heat Run Test
- ANSI® Impulse Test
- Audible Sound Level Test
- RIV (Corona) Test
- Dissolved Gas Analysis (DGA) Test
- 8- or 24-Hour Leak Test

Coatings (paint)

- ANSI® Bell Green
- ANSI® #61 Light Gray
- ANSI® #70 Sky Gray
- Special paint available per request

Nameplate

- Stainless steel nameplate

Decals and labels

- High voltage warning signs
- Mr. Ouch
- Bi-lingual warning
- DOE compliant
- Customer stock code
- Customer stenciling
- Shock and arc flash warning decal
- Non-PCB decal

Construction

Core

The three-legged, step-lap mitered core construction is manufactured using a high-quality cutting machine. For maximum efficiency, cores are precisely stacked, virtually eliminating gaps in the corner joints.

Five-legged wound core or shell-type triplex designs are used for wye-wye connected transformers, and other special transformer designs.

Cores are manufactured with precision cut, burr-free, grain-oriented silicon steel or amorphous metal, depending on customer preference or optimal material based upon performance requirements. Many grades of core steel are available for optimizing core loss efficiency.

Coils

Pad-mounted transformers feature a rectangular coil configuration with wire-wound, high-voltage primaries and sheet-wound secondaries. The design minimizes axial stress developed by short circuits and provides for magnetic balancing of tap connections.

Coils are wound using the highest quality winding machines providing exacting tension control and conductor placement for superior short-circuit strength and maximum efficiency.

Extra mechanical strength is provided by diamond pattern, epoxy-coated paper insulation, used throughout the coil, with additional epoxy at heavy stress points. The diamond pattern distribution of the epoxy and carefully arranged ducts, provide a network of passages through which cooling fluid can freely circulate.

Coil assemblies are heat-cured under calculated hydraulic pressure to ensure performance against short-circuit forces.

Core and coil assemblies

Pad-mounted transformer core and coil assemblies are braced with heavy steel ends to prevent the rectangular coil from distorting under short-circuit conditions. Plates are clamped in place using presses, and welded or bolted to form a solid core and coil assembly. Core and coil assemblies exceed ANSI® and IEEE® requirements for short-circuit performance. Due to the rigidity of the design, impedance shift after short-circuit is comparable to that of circular wound assemblies.

Tanks

Transformer tanks are designed for high strength and ease of handling, installation, and maintenance. Tanks are welded using precision-cut, hot rolled, pickled and oiled steel. They are sealed to protect the insulating fluid and other internal components.

Transformer tanks are pressure-tested to withstand 7 psig without permanent distortion and 15 psig without rupture.

Tank finish

An advanced multi-stage finishing process exceeds IEEE Std C57.12.28™-2014 standards. The eight-stage pre-treatment process assures coating adhesion and retards corrosion. It converts tank surfaces to a nonmetallic, water insoluble iron phosphate coating.

The paint method consists of two distinct layers of paint. The first is an epoxy primer (E-coat) layer which provides a barrier against moisture, salt and corrosives. The two-component urethane final coat seals and adds ultraviolet protection.

Vacuum processing

Transformers are dried and filled with filtered insulating fluid under vacuum, while secondary windings are energized. Coils are heated to drive out moisture, ensuring maximum penetration of fluid into the coil insulation system.

Insulating fluid

Eaton's Cooper Power series transformers are available with

electrical-grade mineral insulating oil or Envirotemp™ FR3™ fluid. The highly refined fluids are tested and degassed to assure a chemically inert product with minimal acid ions. Special additives minimize oxygen absorption and inhibit oxidation. To ensure high dielectric strength, the fluid is re-tested for dryness and dielectric strength, refiltered, heated, dried, and stored under vacuum before being added to the completed transformer.

Eaton's Cooper Power series transformers filled with Envirotemp™ FR3™ fluid enjoy unique fire safety, environmental, electrical, and chemical advantages, including insulation life extending properties.

A bio-based, sustainable, natural ester dielectric coolant, Envirotemp™ FR3™ fluid quickly and thoroughly biodegrades in the environment and is non-toxic per acute aquatic and oral toxicity tests.

Building for Environmental and Economic Sustainability (BEES) total life cycle assessment software, utilized by the US Dept. of Commerce, reports its overall environmental performance impact score at 1/4th that reported for mineral oil. Envirotemp™ FR3™ fluid has also earned the EPA Environmental Technology Verification of transformer materials.

With a fire point of 360 °C, Envirotemp™ FR3™ fluid is FM Approved® and Underwriters Laboratories (UL®) Classified "Less-Flammable" per NEC® Article 450-23, fitting the definition of a Listed



Figure 8. VFI transformer with visible break.

Product per NEC®.

Pad-mounted VFI transformer

Eaton's Cooper Power series VFI transformer combines a conventional distribution transformer with the proven Vacuum Fault Interrupter (VFI). This combination provides both voltage transformation and transformer over current protection in one space saving and money saving package. The pad-mounted VFI transformer protects the transformer and provides proper coordination with upstream protective devices. When a transformer fault or overload condition occurs, the VFI breaker trips and isolates the transformer.

The three-phase VFI breaker has independent single-phase initiation, but is three-phase mechanically gang-tripped. A trip signal on any phase will open all three phases. This feature eliminates single-phasing of three phase loads. It also enables the VFI breaker to be used as a three-phase load break switch.

Due to the resettable characteristics of the VFI breaker, restoring three-phase service is faster and easier.

The sealed visible break window and switch is an option that can be installed to provide visible break contact. This feature provides enhanced safety and allows an operator to see if the loadbreak switch contacts are in an open or closed position before performing

maintenance.

Envirotran™ FM Approved special protection transformer

Eaton's Cooper Power series Envirotran™ transformer is FM Approved and suitable for indoor locations. Factory Mutual Research Corporation's (FMRC) approval of the Envirotran transformer line makes it easy to comply with and verify compliance with Section 450.23, 2008 NEC, Less-Flammable Liquid-Filled Transformer Requirements for both indoor and outdoor locations.

Envirotran FM Approved transformers offer the user the benefit of a transformer that can be easily specified to comply with NEC, and makes FM Safety Data Sheet compliance simpler, while also providing maximum safety and flexibility for both indoor and outdoor installations.

Because the "FM Approved" logo is readily visible on the transformer and its nameplate, NEC compliance is now easily verifiable by the inspector.

Envirotran FM Approved transformers are manufactured under strict compliance with FMRC Standard 3990 and are filled with



FM Approved Envirotemp™ FR3™ fluid, a fire-resistant dielectric coolant.

Special application transformers

Data Center transformer

With focus rapidly shifting from simply maximizing uptime and supporting demand to improving energy utilization, the data center industry is continually looking for methods to increase its energy efficiency and reliability. Utilizing cutting edge technology, Eaton's Cooper Power series Hardened Data Center (HDC) transformers are the solution. Designed with special attention given to surge protection, HDC liquid-filled transformers provide superior performance under the harshest electrical environments. Contrary to traditional dry-type units, HDC transformers provide unsurpassed reliability, overloadability, operational life, efficiency, thermal loading and installed footprint. These units have reliably served more than 100 MW of critical data center capacity for a total of more than 6,000,000 hours without any reported downtime caused by a thermal or short-circuit coil failure.

The top priority in data center operations is uninterrupted service. Envirotran HDC transformers from Eaton, having substantially higher levels of insulation, are less susceptible to voltage surges. Eaton has experienced zero failures due to switching transients. The ANSI® and IEEE® standard impulse withstand ratings are higher for liquid-filled transformers, making them less susceptible to insulation failure. The Envirotran HDC transformer provides ultimate protection by increasing the BIL rating one level higher than standard liquid-filled transformer ratings. The cooling system of liquid-filled transformers provides better protection from severe overloads—overloads that can lead to significant loss of life or failure.

Data center design typically includes multiple layers of redundancy, ensuring maximum uptime for the critical IT load. When best in class transformer manufacturing lead times are typically weeks, not days, an unexpected transformer failure will adversely affect the facility's reliability and profitability. Therefore, the ability to determine the electrical and mechanical health of a transformer can reduce the probability of costly, unplanned downtime. Routine diagnostic tests, including key fluid properties and dissolved gas analysis (DGA), can help determine the health of a liquid-filled transformer. Although sampling is not required for safe operation, it will provide the user with valuable information, leading to scheduled repair or

replacement, and minimizing the duration and expense of an outage. With a dry-type transformer, there is no reliable way to measure the health or likelihood of an impending failure.

Solar transformer

As a result of the increasing number of states that are adopting aggressive Renewable & Alternative Energy Portfolio Standards, the solar energy market is growing—nearly doubling year over year. Eaton, a key innovator and supplier in this expanding market, is proud to offer its Cooper Power series Envirotran transformers specifically designed for Solar Photovoltaic medium-voltage applications. Eaton is working with top solar photovoltaic developers, integrators and inverter manufacturers to evolve the industry and change the way we distribute power.

In accordance with this progressive stance, every Envirotran Solar transformer is filled with non-toxic, biodegradable Envirotemp™ FR3™ dielectric fluid, made from renewable seed oils. On top of its biodegradability, Envirotemp™ FR3™ fluid substantially extends the life of the transformer insulation, saving valuable resources. What better way to distribute green power than to use a green transformer. In fact, delaying conversion to Envirotran transformers places the burden of today's environmental issues onto tomorrow's generations. Eaton can help you create a customized transformer, based on site specific characteristics including: temperature profile, site altitude, solar profile and required system life. Some of the benefits gained from this custom rating include:

- Reduction in core losses
- Improved payback on investment
- Reduction in footprint
- Improved fire safety
- Reduced environmental impact

For the solar photovoltaic industry, Eaton is offering standard step up transformers and dual secondary designs, including 4-winding, 3-winding (Low-High-Low) and 3-winding (Low-Low-High) designs.

Wind transformer

Eaton is offering custom designs for renewable energy power generation. Eaton manufactures its Cooper Power series Generator Step-Up (GSU) transformers for installation at the base of every wind turbine. Additionally, grounding transformers are available for wind power generation.

DOE efficiency

The United States Department of Energy (DOE) has mandated efficiency values for most liquid type, medium voltage transformers. As a result, all applicable Eaton's Cooper Power series transformers 2500 kVA and below conform to efficiency levels as specified in the DOE ruling "10 CFR Part 431 Energy Conservation Program."

Underwriters Laboratories® (UL®) Listed and Labeled/Classified

The Envirotran transformer from Eaton can be specified as UL® Listed & Labeled, and/or UL® Classified. Underwriters Laboratories (UL®) listing is a verification of the design and construction of the transformer to the ANSI® and IEEE® standards. UL® listing generally is the most efficient, cost-effective solution for complying with relevant state and local electrical codes. UL® Combination Classification/Listing is another way in which to comply with Section 450.23, 2008 NEC® requirements. This combines the UL® listed transformer with a UL® Classified Less-Flammable Liquid and complies with the use restrictions found within the liquid Classification.



K-Factor transformer

With a drastic increase in the use of ferromagnetic devices, arcing devices, and electric power converters, higher frequency loads have increased significantly. This harmonic loading has the potential to generate higher heat levels within a transformer's windings and leads by as much as 300%. Harmonic loading has the potential to induce premature failure in standard-design distribution transformers.

In addition to standard UL® "K-Factor" ratings, transformers can be designed to customer-provided specifications detailing precise loading scenarios. Onsite measurements of magnitude and frequency, alongside harmonic analysis of the connected load can be performed by Eaton engineers or a third party consultant. These field measurements are used to determine exact customer needs and outline the transformer specifications.

Eaton will design harmonic-resistant transformers that will be subjected to the unique harmonic loads. These units are designed to maintain normal temperature rise under harmonic, full-load conditions. Standard UL® "K-Factor" designs can result in unnecessary costs when the "next-highest" K-Factor must be selected for a calculated design factor. To save the customer these unnecessary costs, Eaton can design the transformer to the specific harmonic spectrum used in the application. Eaton's Cooper Power series K-factor transformers are filled with mineral oil or Envirotemp™ FR3™ fluid and enjoy the added benefits of dielectric cooling such as higher efficiencies than dry-type transformers.

Modulation transformer

Bundled with an Outboard Modulation Unit (OMU) and a Control and Receiving Unit (CRU), a Modulation Transformer Unit (MTU) is designed to remotely achieve two way communication.

The use of an MTU reduces travel time and expense versus traditional meter reading performed by high voltage electricians. Additionally, with MTU it is possible to manage and evaluate energy consumption data, providing reduced metering costs and fewer tenant complaints.

An MTU utilizes existing utility infrastructure, therefore eliminating the need to engineer and construct a dedicated communication network.



Figure 9. Modular transformer.

Inverter/rectifier bridge

Eaton complements its range of applications for transformers by offering dual winding designs. These designs are intended for connection to 12-pulse rectifier bridges.

Product attributes

To set us apart from other transformer manufactures, Eaton includes the following guarantees with every three-phase pad-mounted transformer.

Engineered to order (ETO)

Providing the customer with a well developed, cost-effective solution is the number one priority at Eaton. Using customer specifications, Eaton will work with the customer from the beginning to the end to develop a solution to fit their needs. Whether it is application specific, site specific, or a uniquely specified unit, Eaton will provide transformers with the best in class value and performance, saving the customer time and money.

Made in the U.S.A.

Eaton's three-phase pad-mounted transformers are produced right here in the United States of America. Our manufacturing facilities are positioned strategically for rapid shipment of products. Furthermore, should the need arise, Eaton has a broad network of authorized service repair shops throughout the United States.

Superior paint performance

Protecting transformers from nature's elements worldwide, Eaton's E-coat system provides unrivaled transformer paint life, and exceeds IEEE Std C57.12.28™-2014 and IEEE Std C57.12.29™-2005 standards. In addition to the outside of the unit, each transformer receives a gray E-coat covering in the interior of the tank and cabinet, providing superior rust resistance and greater visibility during service.

If the wide range of standard paint selections does not suit the customer's needs, Eaton will customize the paint color to meet their requirements.

Rectangular coil design

Eaton utilizes a rectangular coil design. This winding technique results in a smaller overall unit footprint as well as reducing the transformer weight. The smaller unit size does not hinder the transformer performance in the least. Units have proven short circuit withstand capabilities up to 10 MVA.

Testing

Eaton performs routing testing on each transformer manufactured including the following tests:

- **Insulation Power Factor:** This test verifies that vacuum processing has thoroughly dried the insulation system to required limits.
- **Ratio, Polarity, and Phase Relation:** Assures correct winding ratios and tap voltages; checks insulation of HV and LV circuits. Checks entire insulation system to verify all live-to-ground clearances.
- **Resistance:** This test verifies the integrity of internal high-voltage and low-voltage connections; provides data for loss upgrade calculations.
- **Routine Impulse Tests:** The most severe test, simulating a lightning surge. Applies one reduced wave and one full wave to verify the BIL rating.
- **Applied Potential:** Applied to both high-voltage and low-voltage windings, this test stresses the entire insulation system to verify all live-to-ground clearances.
- **Induced Potential:** 3.46 times normal plus 1000 volts for reduced neutral designs.
- **Loss Test:** These design verification tests are conducted to assure that guaranteed loss values are met and that test values are

within design tolerances. Tests include no-load loss and excitation current along with impedance voltage and load loss.

- Leak Test: Pressurizing the tank to 7 psig assures a complete seal, with no weld or gasket leaks, to eliminate the possibility of moisture infiltration or fluid oxidation.

Design performance tests

The design performance tests include the following:

- Temperature Rise: Our automated heat run facility ensures that any design changes meet ANSI® and IEEE® temperature rise criteria.
- Audible Sound Level: Ensures compliance with NEMA® requirements.
- Lightning Impulse: To assure superior dielectric performance, this test consists of one reduced wave, two chopped waves and one full wave in sequence, precisely simulating the harshest conditions.

Thomas A Edison Research and Test Facility

We are constantly striving to introduce new innovations to the transformer industry, bringing you the highest quality transformer for the lowest cost. Eaton's Cooper Power series Transformer Products are ISO 9001 compliant, emphasizing process improvement in all phases of design, manufacture, and testing. We have invested millions of dollars in the Thomas A. Edison Technical Center, our premier research facility in Franksville, Wisconsin affirming our dedication to introducing new innovations and technologies to the transformer industry. This research facility is fully available for use by our customers to utilize our advanced electrical and chemical testing labs.



MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

Envirotemp[®] FR3[®] fluid

Envirotemp FR3 fluid is a dielectric fluid intended for use as an insulation and cooling medium in electrical apparatus such as electrical distribution and power transformers.

Cooper Power Systems
1900 East North Street
Waukesha, Wisconsin 53188-3899 USA
Telephone: +01 262 524 3300
Internet: www.cooperpower.com
Emergency telephone (Chemtrec)
Inside USA: 800 424 9300
Outside USA: +01 703 527 3887

2. COMPOSITION/INFORMATION ON INGREDIENTS

Envirotemp FR3 fluid is a proprietary formulation using food-grade vegetable oils combined with performance-enhancing additives. All components are listed in the EINECS inventory.

<u>Component</u>	<u>Proportion (wt%)</u>
Vegetable oil	> 98.5
Antioxidant additive	< 1.0
Cold flow additive	< 1.0
Colorant	< 1.0

3. HAZARDS IDENTIFICATION

Envirotemp FR3 fluid is a preparation not classified as dangerous according to Directive 1999/45/EC. Not expected to cause a severe emergency hazard.

Routes of entry

Eyes: Contact may occur as a result of splash or exposure to mist conditions. May cause irritation and redness.

Skin: Typically non-irritating. In some case, a sensitization to vegetable oils may cause localized redness

Ingestion: May cause gastric irritation.

Inhalation: Exposure may occur as a result of mist exposure. May cause respiratory irritation.

Signs and symptoms of exposure: none known

Medical conditions generally aggravated by exposure: There is a very small risk for an allergic reaction to soybean oil in persons allergic to soybeans themselves.

4. FIRST AID MEASURES

Inhalation: If inhaled, remove affected person from exposure to mists.

Eye contact: For eye contact, flush the eyes immediately with large amounts of water with the eyelids held away from the eye to ensure thorough rinsing.

Skin contact: For skin contact, remove by washing with soap and water. Get medical attention if irritation persists.

Ingestion: If swallowed, observe for signs of stomach discomfort or nausea. If symptoms persist, seek medical help. Do not induce vomiting.

5. FIRE-FIGHTING MEASURES

Extinguishing media: CO₂ or dry chemical foam

Special fire fighting procedures: Use approved self-contained breathing apparatus with full facemask and full protective equipment in confined areas. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from source of ignition. Application of water to flaming oil can cause spreading.

Unusual fire and explosion hazards: Slight when exposed to flame. Can react with oxidizing materials. Clay materials (Fuller's earth, oil dry products) saturated with Envirotemp FR3 fluid can, under certain conditions, undergo a slow oxidation that releases heat. If the heat so released cannot escape, it is possible that the temperature may increase and ignite combustible materials in close contact.

6. ACCIDENTAL RELEASE MEASURES

Steps to take in case material is released or spilled: Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, or diatomaceous earth in drums for waste disposal. Prevent any material from entering drains or waterways. If the product contaminates waterways, rivers or drains, alert the relevant authorities in accordance with statutory procedures.

In the USA, spills into navigable waters must be reported to the National Response Center, 800-424-8802

7. HANDLING AND STORAGE

Precautions to take in handling and storage: Avoid extremes of temperature in storage. Store Envirotemp FR3 fluid in labeled, tightly closed containers in cool, dry, isolated and well-ventilated areas, away from sources of ignition or heat. To maintain fluid for intended use as an electrical insulating fluid, eliminate exposure to oxygen and moisture.

Intermediate bulk storage container (tote): Prolonged exposure to ultraviolet radiation (sunlight) may affect color.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values:

	TWA (mg/m ³)	
	OSHA ¹ PEL	ACGIH ² TLV
Vegetable oil mists	–	10
Vegetable oil mists: total dust	15	–
Vegetable oil mists: respirable fraction	5	–

Hazardous Materials Identification System (HMIS):

Health	Flammability	Physical Hazard
0	1	0

Respiratory protection: Vaporization is not expected at ambient temperature. Therefore, the need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134). For extreme cases, use of approved supplied-air respiratory protection may be necessary.

Ventilation: General mechanical ventilation can be used to control or reduce airborne concentrations of oil.

Protective gloves: Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. Use heat-protective gloves when handling product at elevated temperatures.

Eye protection: Wear safety glasses or goggles to prevent eye contact. Eye baths should be readily available in the area of handling Envirotemp FR3 fluid.

¹ U.S. Occupational Health and Safety Administration

² American Conference of Governmental Industrial Hygienists

Other protective clothing or equipment: Wear regularly laundered coveralls or lab coat to minimize skin exposure.

Workplace hygienic practices: Wash with soap and water after contact. Avoid exposure to mists.

Environmental exposure controls: Have oil-absorbent materials easily available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor: clear light-green liquid with slight vegetable oil odor **pH:** neutral

Closed cup flash point: 310 – 320°C

Autoignition temperature: 401 – 404°C

Boiling point: >360°C

Relative density (H₂O = 1): 0.92

Vapor pressure (mm Hg): < 0.01 @ 20°C

Pour point: -18 to -24°C

Vapor density (air = 1): n/a

Evaporation rate (butyl acetate = 1): nil

Solubility in water: negligible; < 0.1%

Volatile organic compounds: < 0.001 g/L

Viscosity: 33 – 35 mm²/s at 40°C

Miscibility: mixes with other dielectric fluids except silicone

10. STABILITY AND REACTIVITY

Stability: Envirotemp FR3 fluid is stable under normal conditions of use.

Incompatibility (materials to avoid): Avoid contact with strong oxidizing agents.

Hazardous decomposition products: none

Hazardous Polymerization: will not occur

Stabilizers: not required

Hazardous exothermic reaction: Slight when exposed to flame; can react with oxidizing materials. Class III B liquid. Clay materials (Fuller's earth, oil dry products) saturated with Envirotemp FR3 fluid can, under certain conditions, undergo a slow oxidation that releases heat. If the heat so released cannot escape, it is possible that the temperature may increase and ignite combustible materials in close contact.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: none

NTP: no

IARC monographs: no

OSHA regulated: no

Envirotemp FR3 fluid base oils are "generally recognized as safe" (GRAS) by the U.S. Food and Drug Administration and allowed for human consumption as a food and as a component that is allowed in contact with human food.

12. ECOLOGICAL INFORMATION

Acute oral toxicity (OECD 420 - rats): LD₅₀ >2000 mg/kg

Acute aquatic toxicity (OECD 203 - trout): LC₅₀ >1000 mg/kg; NOAEC >1000 mg/kg

Aquatic biodegradation (OPPTS 835.3110): readily biodegradable, >99%

Biological oxidation demand (5-Day SM5210B): 250 ppm

Chemical oxygen demand (SM5220D): 560 ppm

BOD/COD ratio: 45%

Petroleum hydrocarbon content: none

Environmental physical hazard: Envirotemp FR3 fluid shares physical hazards common to all oils such as coating feathers, fur, and gills.

13. DISPOSAL CONSIDERATIONS

Recycling: Consult with local used oil recyclers, restaurant grease recyclers, fat rendering companies, or biodiesel producers.

Hazardous Waste: Envirotemp FR3 fluid itself, when discarded or disposed of, is not a hazardous waste.

Disposal: Incinerate or landfill in accordance with local regulations. Do not pour into drains or waterways.

14. TRANSPORT INFORMATION

Harmonized System Tariff Classification (Schedule B): 1507.90.4050

National Motor Freight Classification (NMFC): 155250

Euro Tariff: 15 07 90 00 00

15. REGULATORY INFORMATION

Envirotemp FR3 fluid itself, when discarded or disposed of, is not listed as a hazardous waste per 40 CFR 261 and is not a used oil per 40 CFR 279. Envirotemp FR3 fluid is a preparation not classified as dangerous according to Directive 1999/45/EC.

16. OTHER INFORMATION

Technical information available at the Cooper Power Systems website: www.cooperpower.com

This Material Safety Data Sheet has been prepared in order to help the users of Envirotemp FR3 fluid. The data contained herein is, to the best of our knowledge, accurate as of the date of preparation of this sheet.

Effective Date: September 22, 2011



EXHIBIT L



AN ALLETE COMPANY

EMERGENCY RESPONSE PLAN

Prepared for: Lime Township Board
3030 N Airport Rd, Mankato, MN 56001

Applicant: MN CSG 2019-57 LLC
C/O New Energy Equity
2670 Patton Rd, Roseville, MN 55113

SECTION 1: INTRODUCTION

New Energy Equity (NEE) is committed to the safety and health of all of our workers and contract personnel, and visitors to our sites and work locations. Our continuing objective to provide safe work conditions and practices at all our work locations is our highest priority. We acknowledge the right all workers have to a safe and healthy work environment.

Since each emergency is unique, it is impossible to envision every potential event or combination of events that might contribute to, or result in, an emergency. This Emergency Response Plan (ERP) is based on an all-hazards approach that provides the flexibility to adapt to emergency regardless of the origin. This plan provides both a management and operational structure that identifies the functional relationship that must exist to ensure effective identification, response, and recovery from an emergency. Good judgment and common sense are critical in effective responses to emergency situations.

SECTION 2: OBJECTIVE

The objective of the ERP is to detail practices designed to address potential impacts from construction and operations of s NEE community solar garden project. (Project). This ERP plan provides guidance to construction, operations, contractors, and field personal on measures to minimize effects during construction and operations activities associated with the Project.

This ERP is to assist employees, sub-contractors, contractors, suppliers, and management in making quality decisions during times of crisis. This plan contains guidance in determining the appropriate actions to be undertaken to prevent injury and property loss from the occurrence of major incidents or accidents. This document acts as a guideline in the event of an emergency. The steps described may not occur in the same order, good judgment and common sense are critical for effective emergency response.

The ERP is intended to minimize hazards to human health and safety and to the environment from fire, explosion, or any unexpected sudden or non-sudden release of hazardous materials constituents to the air, soil, surface, or groundwater, and natural or human disasters. This plan will serve as the emergency action guide for employees, contractors, and visitors in the event of an emergency.

Section 2.1 Emergency Response Plan (ERP)

The following text includes standard language included in NEE contracts regarding emergency response. These measures may be modified in the final POD to include measures specifically designed for the project.

NOTICE: This attachment is intended to be an overview of NEE's or contractors' emergency response requirements and is not intended to be a comprehensive or exhaustive list.

This attachment is not intended to supersede or replace Contractor's obligations to comply with (and ensure Contractor Representatives comply with) all applicable laws, all reasonable directions and orders given by representatives of NEE RE, and all other guidelines, rules, and procedures of NEE that may be

given to Contractor from time to time, including without limitation, safety and health standards, policies, and procedures resulting from a pre-job risk assessment, amendments by NEE RE, or amendments resulting from changes in applicable laws.

SECTION 3: SETTING AND SITE ACCESS INCLUDING EMERGENCY ACCESS

Direct access to the site will be provided by Third Avenue. There would be no need for internal access roads within the project site. The access would be constructed to allow fire and maintenance vehicle access.

SECTION 4: EMERGENCY RESPONSE REQUIREMENTS

Section 4.1 Regulatory Compliance

NEE and contractors will comply with all applicable federal, state, and local emergency response laws, regulations, and standards. NEE and contractors using good judgment, common sense, experience, and knowledge will identify such additional emergency response preparation as may be required to be performed safely.

Section 4.2 Emergency Coordinator

Before on-site services begin, NEE will ensure contractor(s) assign a designated emergency response coordinator, qualified by experience and/or education, is assigned for all services taking place. This person will be dedicated to managing the implementation of the emergency response plan, emergency response and may have additional project functions provided they do not interfere with the effective implementation of the program.

Section 4.3 Competent and Qualified Persons

NEE will ensure contractor(s) employ a “competent person” and/or “qualified person” capable of carrying out an effective emergency response preparation plan. Such person(s) will have the authority to take prompt corrective actions. Contractor(s) will provide NEE with the name and contact information of the assigned person(s) and/or any changes in the assignment.

Section 4.4 Fire Safety Plan (FSP)

NEE will ensure contractor(s) develop a Fire Safety Plan (FSP) that describes how the contractor will safely provide contractor’s services. Content of the plan will address regulatory compliance and any additional health and safety measures as may be required for the contractor’s services to be performed safely. A copy of the contractor’s FSP will be provided to NEE prior to the start of on-site work.

Section 4.5 Emergency Response Plan (ERP)

Contractor(s) will develop a written final Emergency Response Plan (ERP) in accordance with applicable federal, state, and local emergency response regulations and standards. Contractor(s) will include the Emergency Response Plan in contractor’s Project Safety Plan. Contractor(s) will train all contractor representatives on the provisions of the Emergency Response Plan.

The final ERP would be specific to the final site layout and location of site components and implemented to provide an integrated procedure for response to oil and hazardous materials spills, plant evacuation, medical/fire/law enforcement, and severe weather emergencies. The final ERP would be

consistent with applicable laws and regulations governing such emergencies.

Section 4.6 Health and Safety Program

Health and Safety Training is an important part of the final ERP. To ensure the instructions contained within the final ERP are properly followed during site/facility emergencies, a training program is to be developed and training provided to all employees, upon hire and after any changes in site/facility operations or layout. All staff to intervene in emergency situations that could affect their health or safety must receive training before undertaking their duties. The training must include exercises appropriate to the work site that simulate the potential emergencies identified in the final ERP.

Section 4.6 Fire Prevention

Listed below are specific procedures that shall be addressed by the site to minimize the occurrence of and impact from a fire emergency. Fire prevention is the responsibility of all personnel. Employees should follow safe practices to minimize fire hazards, and supervisors must ensure safe practices are followed daily.

- Contractor(s) will include the Fire Safety Plan (FSP) in contractor's ERP. Contractor(s) will train all contractor representatives on the provisions of the FSP. The FSP would be consistent with applicable laws and regulations governing such emergencies.
- All fire protection equipment will be inspected monthly by the Emergency Coordinator. All areas at each site/facility will be inspected monthly to check for unsafe conditions, such as blocked or locked fire exits, poor housekeeping, smoking in non-designated areas, flammable/combustible materials not stored properly and obstructed access to electrical rooms and panels, etc.
- The Project operator and or EPC contractor shall present basic fire-prevention training to all personnel working at the project site, and shall maintain documentation of all training and implement the following:
- All employees, contractors, and employees of contractors to do everything reasonable within their power, expertise, and assessment of human safety both independently and upon request of the County and the local fire department to prevent and suppress fires resulting from Project construction or maintenance activities on the lands to be occupied under this permit. In case of fire suppressed by the operator, the operator will report its occurrence to the County and the local fire department. The operator is responsible for all suppression costs and resource damage rehabilitation costs resulting from the suppression of any fire resulting from its operations and practices.
- The operator is responsible to ensure that each employee, subcontractor, or any other individual or company working on the project site is aware of the provisions of this fire plan, is familiar with the location and proper use of firefighting equipment and conducts themselves in a fire-safe manner.
- No material will be disposed of by burning in open fires.

- Exhaust systems of vehicles will have an acceptable muffler and will be in proper working condition. All motorized equipment and machinery will be equipped with spark arresters.
 - Vehicles will be parked only in cleared areas.
 - All smoking will be done only inside of vehicles or in areas cleared of flammable material.
 - Fuels and flammable materials, if required, will be stored in accordance with the Hazardous Materials Plan and in accordance with all applicable state and federal laws.
 - The proposed solar plant site shall be equipped with fire extinguishers and other equipment sufficient to extinguish small fires.
 - Welding operations are subject to the following additional provisions
 - There will be no welding when winds are over 15 miles per hour; and
 - Welding will occur only in areas cleared of all flammable vegetation and materials at a minimum radius of 30 feet from the welding operation.
 - Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees. All construction workers, plant personnel, and maintenance workers visiting the plant and/or transmission lines to perform maintenance activities shall receive training on the procedures to be followed in the event of a fire. Training records shall be maintained and be available for review by the County and the local fire department.
 - Local fire agencies shall have access to the solar farm site. Access gates shall be a minimum of 12 feet to allow fire access.
 - Minimize fire risk by removing vegetation. Measures to minimize fire risk shall include removal of dry vegetation, or equipment/vehicle that has the potential to spark a fire.

In the event of an emergency, immediate notification must be easily available for employees. In all circumstances regarding emergencies whether a specific incident such as an individual, to a serious or facility wide emergency incident, the preferred means of notification is through the immediate Supervisor who will then notify the operator so that he/she may make an announcement to the whole site. In situations where site- wide announcements are not available, notification will occur by phone or radio, or other site-specific method.

Section 4.7 Emergency Response

In the event of an emergency response, the following measures will be conducted by the individual discovering the emergency. First, personnel will assess the situation to determine potential safety concerns and hazards posed to personnel and the environment. Protective actions for life safety are the priority. All personnel will be moved or evacuated to a safe location. Access will be prohibited to the affected area to other employees or contractors. The final ERP will include a site-specific evacuation plan and a shelter in place plan.

The second priority is the stabilization of the incident. Anyone who witnesses an unusual situation that cannot be corrected routinely must notify their supervisor immediately and, while respecting the jurisdiction and ability, he/she must take the necessary measures to control the situation until the arrival of the Emergency Coordinator or supervisor.

Section 4.8 Emergency Reporting

The construction contractor will notify NEE construction supervisor and environmental monitor of any emergencies immediately. NEE will notify federal, state, and local authorities, as appropriate.

If an emergency threatens public or worker health:

- The contractor will make appropriate notification(s) to emergency personnel.
 - Emergency: 911

ATTACHMENT A:

SAMPLE EMERGENCY RESPONSE FORM

**CERTIFICATIONS, ACKNOWLEDGMENTS,
AND DESIGNATION OF EMERGENCY COORDINATOR**

The Construction Contractor(s) responsible for managing the material yards shall complete and submit the following information:

GENERAL INFORMATION

Business Name

Facility Street Address

()

City

County

Zip Code

Phone

Mailing Address (if different)

()

City

County

Zip Code

Phone

EMERGENCY COORDINATOR

()

()

()

Primary Emergency Coordinator

Business Phone

24-hour Phone

Pager/Cellular Phone

()

()

()

1st Alternate

Business Phone

24-hour Phone

Pager/Cellular Phone

()

()

()

2nd Alternate

Business Phone

24-hour Phone

Pager/Cellular Phone

EMERGENCY CHECKLIST

**** DIAL 911 FOR EMERGENCY RESPONSE****

Emergency Coordinator:	()	()
	(day phone)	(night phone)
First Alternate:	()	()
	(day phone)	(night phone)
Second Alternate:	()	()
	(day phone)	(night phone)

Contractor

Telephone Number

Address

EMERGENCY NUMBERS

Emergency Response
(Ambulance, Fire, Police, Sheriff, Highway Patrol) call 911

Poison Control Center Phone: _____

Nearest Hospitals (2) _____ Phone: _____

_____ Phone: _____

Cleanup Contractor _____ Phone: _____

Other (specify) _____ Phone: _____

Other (specify) _____ Phone: _____

AGENCY NOTIFICATIONS (to be made by the Proponent's environmental manager or environmental field supervisor or emergency response coordinator)

Other (specify) _____ Phone #: _____

Other (specify) _____ Phone #: _____

Note: The Construction Contractor(s) shall verify and update the emergency numbers on this page before and during Project construction

I. EMERGENCY RESPONSE EQUIPMENT MONTHLY INSPECTION

A/U

- _____ Shovels
- _____ Absorbent material
- _____ Personal protective equipment (Tyvek suit, gloves, goggles and booties, as appropriate)
- _____ Fire-fighting equipment in good working condition
- _____ First aid supplies (e.g., medical supplies, squeeze bottle eye wash)
- _____ Communication equipment
- _____ Bung wrench (non-sparking)

II. EMERGENCY RESPONSE ACTIONS TAKEN REPORT

(Required for all unacceptable conditions)

Date: _____ Company (print): _____

Inspected by (print): _____ Signature: _____



EXHIBIT K

SITE RULES

NEE will use commercially reasonable efforts to follow and to cause its personnel to follow the following rules while on the Premises. Lessor may bar further access to the Premises by any individual who commits repeated, material violations of these rules after such individual has received at least three written warnings of a particular material violation from Lessor describing, and including reasonable evidence documenting, such material violation. In addition, any individual violating rules (d)(i), (iv), or (vi) at least three times after receipt of a third written warning with documented evidence of such violation, will be immediately expelled from the Premises and will be banned from the Premises thereafter. The rules are as follows:

- a) When not in active use by NEE, all access gates, as well as all interior gates, will remain closed at all times.
- b) Smoking is prohibited except in designated construction areas and in vehicles. NEE will employ reasonable precautions to prevent fires and will be responsible for all damage caused by NEE.
- c) NEE will keep the Premises clean and free of debris created by NEE, its contractors, or others brought on to the Premises by NEE. NEE will not use the Premises for storage of items that are not related to, used or to be used in connection with, or for the benefit of all or a portion of the Project.
- d) At no time will any of employees of NEE bring any of the following onto the Premises:
 - i. weapons of any type, including but not limited to, guns, bows and arrows, or sling shots;
 - ii. animal calling devices;
 - iii. fishing equipment or nets;
 - iv. dogs, cats or any other animals;
 - v. alcoholic beverages;
 - vi. illegal drugs or related paraphernalia.
- e) NEE, its employees, contractors, agents and any individual allowed onto the Premises by NEE will use reasonable efforts to confine their activities on the Premises to the designated access routes and to the areas upon which operations are then being conducted.
- f) No wood, plants, animals (dead or alive), antlers, artifacts or any other item that was not originally brought onto the Premises by NEE personnel will be removed from the Premises by such personnel, except that NEE can burn, remove and clear wood, plants and brush on the Premises.
- g) A speed limit of 25 miles per hour (15 miles per hour at night) will be strictly observed while using roads on the Premises.
- h) This Agreement does not cover or include any right or privilege of hunting or fishing on the Premises, all such rights being expressly reserved to Lessor.



EXHIBIT G

SWPPP/ Wetland Delineation / Watershed Letter to be provided with Building Permit Application

FORGESOLAR GLARE ANALYSIS

Project: **MN - Bohrereast**

Proposed 1MW installation at 23759 Third Ave, Mankato

Site configuration: **Bohrereast**

Created 15 Feb, 2024

Updated 16 Feb, 2024

Time-step 1 minute

Timezone offset UTC-6

Minimum sun altitude 0.0 deg

DNI peaks at 1,000.0 W/m²

Category 1 MW to 5 MW

Site ID 112234.19350

Ocular transmission coefficient 0.5

Pupil diameter 0.002 m

Eye focal length 0.017 m

Sun subtended angle 9.3 mrad

PV analysis methodology V2



Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare	
	°	°	min	hr	min	hr
PV array 1	SA tracking	SA tracking	0	0.0	0	0.0

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Lime Valley Road	0	0.0	0	0.0
Third Avenue	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0

Component Data

PV Arrays

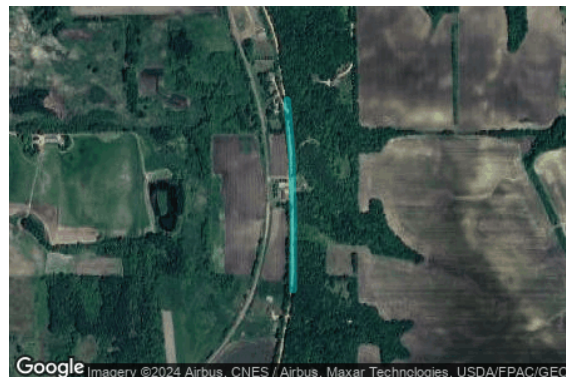
Name: PV array 1
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 52.0°
Resting angle: 0.0°
Ground Coverage Ratio: 0.33
Rated power: 1712.0 kW
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	44.222539	-93.978499	821.14	5.00	826.14
2	44.222539	-93.976777	824.15	5.00	829.15
3	44.224373	-93.976782	824.99	5.00	829.99
4	44.224680	-93.977040	823.67	5.00	828.67
5	44.224673	-93.977919	821.00	5.00	826.00
6	44.224219	-93.978418	820.74	5.00	825.74

Route Receptors

Name: Lime Valley Road
Path type: Two-way
Observer view angle: 50.0°



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	44.225872	-93.971505	892.07	5.00	897.07
2	44.224503	-93.971344	885.33	5.00	890.33
3	44.222904	-93.971291	879.16	5.00	884.16
4	44.221218	-93.971303	892.26	5.00	897.26

Name: Third Avenue
Path type: Two-way
Observer view angle: 50.0°



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	44.222099	-93.989040	826.04	5.00	831.04
2	44.225735	-93.986937	811.48	5.00	816.48

Discrete Observation Point Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	44.223544	-93.971623	876.96	5.50
OP 2	2	44.220719	-93.972018	867.72	5.50
OP 3	3	44.225609	-93.971827	872.46	5.50
OP 4	4	44.226104	-93.972013	872.14	5.50

Obstruction Components

Name: Obstruction 1
Top height: 50.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	44.223896	-93.975102	825.95
2	44.223028	-93.975102	825.82

Name: Obstruction 2

Top height: 65.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	44.219967	-93.975811	830.46
2	44.221520	-93.975950	829.03
3	44.221550	-93.974974	828.66
4	44.222573	-93.975221	825.36

Name: Obstruction 3

Top height: 65.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	44.221797	-93.985417	812.03
2	44.222497	-93.985514	810.46
3	44.222943	-93.985921	808.09
4	44.223619	-93.986404	808.63
5	44.224765	-93.986350	808.47
6	44.224795	-93.985439	804.26
7	44.226887	-93.984677	808.71

Name: Obstruction 4

Top height: 65.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	44.220159	-93.979523	823.10
2	44.221574	-93.979609	820.07
3	44.221558	-93.977034	827.22
4	44.222458	-93.977163	825.66

Name: Obstruction 5

Top height: 65.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	44.224215	-93.974275	828.41
2	44.225522	-93.974189	836.45

Name: Obstruction 6

Top height: 65.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	44.225032	-93.972778	846.02
2	44.225593	-93.973132	844.12

Glare Analysis Results

Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare	
	°	°	min	hr	min	hr
PV array 1	SA tracking	SA tracking	0	0.0	0	0.0

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Lime Valley Road	0	0.0	0	0.0
Third Avenue	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0

PV: PV array 1 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Lime Valley Road	0	0.0	0	0.0
Third Avenue	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0

PV array 1 and Route: Lime Valley Road

No glare found

PV array 1 and Route: Third Avenue

No glare found

PV array 1 and OP 1

No glare found

PV array 1 and OP 2

No glare found

PV array 1 and OP 3

No glare found

PV array 1 and OP 4

No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.

Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. This primarily affects V1 analyses of path receptors.

Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.

The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.

The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)

The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.

The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.

The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.

Refer to the Help page at www.forgesolar.com/help/ for assumptions and limitations not listed here.

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

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EXHIBIT H

described in and who executed the foregoing deed, and in due form of law acknowledged to me that they executed the same freely and voluntarily, for the uses and purposes therein expressed.

In Testimony whereof, I have hereunto set my hand and affixed my official seal, the day and year last above written.

A. R. Pfau.

Notary Public.

Warranty Deed.

Elara E. Widell et al.

To

Chicago Milwaukee & St Paul Ry Co
Recd Oct 11, 1901 @ 4 P. M.
B. Gaugster Jr. Register

The Grantors, Elara E. Widell
and husband and Thomas M. Tighe
and wife of the County of Blue
Earth and State of Minnesota
for and in consideration of
Six hundred $7\frac{1}{2}$ Dollars
in hand paid (convey and

warrant to the Chicago Milwaukee & St Paul Railway company, its Successors and assigns, the following described real estate:

A Strip of land 100 ft wide lying Westwily and adjoining the 100 ft right of way (Right of way) now owned and occupied by the Chicago St Paul Minneapolis and Omaha R.R. Co. over and across North east $\frac{1}{4}$ of North west $\frac{1}{4}$ Section 29, Twp 109 Range (26) containing $3\frac{1}{2}$ acres M/S.

This deed is given upon the express condition that Grantor shall have a farm crossing at grade, situate in the County of Blue Earth, in the State of Minnesota. Dated this 20th day of September A.D. 1901.

Signed and delivered in Presence of.

J. L. Herwill	{	As to Thomas M. Tighe	{	Elara E. Widell
A. R. Pfau.		Gula B. M. Tighe		Kustaf. Widell
A. R. Pfau Jr.		As to Elara E. Widell		Thomas M. Tighe
A. O. Eberhart		and Gustaf Widell		Gula B. M. Tighe

State of Minnesota } Best Remembered that on this 20th day of September A.D. 1901 before the undersigned, personally appeared Elara E. Widell and Gustaf Widell her husband to me well known to be the identical persons described in and who executed the foregoing deed, and in due form of law acknowledged to me that they had executed the same freely and voluntarily for the uses and purposes therein expressed.

State of Minnesota } County of Blue Earth }
 Be it remembered that on this
 day of A.D. 1901 before me
 undersigned personally appeared Thomas O. M. Tjhe
 and Julia P. M. Tjhe his wife to me well known to
 be the identical persons described in and who executed
 the foregoing deed and in due form of law acknow-
 ledged to me that they had executed the same freely
 and voluntarily for the uses and purposes therein
 expressed.

In testimony whereof I have hereunto set my hand
 and affixed my official seal the day and year last
 above written (notarial seal) A. R. O'Flair Notary Public
 Blue Earth County,
 Minnesota.

Warranted Deed.

David L. Brooks et al

To

Chicago, Milwaukee & St. Paul Ry. Co.
 Rec'd. Oct 11. 1901 at 4 P. M.
 B. Baugher Jr. Register.

The Grantor Morgan Brooks
 executor of the Estate of D. H.
 Brooks, Sarah L Brooks
 co-trustee of Estate of D. H.
 Brooks, Sarah L Brooks and
 Charles Brooks and Ella Brooks

his wife of the County of Blue Earth and State of Minnesota
 for and in consideration of one hundred fifty eight \$100.00
 Dollars in hand paid, convey and warrant to the Chicago
 Milwaukee & St. Paul Railway Company its successors and
 assigns the following described real estate.

A strip of land 100 ft in width lying westerly and ad-
 joining the 100 ft right of way now owned and occupied
 by the Chicago St. Paul Minneapolis and Omaha R. R. Co. over
 and across the north 501 feet of the South 1/2 of North West 1/4
 Section 29, Town (369) Range 26 containing 1 3/4 acres, more or
 less in the County of Blue Earth in the State of
 Minnesota.

Dated this 11 day of September A.D. 1901.

Signed and delivered in Presence of

J. L. Hewitt

A. R. O'Flair

Sarah L Brooks

Grantor of the Estate of D. H. Brooks

Sarah L Brooks

Morgan Brooks

Ex of the estate of D. H. Brooks

Charles Brooks

Ella Brooks

State of Minnesota

County of Blue Earth

Be it remembered that on this
 day of September A.D. 1901 before me
 undersigned personally appeared

July 22, 2024

Attorney-Client Communication

New Energy Equity LLC
Attn: Dennis Schreibeis, Esq.
2530 Riva Road Suite 200
Annapolis, MD 21401

Re: Farm Crossing in Blue Earth County near Mankato, MN

Dear Dennis:

You have inquired about whether farm crossing reserved in a deed conveying a strip of land for railroad right-of-way purposes remains in effect. After reviewing the instrument that contains the reservation and a related title insurance commitment and survey, we believe that (absent other evidence to the contrary) the farm crossing should remain in effect.

On September 25, 1901, Clara Widel and Thomas McTighe conveyed to the Chicago, Milwaukee & St. Paul Railway a one-hundred-foot-wide strip of land across the Northeast Quarter of the Northwest Quarter of Section 29, Township 109, Range 26, "upon the express condition that the Grantor shall have a farm crossing at grade." The deed conveying the right of way subject to the reservation of the farm crossing (the "Deed") was recorded in the land records of Blue Earth County on October 10, 1901 in Book 71, Page 241.

We understand that New Energy Equity is currently investigating whether to develop property (the "Property") in the Northeast Quarter of the Northwest Quarter of Section 29 that lies east of the strip of land conveyed by the Deed (the "Right of Way"). In connection with the development of the Property, you intend to use an existing gravel road to access the land west of the Right of Way from County Road 5 (a/k/a Third Avenue) and then intend to use the farm crossing reserved in the Deed (the "Crossing Easement") to cross the railroad lines (currently operated by Union Pacific) to access the Property.

In connection with answering your question about whether the Crossing Easement remains effective, we have reviewed a survey of the Property and the adjacent land under common ownership dated August 28, 2023 (the "Survey"). The Survey shows a gravel road and railway crossing that is denoted as "238th Lane" and "T-302" along the northerly boundary of the Property.

In addition, we have reviewed a commitment for title insurance, file number 24000370633-01 with a commitment date of February 22, 2024 (the "Commitment"). A copy of the Commitment

accompanies this letter. The Commitment includes the Deed as a "special exception" to title that affects the Property. Any title insurance issued in connection with the Commitment will be subject to the terms and conditions of this special exception, which indicates that the title company has determined that the terms and conditions of the Deed may affect the Property.

Analysis:

Farm crossings such as the one included in the Deed are recognized easements under Minnesota law. Minnesota has long held that railroads that leave parts of a farm on different sides of the railroad must construct proper farm crossings at some place convenient for the farm. This requirement is currently embodied within Minnesota Statutes Section 219.13.

Easements in Minnesota are subject to the Minnesota Marketable Title Act, Minnesota Statutes Section 541.03 (the "Act"). The Act governs when an interest in real property (such as an easement) that is at least 40 years old may be enforced. Generally, the interest in real property may only enforced if the party holding the interest files a statutorily prescribed notice of the claim in the land records within 40 years of the creation of the interest. If a party fails to file the notice, there is a presumption that the interest has been abandoned. However, if the party "possesses" the land subject to the interest, the interest is not presumed to be abandoned and the party may enforce the interest.

For the purposes of "possessing" an easement, the Act requires use of the easement "sufficient to put a prudent person on notice of the asserted interest in the land, with due regard given to the nature of the easement at issue." ¹

As initially discussed above, the Survey includes maps and a Google Earth image showing 238th Lane and T-302 crossing the Union Pacific railway lines. We believe that the presence of a gravel road and a physical crossing of the railway lines would constitute a use sufficient to put the railroad and others on notice of the interest in a crossing.

(In addition, there may be additional arguments that could be made regarding the right to cross the railroad line in addition to the rights granted by the Crossing Easement. The survey suggests that the location and width of 238th Lane indicate that the roadway could have been used as a town road. The surveyor also suggests that a right to cross the railroad at the historic road may constitute an easement by necessity in order to access the Property.)

In our review of the Commitment and Survey, it does not appear that any of the other documents listed as "Special Exceptions" directly affect the Crossing Easement. The only Special Exception that is in the vicinity of the Crossing Easement is a non-exclusive easement from 2011 in favor of Union Pacific Railway that permits Union Pacific to use the same area as 238th Lane/T-302 for

¹ Sampair v. Village of Birchwood, 78 N.W.2d 65 (Minn. 2010)

access from County Road 5.² None of the other Special Exceptions constitutes a waiver or relinquishment of the Crossing Easement or provides evidence of abandonment by a previous owner of the Crossing Easement.

Taken as a whole, it appears that the Crossing Easement remains in effect. There is no evidence of any waiver, relinquishment or abandonment of the Crossing Easement in the land records. In addition, there is ample evidence of historic use of northerly portion of the property for the purpose of crossing the railway right of way.

Please note that this letter does not constitute a title opinion or an assurance that the Crossing Easement remains in effect. We have not reviewed a complete abstract of title for the property or performed a search for evidence of past abandonment. We recommend that, in the course of your proposed use of the Property, you obtain a title insurance policy that insures adequate access to the Property.

In addition, we recommend that you coordinate your planned use of the Crossing Easement with Union Pacific.

Feel free to contact me with any questions or concerns.

Sincerely,

Stinson LLP

A handwritten signature in blue ink, appearing to read "Robert L. Striker", with a stylized, cursive script.

Robert L. Striker

² This is further evidence that the historic use of 238th Lane/T-302 for access across the railway line were sufficient to put Union Pacific on notice of the landowners' interest in the Crossing Easement.

[EXTERNAL MAIL] Private Road Crossing - Third Ave, DOT 185461V, MP 81.53, Mankato Sub, Mankato, MN - (Inquiry 9742)

Jacobs, Andrew <AJacobs@benesch.com>

Fri 7/19/2024 9:45 AM

To: Brian Keenan (NEE) <briank@newenergyequity.com>

Cc: Martin, Michelle <MaMartin@benesch.com>

You don't often get email from ajacobs@benesch.com. [Learn why this is important](#)



[EXTERNAL EMAIL] This message was sent from someone outside the company.

Do not click links, download attachments, or reply with personal information unless you recognize the sender and know the content is safe.

Good Morning, Brian -

This will confirm receipt of the inquiry you submitted through the Union Pacific Public Projects Contact Center on July 19, 2024.

Project Manager, Michelle Martin, will be coordinating the review of your request for a private crossing agreement at the above-referenced location. To start the review process, please complete the attached Road Crossing Application form with as much information as possible and return it to us via e-mail.

[PDF--Road Crossing Application Form \(up.com\)](#)

Please feel free to reach out to me with any questions or concerns.

Thank you.

Andrew Jacobs

Public Project Representative

ajacobs@benesch.com

direct: 916-245-2636 office: 916-245-1845

1430 Blue Oaks Boulevard, Suite 140, Roseville, CA 95747



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EXHIBIT M

Bohrereast Solar Array

Decommissioning Plan

Prepared for:

MN CSG 2019-57 LLC
23759 THIRD AVE, MANKATO, MN, 56001

Location: MANKATO, MN
July 18, 2024



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

Tim Pollnow
Date: 7/22/2024
Registration Number: 60448

A handwritten signature in black ink, appearing to read "Tim Pollnow", is written over the printed name and registration information.

Table of Contents

1 - Introduction.....	1
2 - Summary Statement of Expected Residual Value.....	1
3 - Basis of Plan Narrative.....	1-2
4 - Schedule of Removal and Restoration Costs.....	3
5 - Schedule of Summary.....	4

1.0 Introduction

The purpose of this report is to describe the decommissioning process for the Bohrereast solar photovoltaic generation facility (“the project”) located at 23759 THIRD AVE, MANKATO, MN 56001. The project consists of 2592 solar modules mounted to a driven pile, Single Axis Tracker system. After final circuit consolidation at the equipment pad mounted switchboard, the system’s voltage will be stepped-up to distribution level at a transformer and interconnected, onto an existing utility distribution circuit.

The project converts approximately 7.2 acres of agricultural land into a power generation facility. Construction includes solar modules mounted on driven steel piles, inverters, concrete transformer and equipment pads, and gravel access roads.

2.0 Summary Statement of Expected Decommissioning Cost

The decommissioning cost to remove the solar PV facility and reestablish the property back to a grassy field is not expected to exceed a net expenditure of \$293916.93.

3.0 Basis of Plan Narrative

The following is a list of assumptions and clarifications to further define the methodology used to establish the scope and values of the removal costs and salvage values.

3.1 General

- The intent of the decommissioning work will be to fully remove the solar facility, dispose of any components, and restore the site to a permanently stabilized grassed field.
- The service life of the facility is assumed to be 35 years. Because of this there is inherent uncertainty with pricing estimates that far into the future. All dollar amounts are in net present value (NPV). It is assumed that all values will inflate/deflate consistent with inflation, therefore, the NPV comparison of removal cost to salvage value will remain relevant at the end of the service life.
- Costs associated with this plan represent a “turn key” operation for a general contractor to be hired for this work, including permits, mobilization, contingency, etc.
- Haul costs assume a maximum distance of 60 miles between the project and nearest disposal or recycling facility.
- No maximum duration has been assigned for this work. It has been assumed that this work would be handled by a single crew without full time site personnel.

Bohrereast Decommissioning Plan

3.2 Civil Infrastructure

- Topsoil used to backfill excavations will be borrowed from onsite locations. No topsoil import is included.
- Removal of rip rap at stormwater basins is included.
- Aggregate removal will be the full depth of the aggregate section for roads, equipment pads, and other areas utilizing aggregate. No aggregate will be buried. Includes subgrade scarification prior to backfilling with topsoil.
- Turf establishment includes mulch, fertilizer, and water as necessary to achieve 70% ground cover as required to satisfy the NPDES Construction General Permit.
- Sediment control cost consists of silt fence but could also be fiber logs. Location of sediment control will be downslope from exposed soils only in areas where sedimentation offsite or into onsite water bodies can reasonably be expected.
- Trees and shrubs shall be protected and shall remain in place.

3.3 Structural Infrastructure

- Steel pile foundation removal is estimated at 25% the effort and cost as pile installation.
- Steel racking removal is estimated at 50% the effort and cost of racking installation.

3.4 Electrical Infrastructure

- PV modules to be recycled. Assumption is that the module value will be based off the module wattage. i.e. a higher wattage module will be worth more than a lower one.
- Switchgear including transformers will be removed from their respective concrete pads and recycled or returned to the manufacturer.
- Copper wiring will be dug up (if required) and recycled.
- Aluminum wiring will be dug up (if required) and recycled.
- Customer owned site riser or interconnection poles shall be removed.
- A two-person crew can dismantle a string inverter and recycle the components.
- Transformers are pad mounted and weigh approximately 8,500 pounds. These are dry type transformers, so there is no need for any oil disposal.
- Underground power and communication cables can be removed by excavating with a power trencher or excavator.

3.5 Recycling PV Modules

- Recycling solar modules have environmental benefits such as
 - o Creating a useful and sustainable method of disposal
 - o Providing raw materials for repurposing and reprocessing
 - o Recovering up to 90% of the photovoltaic glass and up to 95% of the semiconductor material necessary for further production
 - o Recycling of rare earth metals.

Bohrereast Decommissioning Plan

4.0 Schedule of Removal and Restoration Costs

Removal and Restoration Costs						
CIVIL INFRASTRUCTURE						
		QUANTITY	UNITS	\$/UNIT	COST	NOTES
1	Road Aggregate, Rip Rap, and Geotextile Removal	27000	ft ³	\$ 1.00	\$ 27,000.00	Remove full section of aggregate road, rip rap, and geotextile fabrics
2	Road Aggregate, Rip Rap, and Geotextile Haul and Offsite Disposal	27000	ft ³	\$ 3.23	\$ 87,200.00	Hauling offsite
3	Topsoil Backfill	7500	ft ³	\$ 1.00	\$ 7,500.00	Onsite relocation of topsoil to backfill road and equipment pad excavations
4	Chainlink Fence Removal	2,300	ft	\$ 1.00	\$ 2,300.00	Includes fence mesh, post framing, concrete foundations, gates, etc.
5	Chainlink Fence Haul and Offsite Disposal	11,500	lbs	\$ 0.07	\$ 800.00	
6	Concrete Equipment Pad Removal	1	EA	\$ 5,000.00	\$ 5,000.00	
7	Concrete Waste Haul and Offsite Disposal	1	EA	\$ 2,500.00	\$ 2,500.00	
8	Site Grading	0.72	Acres	\$ 5,000.00	\$ 3,600.00	Grading smooth all areas disturbed by removals, excavations, etc, assumed (0.1 x project area) + Road Area + Equipment Pad Area
9	Turf Establishment	7.2	Acres	\$ 1,500.00	\$ 10,800.00	Hydroseed all areas disturbed by removals, excavations, etc
10	Sediment Control	767	ft	\$ 10.00	\$ 7,666.67	Silt fence installation
Structural Infrastructure						
11	Foundation Removal	571	EA	\$ 18.70	\$ 10,678.29	~25% of Install cost
12	Foundation Haul and Offsite Disposal	571	EA	\$ 5.96	\$ 3,404.15	
13	Racking Removal	80352	lbs	\$ 0.33	\$ 26,464.29	~50% of Install cost
14	Racking Haul and Offsite Disposal	80352	lbs	\$ 0.03	\$ 2,454.15	
Electrical Infrastructure						
15	Removal of Solar Modules	2,592	EA	\$ 5.00	\$ 12,960.00	
16	Removal of String Inverters	9	EA	\$ 1,000.00	\$ 9,000.00	
17	Removal of Switchgear/Xfmr	1	EA	\$ 5,000.00	\$ 5,000.00	
18	Removal of Riser and Interconnection Poles	4	EA	\$ 1,000.00	\$ 4,000.00	
19	Removal of SCADA/Aux Panel/Weather Station	1	EA	\$ 200.00	\$ 200.00	
20	Removal of DC Copper Wire	1,503	lbs	\$ 2.00	\$ 3,006.00	
21	Removal of AC Aluminum Wires	1,800	lbs	\$ 2.00	\$ 3,600.00	
	Total Cost				\$ 235,133.54	



5.0 Schedule of Summary

Summary		
Description	Cost	Units
Decommissioning Estimate (DE)	\$ 235,133.54	\$
Factor of Safety (FoS)	1.250	
DE with FoS	\$ 293,916.93	\$

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

A handwritten signature in black ink, appearing to read "Tim Pollnow".

Tim Pollnow
Date: 7/22/2024
Registration Number: 60448



EXHIBIT O

Site Selection Criteria

Siting renewable energy projects is contingent on several factors, key considerations include:

- **Landowner support** – Privately held entities such as NEE Energy do not utilize eminent domain authority when it comes to site selection and securing land for community solar project development. Accordingly, solar projects only occur on properties that have complete landowner support. Property owners typically contact NEE following outreach activities such as direct mail, phone calls, or digital campaigns promoting NEE efforts to acquire development opportunities. Once educated about the considerations of hosting a community solar garden, landowners can choose to participate and become a project partner.
- **Solar resource** – Not all sites have sufficient solar access to justify building a community solar garden. Energy production and project viability are dependent on how much available sunlight reaches the site. Sites with compromised solar resource due to topography, vegetation, or adjacent structures cannot be economically developed.
- **Parcel characteristics** – Sites must have sufficient acreage, appropriate dimensions, and acceptable topography to host a community solar garden. At a minimum, seven acres of developable area is needed but a good site typically has twenty to forty acres dedicated to the solar project. The parcel shape must also allow for efficient layout of the solar array(s). Narrow, elongated, or twisting parcel boundaries make it challenging to efficiently layout and build a solar array. Additionally, a relatively flat area is required for site development. While some gradient is acceptable, grades above 5% can significantly add to project costs and complicate engineering and construction. In general, NEE does not develop sites that require significant tree clearing, grading, or similar land disturbance.
- **Interconnection feasibility** – A community solar garden requires a three-phase distribution feeder or sub-transmission line nearby (within approximately a quarter mile) and the site must be within 4 miles of a utility substation to avoid cost prohibitive interconnections costs. Many sites are not chosen for development simply because there is no practicable way for energy produced on site to access the power grid.
- **Environmental impacts** – NEE evaluates parcels for various environmental attributes when developing community solar garden. Sites that offer the opportunity to avoid, minimize, or mitigate environmental impacts are pursued for further development efforts. Evaluation efforts include screening for archaeological, cultural, and historical resources; wetlands studies; investigating presence of endangered or threatened species; and identifying nearby receptors for visual impacts.



EXHIBIT P

ABOUT NEW ENERGY EQUITY

New Energy Equity, an ALLETE company, is a national end-to-end solar development and finance company, having successfully completed more than 250 projects totaling more than 430 megawatts across the United States.

Our focus is on developing, financing, operating and managing solar power generation assets, providing clean electricity to commercial, industrial, municipal, and utility customers under long-term contracts. We have ranked on Solar Power World's "Top Solar Contractors" list every year since its inception and were voted one of the fastest-growing energy companies in D.C., Maryland, and Virginia by Inc. Magazine.

THE NEW ENERGY ADVANTAGE

A Personal Approach

When you partner with us, you'll receive a tailored approach and our commitment of integrity, ingenuity, dedication, and diligence, so that we thrive and succeed together.

Competitive Pricing

New Energy has access to a variety of financial resources and has streamlined the transaction process, allowing us to offer competitive pricing and pass along greater savings to our customers.

Flexible Credit Screening

Our diverse investor base allows for more flexibility on credit requirements for PPA customers.

Financial Transaction Expertise

We've closed over 250 solar transactions, meaning we know what it takes to get the deal done. Our expertise in finance, due diligence and transaction execution means a simplified experience for our clients and an exceptionally high close rate.

Technical Capability and Experience

Our team of engineers and project managers optimize system design for the greatest solar production, highest reliability and the best possible economics for our partners and host customers.

**BUILDING CLEANER
ENERGY, LEAVING
BEHIND A BETTER WORLD.**

SERVICES

**Commercial Development
CSG Development
Asset Management
Financing
O&M**



2023 - 2022 - 2021 - 2020
2019 - 2018 - 2017 - 2016
2015 - 2014 - 2013 - 2012



**View our 250+
completed projects at:**

www.newenergyequity.com/experience



2530 Riva Road, Suite 200
Annapolis, MD 21401



1855 57th Court S, Suite 220
Boulder, CO 80301



2670 Patton Road
Roseville, MN 55113



marketing@newenergyequity.com



443-267-5012



EXHIBIT J

Sample Specifications for the Establishment of Native Vegetation as Part of Habitat Friendly Solar Projects

5-9-19

Developed by the Minnesota Board of Water and Soil Resources and the Minnesota Department of Natural Resources

Note: these specifications are suggestions for projects and should be adapted to meet specific site conditions and project goals.

CONTRACTOR QUALIFICATIONS

1. Seeding contractors must have at least three years of experience installing native seed and installing or maintaining prairie restoration projects or other similar types of projects.

PROPOSED CHANGES TO PROJECT SPECIFICATIONS

1. Once project specifications are approved by the local government unit (LGU) that is reviewing it for compliance with the Habitat Friendly Solar Standards they are considered final. Any changes to the project specifications after this point, need approval by the LGU responsible for compliance with the Habitat Friendly Solar Standards

SEED SPECIFICATIONS

1. Substitution of species in the specified seed mixes/species lists must be approved by the local government organization staff that are reviewing the project for compliance with the Habitat Friendly Solar Standards.
2. All seed that is supplied for projects must be labeled according to the requirements of the Minnesota Seed Law, section 21.82, including limits on noxious weed seed.
3. The origin of seed is required to be listed on the seed tag for all species in a mix to provide verification of original (generation 0) seed source. The smallest known geographic area (township, county, ecotype region, etc.) shall be listed.
 - Information pertaining to purity, germination, and hard (dormant) seed of individual components in a mix is required on seed tags.
 - When submitting seed bids, seed vendors must list any *Amaranth* seeds that were found in official seed tests. If *Amaranth* species are found in the test results, the Minnesota Department of Agriculture (MDA) requires that the vendor pay for genetic testing to determine if the *Amaranth* seeds present are *Palmer amaranth*.
4. Seed must be cleaned to an extent sufficient to allow its passage through appropriate seeding equipment.
5. Seed must originate from within 175 miles of the project site. Follow the Minnesota Board of Water and Soil Resources (BWSR) seed zone map and source sequence on page 8 of BWSR's [Native Vegetation Establishment and Enhancement Guidelines](#) for obtaining seed.

6. All seed delivered to sites must have a complete label and include information about individual component seed lots. Installers must allow MDA staff to take seed samples when they arrive for a random inspection.
7. The following are recommended design guidelines for pollinator seed mixes to be used for solar projects to help meet Habitat Friendly Solar standards. Multiple seed mixes may be used such as a grass-only mix under the panel and a pollinator seed mix between panels and on the edges of the site, however seed mixes must be designed with a sufficient percentage of forbs to meet the Habitat Friendly Solar Standards. Note, if projects are designed to meet Habitat Friendly Solar standards the planned seed mixes to be used must be included in the project plans for review.
 - Minimum seeding rate of 40 seeds/sq. ft.
 - At least 40% of the total seeding rate as determined by seeds per sq. ft. should be composed of perennial forbs.
 - 7 or more native grass/sedge species with at least 2 species of bunchgrass.
 - 20 or more native forbs with at least 3 species in each bloom period: Early (April-May), Mid (June-August), and Late (August-October).
 - Include species from multiple guilds and families including: cool season grasses; warm-season grasses; sedges/rushes; legume; and non-legume forbs
 - More information about seeding can be found in the DNR's [Prairie Establishment and Maintenance Technical Guidance for Solar Projects](#).

SITE PREPARATION SPECIFICATIONS

1. Seeding can only be conducted after all grading, construction activities and site preparation are completed.
2. Treat any weeds located within the area to be seeded with Glyphosate herbicide or a similar non-chemical smothering technique if so desired. Conduct a second herbicide treatment if weeds continue growing after ten days. An herbicide that kills legumes may also be used if needed, but should only be applied on a case by case basis as these chemicals can often inhibit germination.
3. Prior to seeding, for any compacted areas prepare the soil surface to provide a smooth, moist, and evenly textured foundation. Use cultivating equipment such as disks, harrows, field diggers, or tillers capable of loosening the soil to a depth of at least 4 inches on all compacted areas. Till the soil surface to remove track imprints from wheeled or tracked equipment. Operate cultivating equipment on slopes at right angles to the direction of surface drainage. Soil clods, lumps, and tillage ridges 3 in. high or less may remain in place for seeding operations. Multiple passes of the equipment may be needed to meet these requirements. Avoid tilling areas that are not compacted to preserve the soil biology and prevent re-planting weed seeds.
4. Seeding should be conducted within a week after tilling to minimize weed competition. If it's not possible to seed the final native seed mix within this timeframe a temporary cover crop such as oats or barley can be used to prevent erosion. Prairie seeds can be planted directly into the area planted with the temporary cover provided a reduced rate of cover crop (20lb per acre) is used and no additional cover crop will be included as part of the native seed mix.

SEEDING SPECIFICATIONS

5. Seeding of prairie vegetation can be initiated once soil temperatures reach 50 degrees Fahrenheit in the spring (generally around May 15th). Spring seeding can be conducted through June 30th. Fall dormant seeding can also be conducted from October 15th until frozen ground in the fall. Frost seeding can be conducted during November or March when there is less than four inches of snow on the ground and temperatures are above freezing. Project planning and design staff must provide written approval to conduct seeding outside of the recommended time periods.
6. The seeding contractor is responsible for distributing seed across the entire project area as specified in the project plan.
7. A native seed drill with boxes for different sized seed (such as a Truax or Trillion type seeder) or a broadcast seeder should be used for seed installation. If a broadcast seeder is used, the contractor must ensure an even distribution of seed across the entire site and follow the application by raking, rolling or other methods to ensure that there is sufficient seed to soil contact.
8. If hydroseeding will be conducted where broadcast seeding is required conduct seeding by applying seed with only water first before placing Hydraulic Erosion Control Products (hydro-mulching). The solar arrays must be protected using methods including appropriate shields, covers and avoidance measures. Accidental overspray must be cleaned up at the time of installation.
9. Apply certified weed free straw mulch (type 3) over the seeded areas and disc anchor where possible except where erosion control blanket or other erosion control devices are used as defined in the erosion control specifications.
10. Use temporary erosion control devices (sediment logs, silt fence) as needed to prevent erosion prior to and during seed establishment.
11. If a companion cover crop is not included with specified seed mixes for the project include a cover crop of oats at a rate of 20lb. per acre.

MANAGEMENT SPECIFICATIONS

1. Monitoring of the site's vegetation is required three times a year during the first three years (June, July, August) of the project as vegetation establishes and then twice a year (June and September) each year in following years to determine maintenance needs beyond those included in these specifications.
2. Year 1 Maintenance - During the first growing season vegetation in the seeded areas must be mowed at a raised height (>5") every two weeks or as vegetation reaches one foot tall until September 30th with a flail type mower or stalk chopper that will help prevent the smothering of native plant seedlings. Mowing to a height shorter than 5" can damage native vegetation. Hand held trimming equipment may be needed for areas under solar arrays. Herbicide should

be used minimally and only as a spot-treatment during the first year as native plant seedlings will be susceptible to overspray.

3. Year 2 Maintenance - Spot treat or hand pull any invasive species or noxious weeds that are starting to establish. In some cases it may be beneficial to spot mow weeds to prevent them from developing seed and then treating them with herbicide later in the season after they have a chance to re-grow.
4. Year 3+ Maintenance - Spot treat or hand pull any invasive species or noxious weeds that are starting to establish. In some cases it may be beneficial to spot mow weeds to prevent them from developing seed and then treating them with herbicide later in the season after they have a chance to re-grow. After two growing seasons flail mow (or mow by using hand held equipment as needed) native vegetation in May each season. Do not mow earlier as mowing may impact pollinators that overwinter in plant stems or at the base of vegetation.
5. Use spot-herbicide treatments only for treatment of invasive species and noxious weeds. Avoid overspray of herbicide, and only use herbicide for targeting noxious weeds or non-native plants that will inhibit the growth of native species.
6. Any areas over 100 square feet with sparse establishment (less than one native plant every 1.5 feet on average) after the first full growing season will require re-seeding using the original seed mixes specified for the project.
7. The seeding will be successfully established when the area has a 90% aerial coverage of native plant species.
8. If wildflower diversity decreases over time and the project is no longer meeting Habitat Friendly Solar standards use inter-seeding of wildflowers to reestablish forb diversity. Grazing with an approved management plan or prescribed burning with an approved burn plan and experienced contractors can also be used as a way to maintain flower diversity.