

To: County Board
From: Land Use Management
Meeting Date: February 6, 2024
Report date: January 31, 2024

CONSIDER: Request for IUP for a Utility-Scale Solar Energy System (SES)

Request, submitted by Kevin Ameling (Property Owner) for a Utility-Scale Photovoltaic Ground 1-Megawatt Solar Energy System occupying approximately 7 acres (Jones Garden LLC).

Application Information:

Applicant: Kevin Ameling (Property Owner) and Nokomis Energy (Developer) (Jones Garden LLC)
Address of zoning request: TBD Highway 58 BLVD Red Wing, MN 55066
Parcel(s): 34.008.1700
Abbreviated Legal: Part of the S ½ of the SW ¼ of Section 08 TWP 112 Range 14 in Hay Creek Township.
Township Information: Hay Creek Township signed acknowledgment of the IUP application on December 11, 2023, with no additional comments.
Zoning District: A-2 (General Agriculture District)

Attachments and links:

Applications and submitted project summary (excerpt of materials; full submittal available upon request)
January 22, 2024 DRAFT Planning Commission Meeting Minutes
Site Map(s)
Goodhue SWCD Comments and Maps
Goodhue County Zoning Ordinance (GCZO):
<http://www.co.goodhue.mn.us/DocumentCenter/View/2428>

Background:

The Applicant has submitted an IUP request to construct and operate a 1 Megawatt (MW) photovoltaic (PV) utility-scale solar garden on approximately 7.17 acres of leased land located in Hay Creek Township that is currently owned by Kevin Ameling. The project would be developed in conjunction with the State of Minnesota Solar Garden program and Xcel Energy's Solar Rewards Community Program. The program allows developers to design, permit, own, and operate solar energy systems and sell the generated power directly to consumers. Upon completion, the Solar Garden would connect to Xcel Energy's distribution grid and generate up to 2,000 MWh of energy annually over the next 35 years.

Per Goodhue County regulations, Solar Energy Systems (SES) that are the primary use of the land and are designed to primarily provide energy to off-site users or export to the wholesale market may be permitted as a "Utility-Scale SES" within the County's A-2 zoned districts.

Project Summary:

Property Information:

- The approximately 76-acre parcel is currently used for row-crop agriculture. The developer has proposed to lease approximately 7.17 acres of the property.

The nearest residence to the north is owned by Lee Swanson (Parcel 34.008.2000) and is located approximately 162 feet from the proposed facility. The SES will be screened from the Swanson property by existing trees and vegetative cover. The nearest residence to the east is located 345 feet from the proposed facility across Highway 58 and is owned by Karl Neeser (Parcel 34.008.1701).

Adjacent land uses include row crops, animal agriculture (feedlots), and forested bluffslands.

- The property is surrounded by A-2 zoned properties to the north, east, and west. Land to the south is zoned A-1. Section 08 consists mainly of A-2 land with one split-zoned parcel (A-2 and Business) and an area of Residential parcels in the northern portion of the section. There are 11 dwellings in the A-2 portions of the section where 12 are allowed, one per original $\frac{1}{4}$ $\frac{1}{4}$ section therefore there is the potential for additional dwelling density in the section.

Solar Array:

- The solar array is proposed to include 2,616 single-axis tracking panels installed in 28 rows. Steel-driven posts will hold up solar panels, reaching 11 feet above grade at the maximum configuration. The panels will have an anti-glare coating.

The racking will be installed with piles that are anchored into the ground to an appropriate depth based on soil and geotechnical analysis.

The solar array will interconnect to the power grid via a concrete equipment pad on the east side of the project area, facilitating connection to the existing Xcel Energy grid located on the east side of Highway 58. The Developer will need to coordinate with MnDOT District 6 before performing any electrical connection work in the right-of-way.

- A 14-foot wide crushed aggregate access road will be provided to access the leased project area using an existing field access point. The Applicant will need to work with MnDOT District 6 to permit access drive improvements onto Highway 58. Staff reached out to MnDOT staff but has not heard back as of the writing of this report. Emergency vehicle access appears adequate to service the facility.

A recorded ingress/egress easement is not required for the property given the site is to be leased and all land to be crossed to access the site will remain under common ownership.

A separate fire number will be required for the site.

- Once constructed, traffic to the site would be limited to periodic visits by maintenance and landscaping personnel to perform routine maintenance, in addition to any unplanned maintenance.

Landscaping/Drainage:

- The solar site has some topographical variation, generally running northeast to southwest. The Applicant has indicated some fill material will need to be brought in due to silty soils for grading.

Proper stabilization of fill will be required and will be reviewed by staff when the Stormwater Pollution Prevention Plan is submitted.

- Apart from the meter pad (typically less than 300 square feet), the entire area within the project boundary will be seeded with a low-growth pollinator-friendly vegetative mix based on the guidelines of the MN Board of Water and Soil Resources Habitat Friendly Solar Program. Specific seed types are typically reviewed by Goodhue County SWCD during the building permit phase.
- Chad Hildebrand, SWCD Water Planner has reviewed the site and submitted comments (see attachment).
- An erosion control/stormwater management plan is customarily submitted for administrative review at the time of building permit application. An NPDES (National Pollutant Discharge Elimination System) and SWPPP will be required for this project and will need to be submitted by the Applicant before building permit approval. Filtration berms are proposed to be installed on the south and west sides of the array with stormwater management areas on the northwest and southeast sides.
- A 7-foot tall game fence will be constructed around the perimeter of the project area for visual screening and site security.
- The Applicants have also proposed to install vegetative screening on the east and southeast sides of the array to minimize visual impacts from Highway 58 and adjacent property. Screening would consist of approximately 45 evergreen trees spaced 16 feet apart and arranged in a single row. Existing vegetation would be preserved wherever possible.
- Ample room exists on the property to fulfill GCZO off-street parking requirements.
- Construction is expected to begin in the spring of 2025 and typically takes 3 months to complete.

Maintenance/Decommissioning:

- The project is subject to the issuance of a Building Permit and must be constructed according to applicable building code requirements. The project will be inspected by County Building Inspections Staff and the State Electrical Inspector. In addition, the Planning and Zoning Staff will inspect the project upon completion to ensure conformance with applicable zoning requirements.
- Mowing will be limited and utilized only when necessary for routine maintenance and potential weed and shrub control. Mechanical checks and electrical checks will be conducted one or two times per year. A groundskeeping crew will conduct on-site vegetative management work 3 to 6 times per year. The site will be monitored remotely 24 hours a day, 365 days a year to detect and address potential problems.
- The Applicant has provided a decommissioning cost estimate. Upon the end of the project's useful life, decommissioning would include removal and recycling of all non-biodegradable equipment

including concrete foundations, access roads, fencing, cables, and other ancillary facilities owned by the solar garden. The land could then be used for agricultural production.

Per GCZO Article 19, the Applicant may be required to provide a financial surety at up to 125% of the estimated decommissioning cost. The County has not typically exercised the right to financial assurance requirements for similar solar installations. The Planning Commission should consider if the County should require financial assurance to cover anticipated decommissioning costs. A decommissioning agreement between the property owner and developer is included as a proposed IUP condition.

PAC Findings of Fact:

1. The proposed Solar Garden does not appear injurious to the use and enjoyment of properties in the immediate vicinity for uses already permitted, nor would it substantially diminish and impair property values in the immediate vicinity. The use appears harmonious with the established uses in the vicinity. The developer proposes to use vegetation and fencing to screen the facility from nearby dwellings and roads.
2. The establishment of the proposed Solar Garden is not anticipated to impede the normal and orderly development and improvement of surrounding vacant property for uses predominant to the area. The use is proposed to meet all development standards of the Goodhue County Zoning Ordinance and it does not appear incompatible with adjacent land uses.
3. A review of the applicant's submitted project summary indicates adequate utilities, access roads, drainage, and other necessary facilities are available or will be installed to accommodate the proposed use.
4. The submitted plans identify means to provide sufficient off-street parking and loading space to serve the proposed use and meet the Goodhue County Zoning Ordinance's parking requirements.
5. The submitted plans detail adequate measures to prevent or control offensive odor, fumes, dust, noise, and vibration so that none of these will constitute a nuisance.

PAC Recommendation:

The Planning Advisory Commission recommends the County Board

- adopt the staff report into the record;
- adopt the findings of fact;
- accept the application, testimony, exhibits, and other evidence presented into the record; and

APPROVE the request for an IUP, submitted by Kevin Ameling (Landowner) and Nokomis Energy (Jones Garden LLC, Developer) for a Utility-Scale Photovoltaic Ground 1 Megawatt Solar Energy System (SES) occupying approximately 7 acres. Subject to the following conditions:

1. Activities shall be conducted according to submitted plans, specifications, and narrative unless modified by a condition of this IUP;
2. The project shall be decommissioned according to Article 19 Section 6 of the Goodhue County Zoning Ordinance and submitted plans;

3. A decommissioning agreement between the landowner and Nokomis Energy shall be maintained to ensure the reclamation of the area;
4. LUM staff shall be notified by the landowner or solar company 30 days before ownership transfer or operator changes;
5. Applicants shall work with the Goodhue Soil and Water Conservation District to determine an appropriate seed mix for disturbed areas of the site and should submit “seed tags” to the Land Use Management department before final inspection;
6. A stormwater management and erosion control plan shall be submitted for administrative review as part of the Building Permit Application for the project;
7. Applicants shall obtain Building Permit approvals from the Goodhue County Land Use Management Department before establishing the use;
8. Compliance with Goodhue County Zoning Ordinance including, but not limited to, Article 19 Solar Energy Systems (SES) and Article 22 (General Agriculture District). The Applicant shall request a final inspection of the project for compliance with applicable zoning requirements upon completion of the project;
9. Compliance with all necessary State and Federal registrations, permits, licensing, and regulations; and
10. This IUP shall expire 35 years from the date of approval unless terminated prior to that date.

**PLANNING ADVISORY COMMISSION
GOODHUE COUNTY, MN
January 22, 2024 MEETING MINUTES
DRAFT**

PUBLIC HEARING: Request for IUP for a Utility-Scale Solar Energy System (SES)

Request, submitted by Kevin Ameling (Owner) for a Utility-Scale Photovoltaic Ground 1-megawatt Solar Energy System occupying approximately 7 acres. Parcel 34.008.1700. TBD Highway 58 BLVD Red Wing, MN 55066. Part of the S ½ of the SW ¼ of Section 08 TWP 112 Range 14 in Hay Creek Township. A-2 Zoned District.

Lenzen presented the staff report and attachments

Fritz Ebinger (Nokomis Energy) was present.

Chair Buck Opened the Public Hearing

No one spoke for or against the request.

6After Chair Buck called three times for comments, it was moved by Commissioner Huneke and seconded by Commissioner Miller to close the Public Hearing.

Motion carried 7:0

Commissioner Buck asked staff if had received any comments on the proposal and if all the neighbors were notified.

Pierret stated that staff sent out the standard notification to all neighbors within a quarter mile of the applicant's project and no comments were received.

7It was moved by Commissioner Fox and seconded by Commissioner Greseth for the Planning Advisory Commission to:

- adopt the staff report into the record;
 - adopt the findings of fact;
 - accept the application, testimony, exhibits, and other evidence presented into the record; and
- Recommend the County Board of Commissioners **APPROVE** the request for IUP, submitted by Kevin Ameling (Owner) and Nokomis Energy (Developer) for a Utility-Scale Photovoltaic Ground 1-megawatt Solar Energy System occupying approximately 7 acres. Subject to the following conditions:
1. Activities shall be conducted according to submitted plans, specifications, and narrative unless modified by a condition of this IUP;
 2. The project shall be decommissioned according to Article 19 Section 6 of the Goodhue County Zoning Ordinance and submitted plans;
 3. A decommissioning agreement between the landowner and Nokomis Energy shall be maintained to ensure the reclamation of the area;
 4. LUM staff shall be notified by the landowner or solar company 30 days before ownership transfer or operator changes;
 5. Applicants shall work with the Goodhue Soil and Water Conservation District to determine an appropriate seed mix for disturbed areas of the site and should submit "seed tags" to the Land Use Management department before final inspection;
 6. A stormwater management and erosion control plan shall be submitted for administrative review as part of the Building Permit Application for the project;

**PLANNING ADVISORY COMMISSION
GOODHUE COUNTY, MN
January 22, 2024 MEETING MINUTES
DRAFT**

7. Applicants shall obtain Building Permit approvals from the Goodhue County Land Use Management Department before establishing the use;
8. Compliance with Goodhue County Zoning Ordinance including, but not limited to, Article 19 Solar Energy Systems (SES) and Article 22 (General Agriculture District). The Applicant shall request a final inspection of the project for compliance with applicable zoning requirements upon completion of the project;
9. Compliance with all necessary State and Federal registrations, permits, licensing, and regulations; and
10. This IUP shall expire 35 years from the date of approval unless terminated prior to that date.

Motion carried 7:0

PUBLIC HEARING: Request for IUP for a Rural Tourism Facility

Request, submitted by Martin Pansch and Heather McNabney (Applicants/Owners) for a Rural Tourism Facility including educational events and bed and breakfast operation. Parcels 42.008.0303 and 42.005.1901. 13133 Wild Turkey Road Welch, MN 55089. Part of the W ½ of the NW ¼ of Section 08 and Part of the SW ¼ of the SW ¼ of Section 05 all in TWP 112 Range 16 in Vasa Township. A-1 and A-2 Zoned Districts.

Pierret presented the staff report and attachments.

Martin Pansch and Heather McNabney (Applicants) are pleased with the presentation of their information in the packet and of staff's thoroughness. They stated that they want to provide a place for people to learn and teach others about crafts that have fallen out of mainstream use.

Commissioner Buck asked if they see this facility growing and incorporating school groups coming out or is it just for adults/individuals.

Applicants stated that this would just be for adults looking to learn these skills.

Chair Buck Opened the Public Hearing

Jim and Cindy DeRosier, 13075 Wild Turkey Road distributed a handout for Commissioners and staff (Attached). They are not in favor of the Applicants' use of property. They moved to the country to get away from loud city life and live in a quiet place. They are concerned about road safety with increased traffic. They are also concerned about people trespassing onto their property and others' properties. There is a concern for the safety of eventgoers with hunting in the woods nearby. They emphasized that their property values would go down by 10-20% because of the proposed land use. They have a signed petition with 40 signatures from neighboring property owners and residents.

Melissa Murphy, 12809 Wild Turkey Road stated she is concerned about the added traffic and people in the neighborhood. The Applicants have been publicly advertising the folk school on social media. The folk school will have a negative impact on the peaceful countryside with extra noise. With the extra traffic generated by the folk school, she is concerned for the safety of people and animals walking on or near the road. She questioned what the definition of an "event" was. Based on social media posts and what they have seen on the Applicants' property, they are already hosting people for clean-up events and having forging demonstrations, etc. She is concerned for her and her children's safety, her neighbor's safety, and the change this folk school will bring to the area if approved.

Karl Bischoff, 14710 Hwy 19 Blvd came to support the proposal. He stated that the Applicants have been considerate of the neighbors' needs and concerns. He added that he can sympathize with other neighbors' concerns regarding noise levels and added activity in the neighborhood from the folk school. He believes there is a community benefit to the school. He does not believe the intended use will have a detrimental effect on the neighbors.

GOODHUE COUNTY CONDITIONAL/INTERIM USE PERMIT APPLICATION

Parcel # _____

Permit# _____

PROPERTY OWNER INFORMATION

Last Name **Ameling** First **Kevin**

Street Address **4794 Waldenwood Pl**

City **Littleton** State **CO** Zip **80130**

Attach Legal Description as Exhibit "A"

Authorized Agent _____

Phone _____

Mailing Address of Landowner: **4794 Waldenwood Pl Littleton, CO 80130**

Mailing Address of Agent: _____

PROJECT INFORMATION

Site Address (if different than above): **29740 Hay Creek Hills Dr Red Wing, MN (PID: 340081700)**

Lot Size **76.83 acres** Structure Dimensions (if applicable) _____

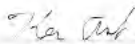
What is the conditional/interim use permit request for? **One-megawatt community solar garden**

Written justification for request including discussion of how any potential conflicts with existing nearby land uses will be minimized

Seeking conditional use permit to construct a one-megawatt community solar garden as provided under Article 19, Section 3, Subdivision 1(c) of the Goodhue County Zoning Ordinance. Tree screening of the system is proposed along the roadway to minimize visual impacts from the road and residence across the street.

DISCLAIMER AND PROPERTY OWNER SIGNATURE

I hereby swear and affirm that the information supplied to Goodhue County Land Use Management Department is accurate and true. I acknowledge that this application is rendered invalid and void should the County determine that information supplied by me, the applicant in applying for this variance is inaccurate or untrue. I hereby give authorization for the above mentioned agent to represent me and my property in the above mentioned matter.

Signature of Landowner: 

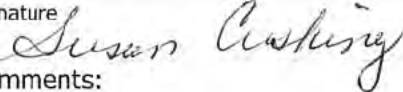
Date **12/13/2023**

Signature of Agent Authorized by Agent: _____

TOWNSHIP INFORMATION

Township Zoning Permit Attached? If no please have township complete below:

By signing this form, the Township acknowledges being made aware of the request stated above. In no way does signing this application indicate the Township's official approval or denial of the request.

Signature 

Title **Supervisor**

Date **12/11/2023**

Comments: _____

COUNTY SECTION COUNTY FEE \$**350** RECEIPT # _____ DATE PAID _____

Applicant requests a CUP/IUP pursuant to Article ____ Section ____ Subdivision ____ of the Goodhue County Zoning Ordinance

What is the formal wording of the request? _____

Shoreland _____ Lake/Stream Name _____ Zoning District _____

Date Received _____ Date of Public Hearing _____ DNR Notice _____ City Notice _____

Action Taken: ____ Approve ____ Deny Conditions: _____

GOODHUE COUNTY CONDITIONAL/INTERIM USE PERMIT APPLICATION

PROJECT SUMMARY

Please provide answers to the following questions in the spaces below. If additional space is needed, you may provide an attached document.

1. Description of purpose and planned scope of operations (including retail/wholesale activities).

One-megawatt community solar garden. As part of Xcel Energy's Solar*Rewards Community Program, this project will deliver clean, local energy at a beneficial electric rate to the surrounding community. See detailed narrative.

2. Planned use of existing buildings and proposed new structures associated with the proposal.

No use of existing buildings. Proposed new structure is a one-megawatt solar garden, which will include a racking system, solar modules, inverters, transformer and fence.

3. Proposed number of non-resident employees.

During construction, the average crew size would be about 5 crew members per day.

4. Proposed hours of operation (time of day, days of the week, time of year) including special events not within the normal operating schedule.

Construction is targeted between Summer and late Fall 2025. Proposed working times are between the hours of 7am-7pm on Monday through Friday.

Once the project is constructed, the only on-site activity will be routine maintenance checks.

5. Planned maximum capacity/occupancy.

NA

6. Traffic generation and congestion, loading and unloading areas, and site access.

Traffic and loading/unloading will only occur during construction of the Project. After construction is complete, traffic to the site will be minimal.

7. Off-street parking provisions (number of spaces, location, and surface materials).

NA

8. Proposed solid waste disposal provisions.

All construction waste will be removed via dumpster by contractor.

9. Proposed sanitary sewage disposal systems, potable water systems, and utility services.

Portable bathrooms will be on-site during construction. Otherwise NA.

10. Existing and proposed exterior lighting.

No existing or proposed exterior lighting.

No existing or proposed exterior lighting.

11. Existing and proposed exterior signage.

No existing or proposed exterior signage.

12. Existing and proposed exterior storage.

No existing or proposed exterior storage.

13. Proposed safety and security measures.

The Facility will be enclosed by a 7-foot-tall agricultural fence to restrict access to the system from unqualified personnel. The gate to the Facility will be secured with a lock box.

14. Adequacy of accessibility for emergency services to the site.

The Project would obtain an E911 address to ensure emergency service access to the site. Access to the facility's lock box can be provided to local emergency services.

15. Potential for generation of noise, odor, or dust and proposed mitigation measures.

No odor or dust will be generated during construction. Construction activities will only take place during daytime hours to mitigate any construction noise.

16. Anticipated landscaping, grading, excavation, filling, and vegetation removal activities.

Tree screening will be planted along the east side of the project. Due to silty soils, fill soil will be brought on-site to facilitate grading. See civil plan set for more details.

The cover crop inside the footprint of the system will be a combination of low growth native crops and a seed mix that promotes pollinator-friendly habitat.

17. Existing and proposed surface-water drainage provisions.

See civil plan set.

18. Description of food and liquor preparation, serving, and handling provisions.

NA

19. Provide any other such information you feel is essential to the review of your proposal.

We have been in contact with the Goodhue County SWCD about the bluffland setbacks and channelized gullies.

Permit#

Solar Energy System Application

1. Owner/Applicant Information

PROPERTY OWNER'S NAME:

Kevin David Ameling

PROPERTY OWNER'S ADDRESS: TELEPHONE:

4794 Waldenwood Pl Littleton, CO 80130

APPLICANT OR AUTHORIZED AGENT'S NAME:

Jones Garden LLC

Same as Above

APPLICANT'S ADDRESS: TELEPHONE:

2836 Lyndale Ave S, Suite 132, Minneapolis, MN 55804

2. Location and Classification

STREET ADDRESS OF PROJECT: PARCEL #:

29740 HAY CREEK HILLS DR

340081700

LEGAL DESCRIPTION: Attached

See attached.

3. Supporting information

NUMBER OF SOLAR COLLECTORS TO BE INSTALLED TOTAL SIZE OF PROJECT

2,616

1 MW

DESCRIBE METHOD OF CONNECTING THE ARRAY TO A BUILDING OR SUBSTATION

Attach signed interconnection agreement

4. Applicant's Affidavit

Under penalty of perjury the following declarations are made:

1. The undersigned is the owner or authorized agent of the owner of this property.
2. The information presented is true and correct to the best of my knowledge.
3. Other information or applications may be required.

Signature: Nichole Coulter

Date: 12/20/2023

Print name: Nichole Coulter, VP of Development, Nokomis Energy

County Section				
SES Application Fee:	SES Zoning Permit: \$200	SES CUP/IUP: \$1000	Receipt Number	Date
Building permit #:				
Shoreland _____		Lake/Stream Name _____		Zoning District _____
Conditions:				
Zoning Administrator Signature				

PROJECT SUMMARY

Please provide answers to the following questions in the spaces below. If additional space is needed, you may provide an attached document.

1. Visual Impact Analysis. Is the project anticipated to adversely effect visual sightlines of neighboring dwellings, properties or public rights-of-way. Identify measures to avoid, minimize or mitigate visual effects.

The project will add tree screening along the east side by the roadway to minimize any visual effects from the residence across the street and from the roadway. See the Visual Impact Analysis and Visual Renderings of the Project included with submission.

2. Proposed stormwater management measures. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after construction. An NPDES permit may be required.

See civil plan set included with submission.

3. Maintenance plan for grounds surrounding the system(s).

See vegetative management plan included with submission.

4. Anticipated wetlands impacts. Has a wetlands impact study been completed?

An on-site wetland delineation has been completed. See wetland delineation included with submission.

5. Proposed decommissioning procedures.

See decommissioning plan and estimate included with submission.

OVERVIEW

Jones Garden LLC submits this application for a Conditional Use Permit to Goodhue County for a Photovoltaic Ground Mount One- Megawatt Solar Energy System under Goodhue County Zoning Ordinance Section 4, Subd. 5. The parcel is zoned A-2 Agricultural District. The project site plan is attached in **Exhibit A** and includes: existing and proposed conditions, number of solar collectors to be installed, location and spacing of solar panels, existing vegetation, and planned location of electric lines, as required.

As part of Xcel Energy's Solar*Rewards Community Program, Jones Garden LLC will consist of 2,616 panels on approximately 7 acres of land. The Community Solar Garden (CSG) will have a useful life of 35+ years. Once operating, this project will deliver over 2,000 MWh of clean, local energy annually at a beneficial electric rate to the surrounding community with only the sun as feedstock.

The CSG consists of steel driven posts embedded in the ground, with solar modules attached to the top of the posts, tracking the sun east to west throughout the day. The panels sit approximately 11 ft off the ground at their highest tilt. This project utilizes monocrystalline silicon-based solar panels which have an anti-glare coating. There are no hazardous materials in the system, and no noise other than typical transformer humming that would be present within the fence. We will enclose the system with a 7-foot-tall agricultural fence to minimize visual impact and also restrict access to the system from unqualified personnel. The cover crop inside the footprint of the system will be a combination of low growth native crops and a seed mix that promotes pollinator-friendly habitat consistent with Minnesota Statute 216B.1642.

Nokomis Energy commissioned third-party engineers and professional consultants to perform wetland, hydrology, historical, ecological and environmental surveys to ensure the site is suitable for development. Construction is targeted for Summer 2025 and Late Fall 2025. Proposed working times are between the hours of 7am-7pm on Monday through Friday. Weekend work may take place if there are significant project delays due to weather. These hours are flexible and we intend to work with the community to control noise and disturbance. A more detailed construction schedule may be made available to the County as requested.

Jones Garden LLC, by way of Nokomis Energy LLC, will hire Operations and Maintenance Contractor(s). This team will consist of electricians and a groundskeeper team to ensure the system is operating safely and the landscaping is properly established and maintained. Each would visit independently 3-6 times per year for regularly scheduled maintenance, and also depending on necessity. While onsite, the groundskeeper technicians manage prairie vegetation growth, mow, and verify storm water management is properly working. Jones Garden LLC may employ sheep grazing as a part of vegetation management, dependent on local grazer interest and feasibility. A Maintenance Plan is included for more detail.

MAINTENANCE PLAN

Jones Garden LLC will have a long-term maintenance plan to ensure safety, reliable operation, and production of the system. Monitoring and metering equipment installed on site will alert the maintenance team in real time of a system performance issue. Maintenance teams are required to have proper safety plans and equipment in place to perform all work. Details of the plan are finalized at construction once the final system design is complete. The final plan for the site can be requested at any time after construction. Maintenance of systems can be broadly defined in two categories:

Preventative Maintenance

The following items are performed on a routine basis.

- Mechanical checks – one to two times per year a technician visits the site. While on site the technician checks bolts and piers for any loosening or corrosion. If an issue is discovered, a set of corrective actions is defined, executed and a full report is logged.
- Electrical checks - one to two times per year a technician visits the site. While on site, the technician checks the major electrical components (panels, inverters, safety switches) and connections to ensure proper working order. When an issue is discovered, a set of corrective actions is defined, executed and a full report is logged.
- Groundskeeping – three to six times per year a technician visits the site. While onsite, the technician mows, manages vegetation, and verifies storm water management is working properly.

Reactive Maintenance

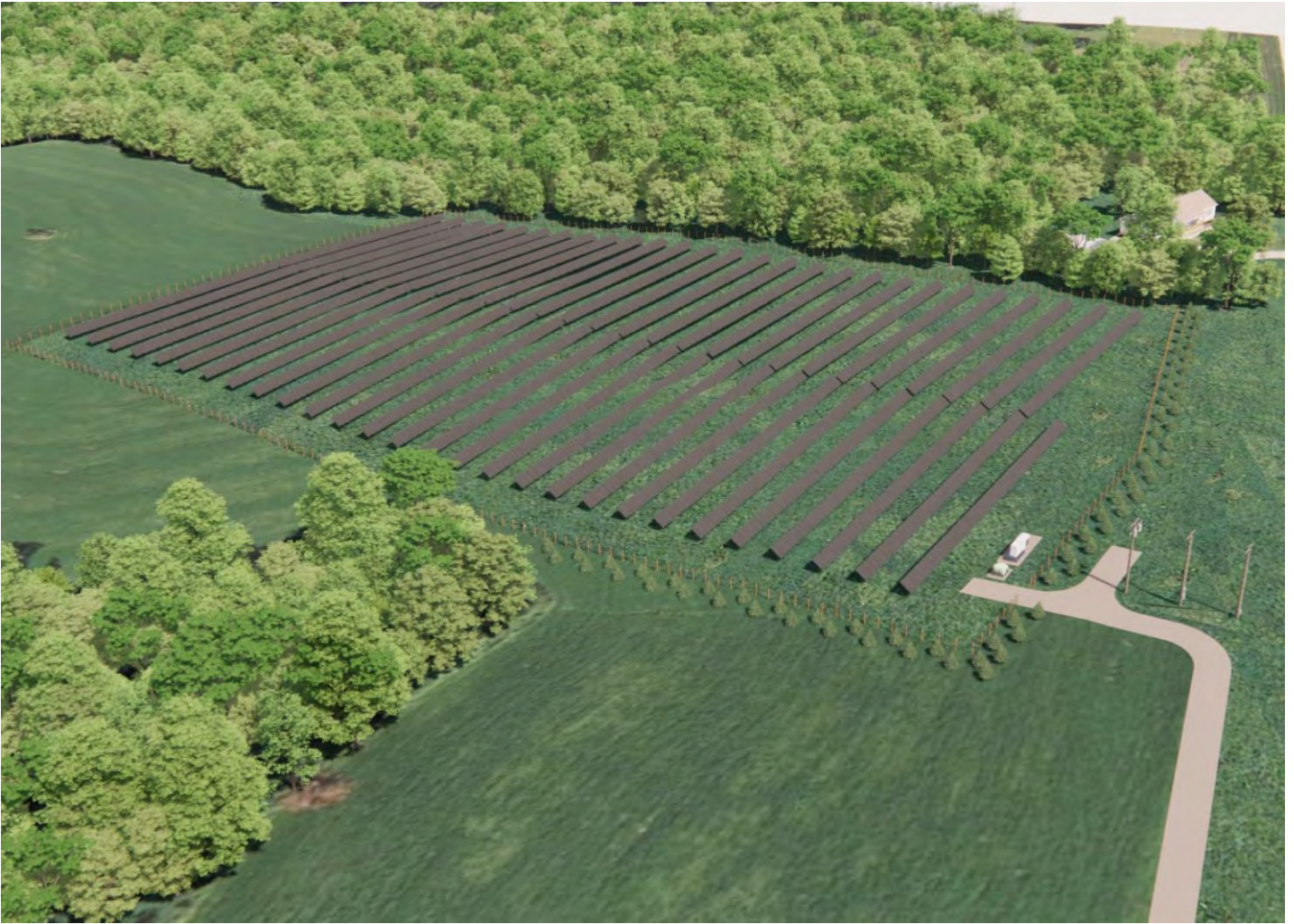
Jones Garden LLC employs monitoring equipment and preventative maintenance to identify potential system safety and performance issues. Once an issue is identified, a technician is assigned to the issue and corrective actions are executed.



1MW CSG in Pope County

Table 1 - List of Commonly Performed Operations and Maintenance Activities

<i>Item</i>	<i>Activity</i>
Monitoring	On-going tracking and verification of system performance, weather and equipment alerts.
Grounds Keeping	Manage all vegetation including mowing. Maintain all vegetative screening.
Solar Module Inspection	Inspect for cracks and general damage. Inspect for dirt, vegetation and other potential shading issues. Perform electrical checks for proper performance characteristics. Cleaning will utilize only water from a sprinkler/hose head.
Racking & Mounting Inspection	Inspect for damage, corrosion and loose connections.
Inverter Inspection & Maintenance	Inspect for corrosion and general damage. Confirm proper ventilation and environmental seals. Inspect all electrical connections and wires coming into and out of the units. Complete manufacturer recommended maintenance activities.
DC Electrical Inspection	Inspect DC runs from solar panels to inverters for damaged/loose wires and debris.
AC Electrical Inspection	Inspect AC runs from inverter to switchgear for damage/loose wires and debris.
Switchgear Inspection	Inspect switches for proper functionality. Inspect connections for appropriate torque. Inspect latches and environmental seals.
Monitoring Inspection	Inspect existing monitoring systems for functionality. Complete manufacturer recommended maintenance activities.
System Repair	Perform all necessary work as determined by inspections.
Warranty Administration	Administer defective components and file warranty claims.



Visual rendering of proposed Jones Garden LLC

Wetland Delineation

Jones Garden LLC conducted an onsite wetland delineation. No wetlands are present in the Project Area. An ephemeral stream was delineated in the northeast corner of the Project Area and will be avoided by the Project. See **Appendix B**.

Cultural Resource Review

Jones Garden LLC conducted a historical, cultural and archeological features review of the Project Area, which included an on-site pedestrian survey and SHPO file review. The pedestrian survey did not identify any archaeological or architectural resources within the Project Area. Based on the absence of observed cultural resources on the ground surface and a low potential for buried archaeological resources, the environmental consultant concluded that no additional cultural resource field studies are recommended. See **Appendix C** for the full report.

Interconnection

Jones Garden LLC submitted an interconnection application to Xcel Energy on April 24, 2023. The project received Facility Study results from Xcel on December 8, 2023. An executed interconnection agreement is anticipated on February 28, 2024, and can be provided to the County.

The Project's transformer will connect to new three-phase Xcel poles on the east side of State Highway 58 per the Minnesota Department of Transportation regulations and engineering requirements for crossing the public right of way

Manufacturer Specifications

Jones Garden LLC plans to utilize Boviet 545 monocrystalline silicon solar panels, which have an anti-glare coating. The manufacturer specifications included outline the linear performance of the panels across 30 years. The Project will employ a racking system called DuraTrack HZ v3, by Array Technologies Inc. (ATI). A Chint CPS SCH125KTL-DO-US-600 inverter will be utilized. See **Appendix D** for the manufacturer specifications for the solar panels, racking system, and inverter.

Decommissioning & Site Restoration

Jones Garden LLC commits to our neighbors and permitting authorities that we will decommission and restore the site to its pre-development condition at the end of the system's serviceable life or if the system becomes a discontinued use. The project owner will be responsible for all costs associated with decommissioning.

All equipment will be removed within one (1) year from the day the system is no longer in service or discontinued. A system shall be considered out of service at the end of its useful life unless a plan is submitted to the Goodhue County Board of Commissioners outlining the steps and the schedule for repowering the system.

Once initiated, decommissioning will occur within a period of sixty (60) days. Removal of modules, inverters, wiring, electrical equipment, racking and foundations, fencing, underground wires and conduit and concrete pads will be removed and recycled or disposed of in a suitable manner. The steel piles and racking will be recycled and reprocessed into construction material. The solar panels will be fully recycled to reclaim the glass, aluminum, copper, silver and other desirable materials for other uses. These uses include, but are not limited to reflective roadway paint, paint filler, container glass, and float glass. After all equipment is removed, the Project site will be restored to a condition comparable to its pre-construction use if the Project site will once again be used for agriculture. If holes are created when infrastructure is removed, they will be back-filled and covered with topsoil. Unless requested otherwise, permanent access roads constructed on the Project will be removed. See **Appendix E** for a detailed decommissioning plan and estimate.

Visual Impact Analysis

Jones Garden LLC will be screened with trees running north-south along State Highway 58 to minimize visual impacts from the road and from the residence across the street. The Project is otherwise screened by existing trees on all other sides. The project has commissioned visual renderings to demonstrate the visual impact. See **Appendix F**.

Screening and Maintenance Plan

Jones Garden LLC has included a screening and vegetation management plan. See **Appendix G**.

Agricultural Impacts

Jones Garden LLC would impact approximately 1 acre of Prime Agricultural Soils. The Project would impact 0 acres of A-1 Agricultural Protection Zone land, as the parcel is located in the A-2 Zone. The Project would be in operation for approximately 35 years.

The Project is designed to improve the quality of soil so the site can be returned to row crop agriculture at the end of the Project's life. Allowing the land to rest for 35 years, coupled with the benefits of pollinator planting, will allow the land to be restored and provide better agricultural conditions.

Proposed Stormwater Management Measures

Jones Garden LLC has a detailed Grading & Erosion Control Plan included in the civil plan set in **Appendix A**.

Chemical Use

Jones Garden LLC will not use any chemicals in the cleaning of the collectors so there will be no need for chemical storage. Plain water is used for cleaning purposes.

Environmental Impacts

Jones Garden LLC has commissioned extensive environmental studies on the Project Area, including an onsite wetland delineation, a biological resources review, a cultural and historical resource review, and a Phase I Environmental Site Assessment, all of which provided clean results and no recognized environmental concerns.

About Nokomis Energy

Nokomis Energy is a Minneapolis based energy developer with a mission to accelerate local energy adoption through equitable partnerships. We specialize in understanding the full development process from origination, to technology, to long-term operation. Through a combination of development and consulting services we use distributed energy to deliver economic and social benefits to local communities.

Thank you for your consideration!

Jones Garden LLC Location

N ▲



Figure A.
County Rd 58 borders Jones Garden to the east.

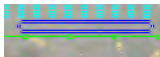
Jones Garden LLC Layout



Figure B.



Screening of 6' B&B evergreens @ 16 feet on center (not to scale.)



Storm Water Management areas

Site Preparation

1. Inspection of the project area to assess site conditions and determine the need for types of site prep including mowing and/or spraying activities.
2. If necessary, an herbicide application will be completed using glyphosate (Round-up® or equivalent) as per manufacturer's directions in areas with actively growing vegetation. Allow a minimum of 10 days before disturbing the soil or completing seeding activities.
3. When perennial broadleaf vegetation is present a triclopyr herbicide will be added (Garlon 4® or equivalent) as per manufacturer's directions. When a broadleaf herbicide is used allow a minimum of 30 days before disturbing the site or completing seeding.
4. Depending on the type and density of vegetation present (i.e., annual vs perennial) a complete site mowing might be advisable in lieu of an herbicide application. For instance, if the site is dominated by foxtail (an annual), mowing would be preferable to an herbicide application.

Seed and Seeding

1. Construction debris, garbage and building materials will be removed and/or staged outside the intended seeding areas.
2. Disk soil within the project area in preparation for seeding. Harrow or rake the soil to achieve the proper seedbed.
3. All native seed on this site will be applied using a mechanical broadcast spreader.
4. A cover crop of winter wheat or oats, seasonally determined, will be seeded along with the native species. A cover crop aids in stabilizing the soil while the natives germinate and begin growth.
5. Harrowing will be completed after all grass and cover crop seeding is completed.
6. Areas inaccessible to equipment will be hand seeded.

Screening: Tree Installation

A single row of evergreens will be installed along the east side and approximately 60 feet along the south side of the array closest to Cty Rd 58. The recommended species is Easter Red Cedar, *Juniperus virginiana*, 6 ft B&B at installation and planted 16 feet on center.

Recommended Vegetation Management Procedures

Establishment Phase

Growing seasons 1, 2 and 3

Year

- 1** Complete site mowings to control annual/biennial weed canopy and prevent production of viable seed. 3-4 visits are typical depending on soils, weather patterns and planting dates.

Mowing to be done using specialized zero-radius mowers and/or flail mowers.
- 2** Complete site mowing as described in Year One. Anticipate at least three visits: 2 mowings likely in the late spring or early summer plus 1 Integrated Vegetation Management (IVM) visit.

IVM visits Includes spot mowing, spot herbicide application, herbicide wicking, etc.
- 3** Anticipate 3 IVM site visits in Year 3. These includes spot mowing, spot herbicide application, herbicide wicking, etc.

Maintenance Phase

Year 4 to End of Array Lease

Year

- 4 - 34** One to two IVM site visits are typical depending on vegetation status. Includes spot herbicide applications and/or herbicide wicking.

Includes a complete site mowing once every 3 years to mulch up biomass and recycle nutrients. A Vegetation Management Report with photos should be submitted after every visit to the owner or owner's rep and AHJ, as required.

Additional Site Information

- An adaptive management strategy should be utilized on this site. The type of visit and the timing of the visit may be adjusted based on the current needs of the site.
- Equipment used for solar vegetation management will include zero turn mowers, tractor mounted flail mowers, brush cutters/weed whips, UTVs and ATVs mounted with customized spray equipment, herbicide wicking wands.

Monitoring

Consistent monitoring of the project is essential to evaluate vegetative establishment, weed presence and possible erosion concerns. This information helps determine which management technique to use, the proper timing of the implementation and whether or not any other remedial action is required.

Key Notes on Vegetation Management:

- Establishing a successful native landscape is important but the vegetation also needs to be managed so the array can function to its full capacity.
- Vegetation management crews will control weed growth underneath the panels only where height is a concern. Mowing/trimming around every post is not necessary from a plant community health standpoint.
- Utilizing herbicide to provide targeted control of unwanted species should only be completed by licensed applicators with a comprehensive knowledge of herbicides, application techniques and species morphology. Applying the correct herbicide with the proper application device at the correct period in the plant's lifecycle is essential to successful control and to minimizing collateral damage.
- Additional mowing or trimming may be needed if shading of the panels occurs, either by native or non-native vegetation. As a general rule, this type of mowing, if needed, should be limited to the areas immediately in front of the panel's lower edge. Mowing the entire aisles would entail potentially mowing flowers in bloom which would defeat the purpose of the pollinator planting.

JONES GARDEN LLC - DECOMMISSIONING PLAN

1. Introduction

Jones Garden LLC is proposing to construct a one-megawatt solar garden in Goodhue County, Minnesota. Major components of the Project include solar modules, racking, tracking system, inverter, and transformer. This Decommissioning Plan provides a description of the primary decommissioning activities; dismantling and removal of facilities; and restoration of land. A summary of estimate costs associated with decommissioning the Project is also included.

2. Project Components and Decommissioning Activities

Modules: Modules inspected for physical damage, tested for functionality, and removed from racking. Functioning modules packed and stored for reuse (functioning modules may produce power for another 25 years or more). Non-functioning modules packed and palletized and sent to the manufacturer or a third party for recycling.

Racking: Racking uninstalled, sorted, and sent to metal recycling facility.

Poles: Steel poles removed and sent to a recycling facility. Holes backfilled.

Wire: All wire sent to facility for proper disposal and recycling.

Conduit: Above-ground conduit disassembled onsite and sent to recycling facility.

Junction boxes, combiner boxes, external disconnect boxes, etc.: Sent to electronics recycler.

Inverter(s): Sent to manufacturer and/ or electronics recycler. Functioning parts can be reused.

Concrete pad(s): Sent to concrete recycler.

Fence: Sent to metal recycling facility.

Computers, monitors, hard drives, and other components: Sent to electronics recycler. Functioning parts can be reused.

3. Land Use and Environment

The solar facility will be located on an agricultural field. The land will be fully restored upon decommissioning of the facility. Land restoration activities include de-compaction of subsoils and re-grading project areas that have been excavated or back-filled. Disturbed areas will be seeded with vegetation comparable to what was present during the life of the solar facility.

4. Decommissioning Cost Estimate Summary

The Decommissioning Cost Estimate below includes salvage value. Steel, copper and aluminum, which have a long recycling history in the industry and are not unique to solar, provide significant salvage value.

Jones Garden LLC Project Specifics

Total DC (MW)	1,425,720
No. of Inverters	10
Foundation Piers	680
Modules (545W)	2,616
Racking Rows	28

Konisto Companies, LLC

Date:

12/15/2023

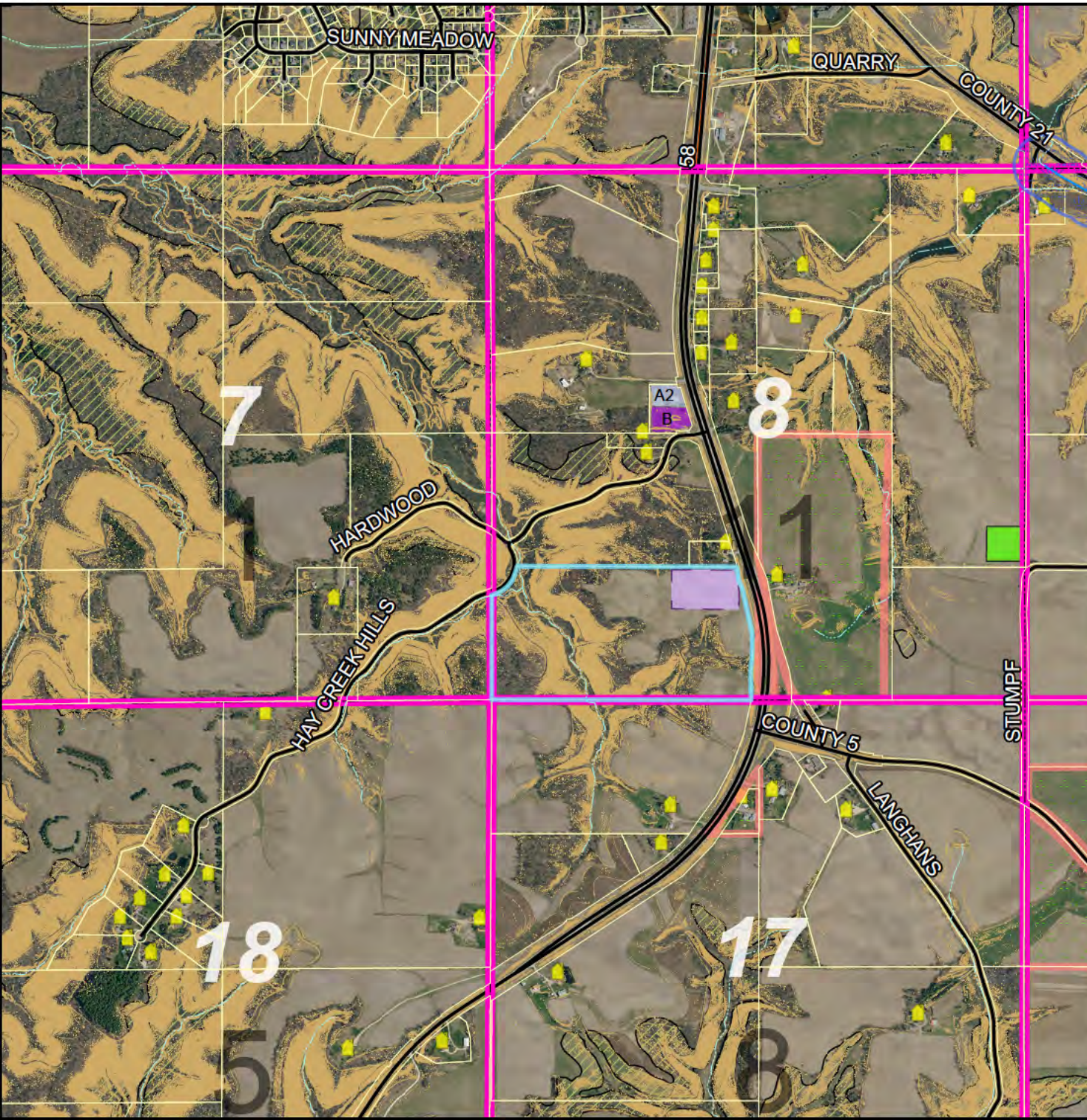
Nokomis Project Portfolios

Jones Garden LLC Decommissioning

Jones Garden Project Specifics	
DC Array Capacity	1,425,720
String Inverters	10
Foundation Piers	680
Panels -545W Modules	2,616
Racking Rows	28

Work Description	Project Pricing	Cost/Watt
ON SITE Demolition Activities	38,377	0.029
Fence Removal	3,400	0.003
Concrete Pad	1,275	0.001
Road Removal	1,200	0.001
Pier Removal	7,680	0.006
Racking Removal	10,080	0.008
Module Removal	14,742	0.011
Disposal / Recycling	5,300	0.004
Module Disposal	4,500	0.003
Inverter (String) Disposal	800	0.001
Wire / Gear / Misc Electrical Disposal	-	-
Racking & Pier Disposal	-	-
PROJECT TOAL COST	43,677	0.033

MAP 02: VICINITY MAP



PLANNING COMMISSION

PAC Meeting
January 22, 2024

Kevin Ameling (Owner)

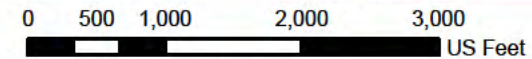
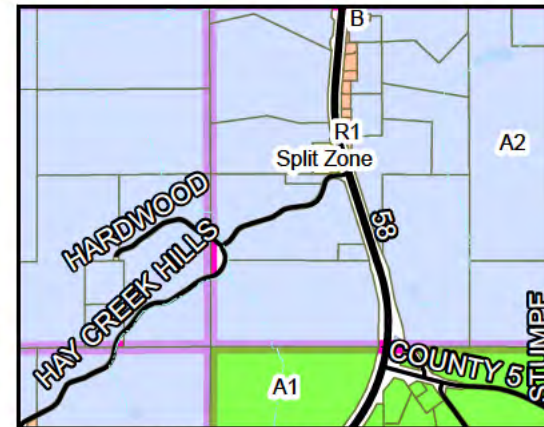
A2 Zoned District

Part of the S 1/2 of the SW 1/4 of Section
08 TWP 112 Range 14 in
Hay Creek Township

IUP request for a Utility Scale 1 MW
Solar Energy System

Legend

- | | | | |
|--|----------------------------|--|------------------------------|
| | Intermittent Streams | | Bluff Impact Zones (% slope) |
| | Protected Streams | | 30 |
| | Lakes & Other Water Bodies | | FEMA Flood Zones |
| | Shoreland | | 2% Annual Chance |
| | Historic Districts | | A |
| | Parcels | | AE |
| | Registered Feedlots | | AO |
| | Dwellings | | X |
| | Municipalities | | |

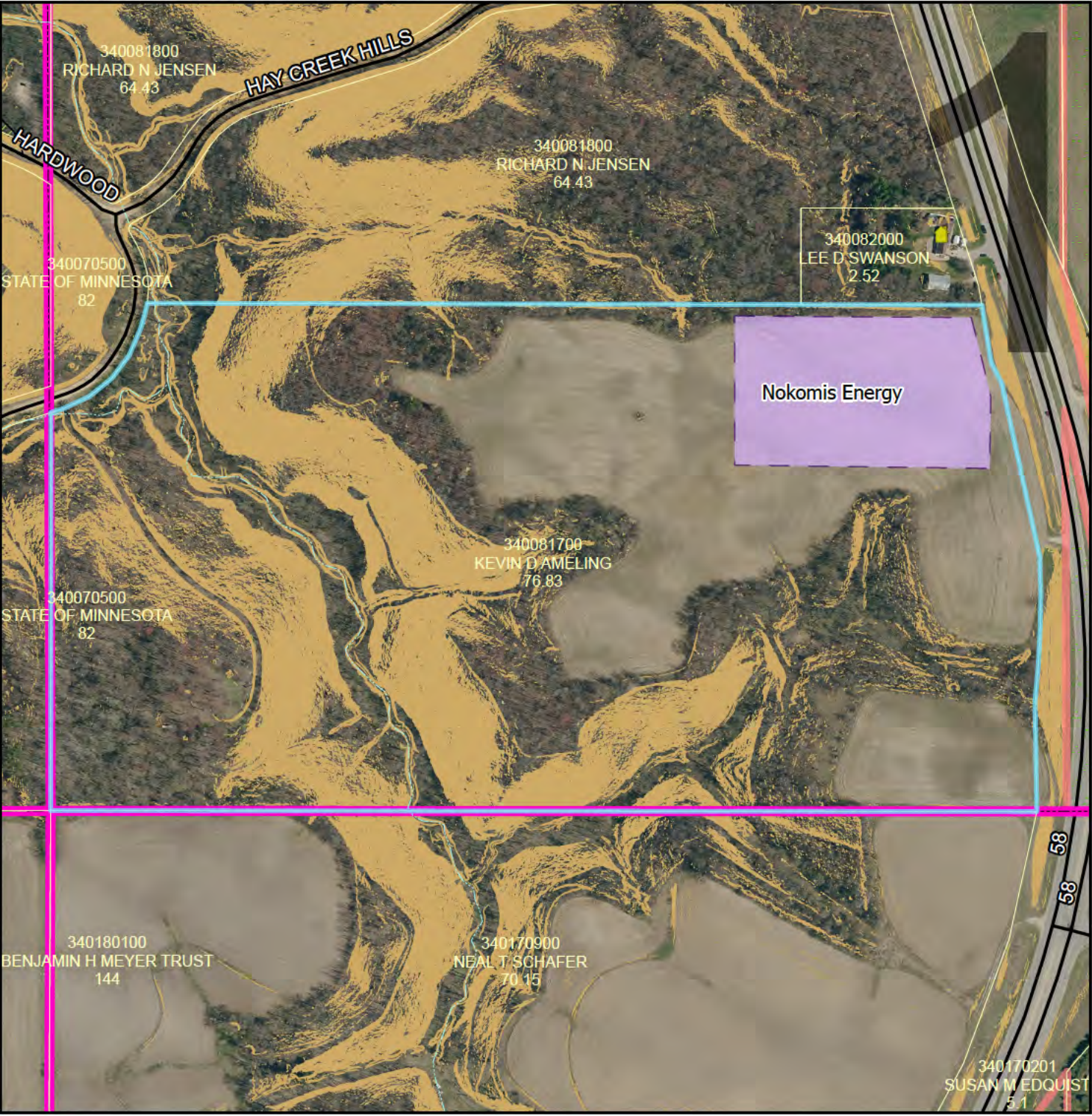


DATA DISCLAIMER: Goodhue County assumes NO liability for the accuracy or completeness of this map OR responsibility for any associated direct, indirect, or consequential damages that may result from its use or misuse. Goodhue County Copyright 2023.

2022 Aerial Imagery
Map Created December, 2023 by LUM



MAP 01: PROPERTY OVERVIEW



PLANNING COMMISSION

PAC Meeting
January 22, 2024

Kevin Ameling (Owner)

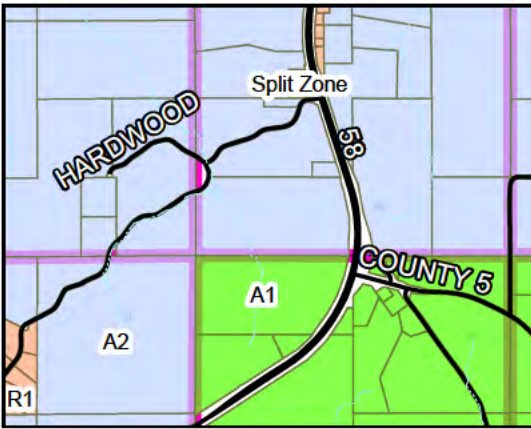
A2 Zoned District

Part of the S 1/2 of the SW 1/4 of Section
08 TWP 112 Range 14 in
Hay Creek Township

IUP request for a Utility Scale 1 MW
Solar Energy System

Legend

- | | | | |
|--|----------------------------|--|------------------------------|
| | Intermittent Streams | | Bluff Impact Zones (% slope) |
| | Protected Streams | | 20 |
| | Lakes & Other Water Bodies | | 30 |
| | Shoreland | | FEMA Flood Zones |
| | Historic Districts | | 2% Annual Chance |
| | Parcels | | A |
| | Registered Feedlots | | AE |
| | Dwellings | | AO |
| | Municipalities | | X |

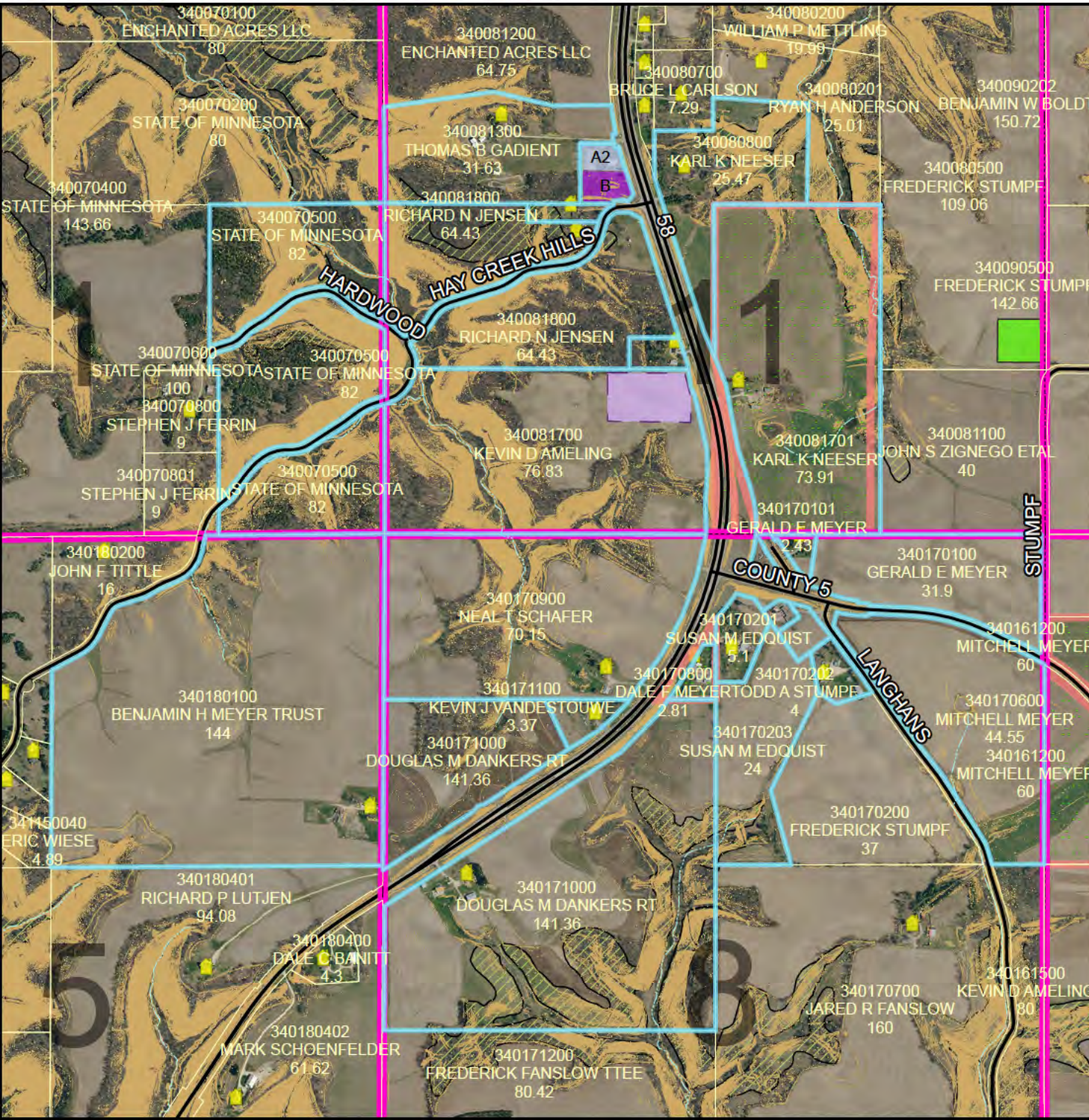


DATA DISCLAIMER: Goodhue County assumes
NO liability for the accuracy or completeness of this map
OR responsibility for any associated direct, indirect,
or consequential damages that may result from its use
or misuse. Goodhue County Copyright 2023.

2022 Aerial Imagery
Map Created December, 2023 by LUM



PUBLIC NOTICE: NEIGHBORHOOD MAILING MAP



PLANNING COMMISSION

PAC Meeting
January 22, 2024

Kevin Ameling (Owner)

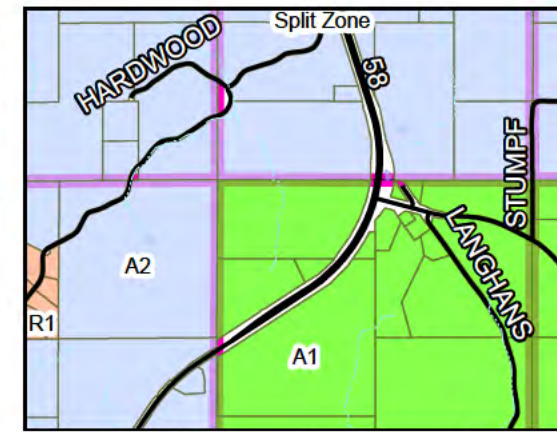
A2 Zoned District

Part of the S 1/2 of the SW 1/4 of Section
08 TWP 112 Range 14 in
Hay Creek Township

IUP request for a Utility Scale 1 MW
Solar Energy System

Legend

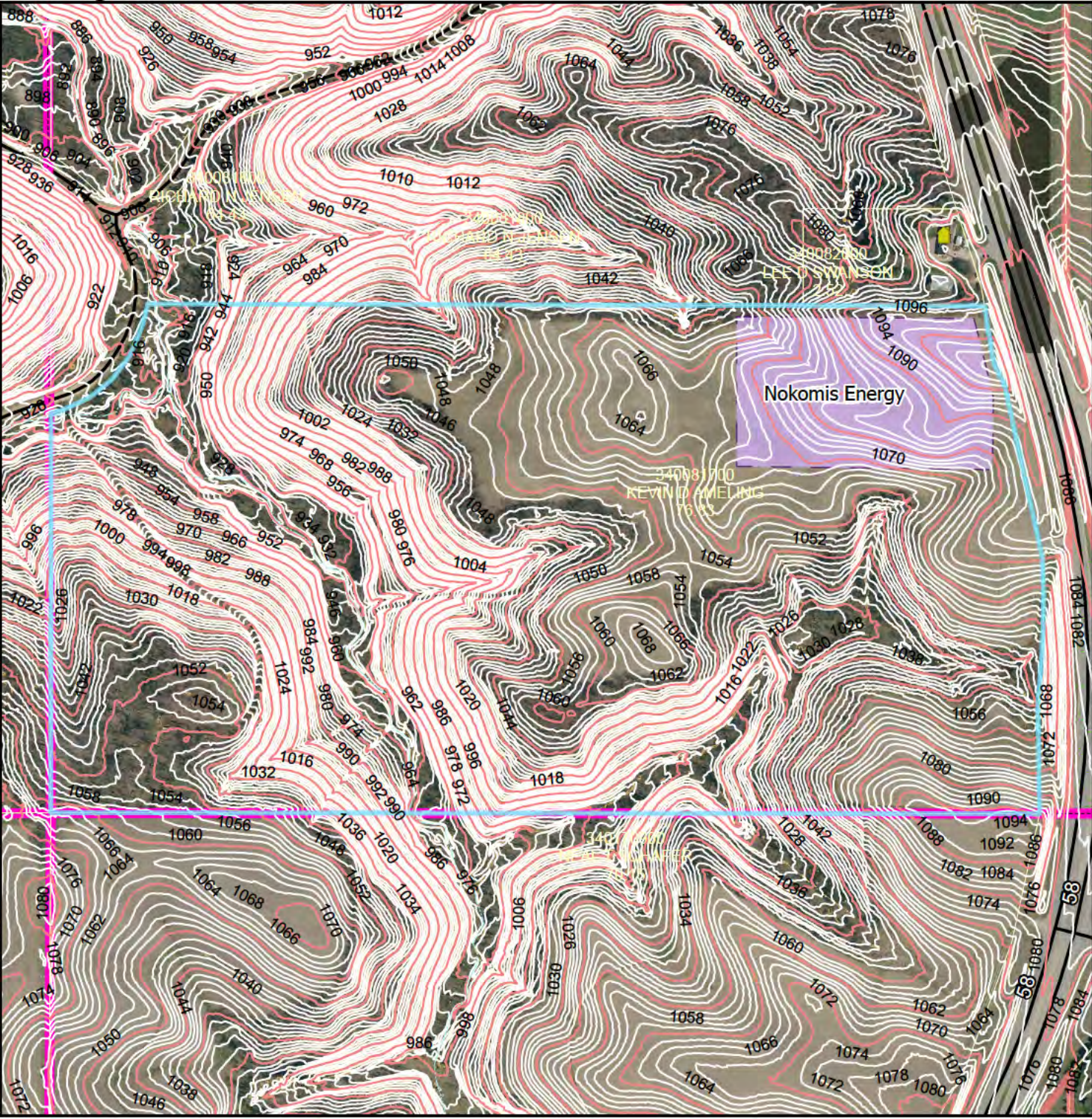
- | | | | |
|--|----------------------------|--|------------------------------|
| | Intermittent Streams | | Bluff Impact Zones (% slope) |
| | Protected Streams | | 30 |
| | Lakes & Other Water Bodies | | FEMA Flood Zones |
| | Shoreland | | A |
| | Historic Districts | | AE |
| | Parcels | | AO |
| | Registered Feedlots | | X |
| | Dwellings | | |
| | Municipalities | | |



DATA DISCLAIMER: Goodhue County assumes NO liability for the accuracy or completeness of this map OR responsibility for any associated direct, indirect, or consequential damages that may result from its use or misuse. Goodhue County Copyright 2023.

2022 Aerial Imagery
Map Created December, 2023 by LUM





PLANNING COMMISSION

PAC Meeting
January 22, 2024

Kevin Ameling (Owner)

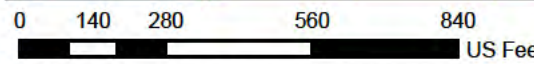
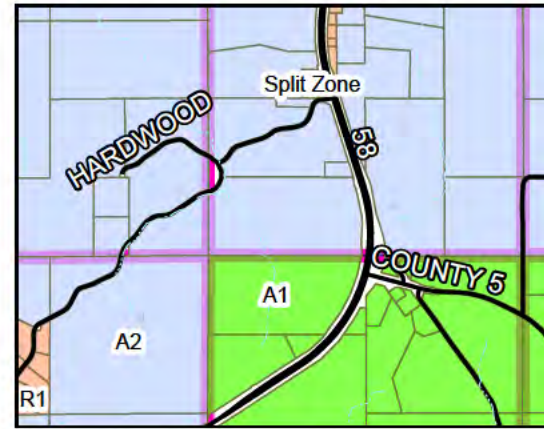
A2 Zoned District

Part of the S 1/2 of the SW 1/4 of Section
08 TWP 112 Range 14 in
Hay Creek Township

IUP request for a Utility Scale 1 MW
Solar Energy System

Legend

- Intermittent Streams
- Protected Streams
- Lakes & Other Water Bodies
- Shoreland
- Historic Districts
- Parcels
- Registered Feedlots
- Dwellings
- Municipalities
- Bluff Impact Zones (% slope) 20
- Bluff Impact Zones (% slope) 30
- FEMA Flood Zones 2% Annual Chance
- FEMA Flood Zones A
- FEMA Flood Zones AE
- FEMA Flood Zones AO
- FEMA Flood Zones X



DATA DISCLAIMER: Goodhue County assumes NO liability for the accuracy or completeness of this map OR responsibility for any associated direct, indirect, or consequential damages that may result from its use or misuse. Goodhue County Copyright 2023.

From: [Hildebrand, Chad](#)
To: [Lenzen, William](#)
Subject: RE: Nokomis Energy Solar Garden
Date: Tuesday, January 9, 2024 1:11:44 PM
Attachments: [Figure B Contour & BMP Map.pdf](#)
[Figure A Watershed & Flow Path Map.pdf](#)

Regarding the waterway/dry run, I have had time to review the project site with the solar developer in previous months. I have reviewed other project plans from them which they have sited two sediment basins to be installed to capture project site runoff in the NW corner and the SE corner. The location of these basins are situated in the two concentrated flow areas or in Subbasin 1 & 5 and would assume they are sized according to the contributing watershed size and standards required for the project.

I agree that these basins should be installed to help control runoff and gully erosion from occurring on the steep slope topography located on the neighboring parcels.

The location of these basins are not located in wetlands, which would result in no Wetland Conservation Act (WCA) regulation.

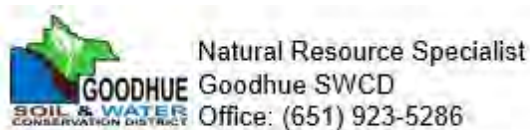
Having the entire solar project site seeded to vegetation is going to help the location withstand rain events and help reduce erosion. Please refer to Figure A to see the various watershed drainage areas on that parcel at the identified project location for more information.

Recommend that the installation of best management practices (BMPs) to help protect the steep slopes on the edge of the parcel should be in place before any work is started. Please refer to Figure B for approximate location. They should remain in place until at least 70 percent of the area is vegetated.

If there are any additional questions, please let me know.

Thank you,

Chad Hildebrand



104 East 3rd Ave
PO Box 335
Goodhue, MN 55027

www.goodhueswcd.org

From: Lenzen, William <william.lenzen@co.goodhue.mn.us>
Sent: Monday, January 8, 2024 2:57 PM

Hay Creek Township, Section 8 PIN 340081700



Current Date: 1/9/2024

Scale: 1:2,000

Legend






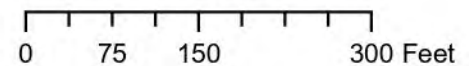
-  ParcelsGC
-  JonesSolarWtshd selection
-  Flow path
- Contours_2ft**
-  Intermediate
-  Index Contour

Figure A





Current Date: 1/9/2024
Scale: 1:2,000

Legend




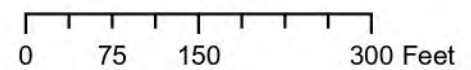
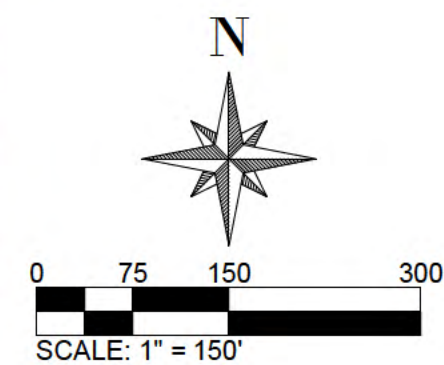
Description		Contours_2ft
— Temp Line		Intermediate
 BMP		Index Contour

Figure B



Plotted: 10/19/2020 8:50 PM By: Sarah Smedley

C:\Users\Sarah.Smedley\DC\ACC\Docs\Meridiam Engineering LLC\2101-03 Birch Garden LLC\CAD\Sheets\C100 JONES EXISTING.dwg



ENGINEER
 MERIDIAM ENGINEERING

UTILITY
 Xcel Energy™

OWNER/DEVELOPER
 NOKOMIS ENERGY

PRELIMINARY

NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	DESCRIPTION
0	12/08/2023	CONDITIONAL USE PERMIT

PROJECT

JONES GARDEN LLC (05331801)
 WGS84 GPS: 44.5168°, -92.5228°
 GOODHUE COUNTY, MN

SHEET NAME
EXISTING CONDITIONS

SHEET NUMBER
C101

SHEET SIZE
 22"x34"

REVISION
0

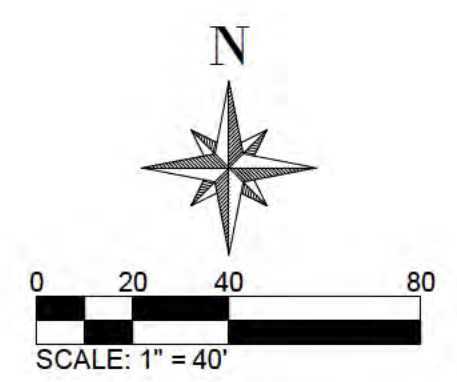
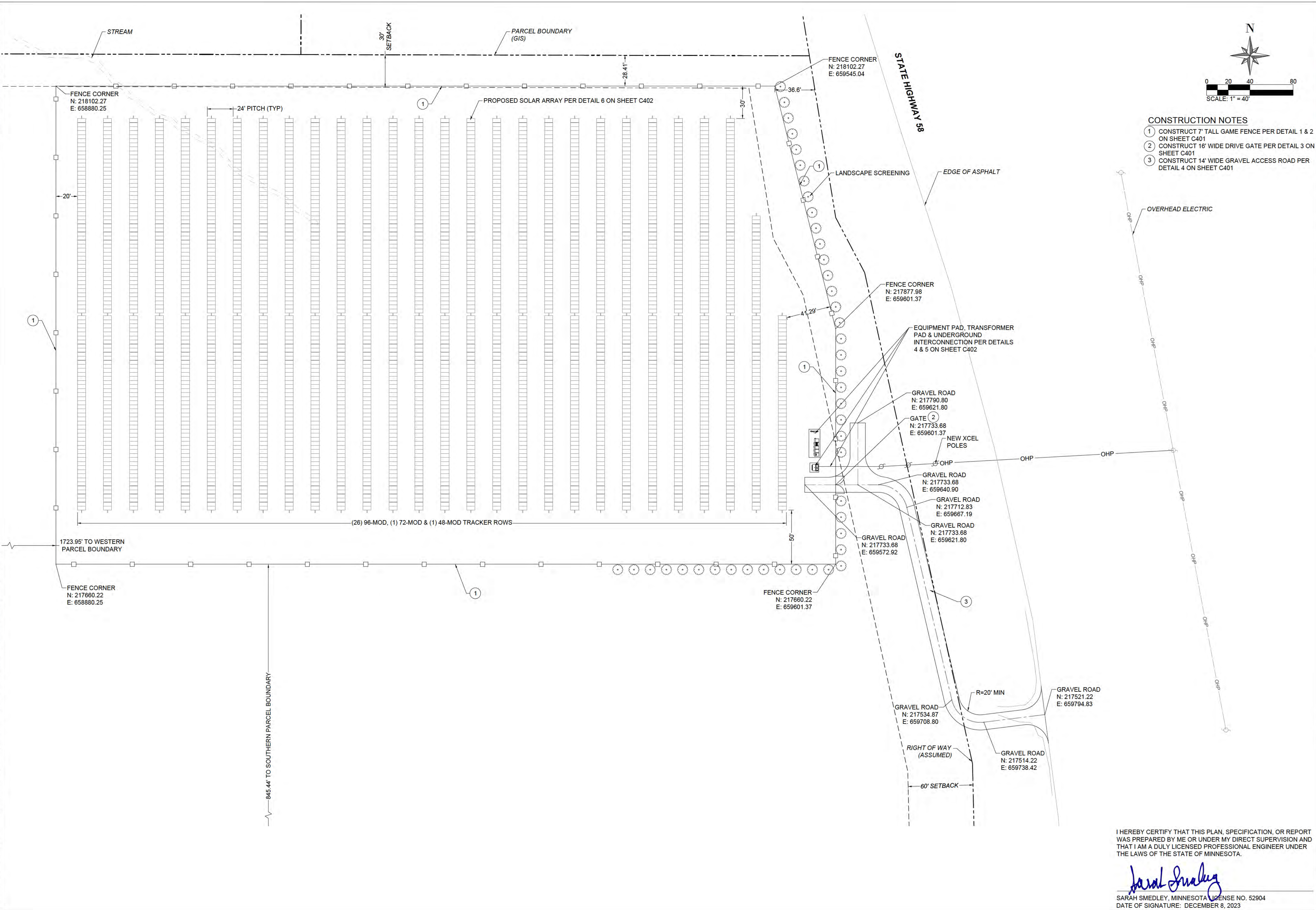
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Sarah Smedley

SARAH SMEDLEY, MINNESOTA LICENSE NO. 52904
 DATE OF SIGNATURE: DECEMBER 8, 2023

Plotted: 10/19/2020 8:50 PM By: Sarah Smedley

C:\Users\Sarah.Smedley\DC\ACC\Docs\Meridiam Engineering LLC\2101-03 Birch Garden LLC\CAD\Sheets\C200.JONES SITE PLAN.dwg



- CONSTRUCTION NOTES**
- 1 CONSTRUCT 7' TALL GAME FENCE PER DETAIL 1 & 2 ON SHEET C401
 - 2 CONSTRUCT 16' WIDE DRIVE GATE PER DETAIL 3 ON SHEET C401
 - 3 CONSTRUCT 14' WIDE GRAVEL ACCESS ROAD PER DETAIL 4 ON SHEET C401

ENGINEER
 MERIDIAM ENGINEERING

UTILITY
 Xcel Energy™

OWNER/DEVELOPER
 NOKOMIS ENERGY

PRELIMINARY

NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	DESCRIPTION
0	12/08/2023	CONDITIONAL USE PERMIT

PROJECT

JONES GARDEN LLC (05331801)
 WGS84 GPS: 44.5168°, -92.5228°
 GOODHUE COUNTY, MN

SHEET NAME
SITE PLAN

SHEET NUMBER
C201

SHEET SIZE
 22"x34"

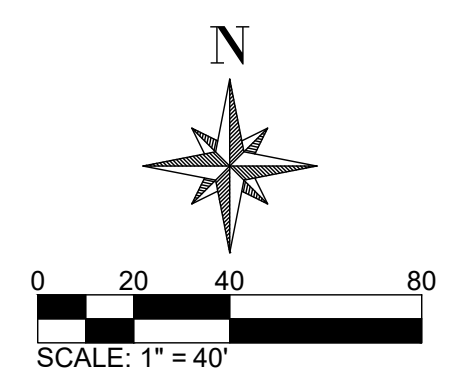
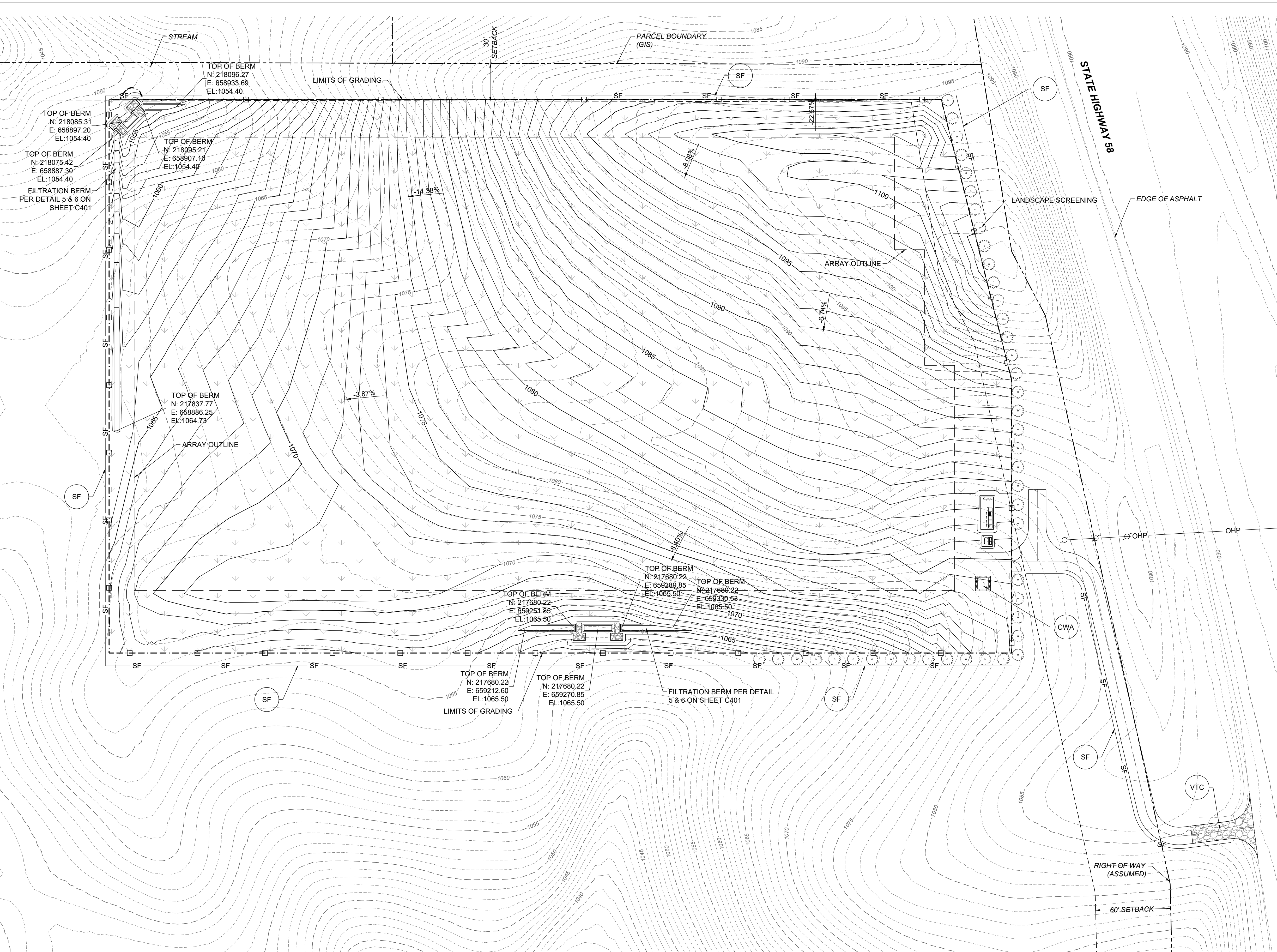
REVISION
0

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.

SARAH SMEDLEY, MINNESOTA LICENSE NO. 52904
 DATE OF SIGNATURE: DECEMBER 8, 2023

Plotted: 10/19/2020 8:50 PM By: Sarah Smedley

C:\Users\Sarah.Smedley\Documents\Meridiam Engineering LLC\210-1-03 Birch Garden LLC\CAD\Sheets\C300.JONES GRADING & EC.dwg



BMP LEGEND

- CWA CONCRETE WASH AREA PER DETAIL 1 ON SHEET C402
- SF SILT FENCE PER DETAIL 2 ON SHEET C402
- VTC VEHICLE TRACKOUT CONTROL PER DETAIL 3 ON SHEET C402
- NATIVE SEEDING - SEE LANDSCAPE PLANS UNDER A SEPARATE COVER

NOTE

TOTAL AREA OF DISTURBANCE DUE TO PILES, PADS, GRADING & ROAD = 7.29 AC

AREA OF IMPERVIOUS = 0.16 AC

SWPPP NARRATIVE

THIS PLAN IS TO SUPPLEMENT THE CONSTRUCTION OF JONES GARDEN LLC, A 1MW SINGLE AXIS TRACKER SOLAR SITE IN GOODHUE COUNTY, MN. THE CONSTRUCTION PROCESS WILL INCLUDE INSTALLATION OF A GRAVEL ROAD, PERIMETER FENCE, ARRAY RACKING AND MODULES MOUNTED TO DRIVEN PILES, INSTALLATION OF EQUIPMENT RACKS AND CONCRETE EQUIPMENT PADS, ELECTRICAL TRENCHING AND INSTALLATION, AND FILTRATION BERMS.

PRIOR TO ANY SITE DISTURBANCE, SILT FENCE AND/OR SEDIMENT LOGS AND VEHICLE TRACKOUT CONTROL WILL BE INSTALLED AS SHOWN ON THE PLANS. THESE TEMPORARY CONTROLS WILL BE INSTALLED PRIOR TO CONSTRUCTION IN ORDER TO MITIGATE SEDIMENT FROM LEAVING THE SITE AND AS NEEDED TO PREVENT CONSTRUCTION TRAFFIC FROM ENTERING THE SITE WITH FOREIGN SOILS. THE AREA OF THE PROPOSED ARRAY WILL BE MOWED AND THE CUTTINGS WILL BE SPREAD EVENLY AS A MULCH COVER AND THEN LIGHTLY ROLLED TO PROVIDE AN EVEN SURFACE. SITE GRADING NECESSARY FOR THE INSTALLATION OF THE SOLAR ARRAYS WILL BE COMPLETED. PRIOR TO ANY CONCRETE WORK OR CONCRETE DELIVERIES, A CONCRETE WASH AREA WILL BE INSTALLED AND PROPERLY MARKED.

UPON COMPLETION OF THE MECHANICAL AND ELECTRICAL INSTALLATION, THE APPROVED SEED MIX WILL BE APPLIED AS DIRECTED. IF NECESSARY, EROSION CONTROL BLANKETS CAN BE INSTALLED ON THE NEWLY GRADED/EXPOSED AREAS WITH STEEP SLOPES TO IMPED EROSION AND SOIL LOSS FROM WIND AND RAIN EROSION AS WELL AS TO HELP PERMANENT SEEDING TO TAKE HOLD. INSTALLATION OF THE FILTRATION BERMS WILL COMMENCE. TEMPORARY BMPs WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS UNTIL THE SITE REACHES FINAL STABILIZATION. ONCE STABILIZATION HAS OCCURRED ON THE SITE AND THE FILTRATION BERMS, THE TEMPORARY BMPs WILL BE REMOVED.

SWPPP NOTES

1. DISCHARGE FROM BMPs SHALL BE ROUTED TO VEGETATED AREAS UNLESS UNFEASIBLE
2. SWPPP AND EROSION PLAN SHALL BE KEPT ON SITE DURING CONSTRUCTION ALONG WITH ANY MODIFICATION MADE TO SWPPP
3. INSPECTIONS MUST BE MADE AT THE END OF EACH WORK DAY AND WHEN SEVERE WEATHER IS IMMINENT
4. THE SITE IS COMPRISED OF SOIL GROUP A/D IN LOCATIONS OF BERMS. CALCULATIONS WERE COMPLETED WITH SOIL GROUP D - SEELYVILLE, PONDED & MARKEY MUCK.

SWPPP DESIGNER

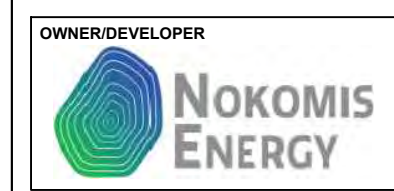
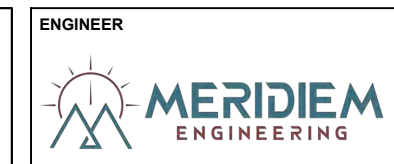
TOM REECE - MERIDIEM ENGINEERING LLC
DESIGN OF CONSTRUCTION SWPPP (EXP MAY 31, 2024)

SWPPP INSTALLATION & MAINTENANCE

PRIOR TO CONSTRUCTION SOMEONE WHO IS CERTIFIED FOR CONSTRUCTION INSTALLATION THROUGH THE EROSION AND STORMWATER MANAGEMENT CERTIFICATION PROGRAM AND WILL BE SUPERVISING THE INSTALLATION AND MAINTENANCE OF THE SITE BMPs. INSPECTION WILL BE COMPLETED BY AN INDIVIDUAL WHO HAS COMPLETED THE SWPPP MANAGER TRAINING. PERSONNEL WILL BE IDENTIFIED PRIOR TO CONSTRUCTION AND ADDED TO THE ONSITE EROSION CONTROL PLANS. NOKOMIS ENERGY LLC WILL BE RESPONSIBLE FOR THE LONG TERM MAINTENANCE OF THE PERMANENT BMPs.

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.

Sarah Smedley
SARAH SMEDLEY, MINNESOTA LICENSE NO. 52904
DATE OF SIGNATURE: DECEMBER 8, 2023



PRELIMINARY

NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	DESCRIPTION
0	12/08/2023	CONDITIONAL USE PERMIT

PROJECT

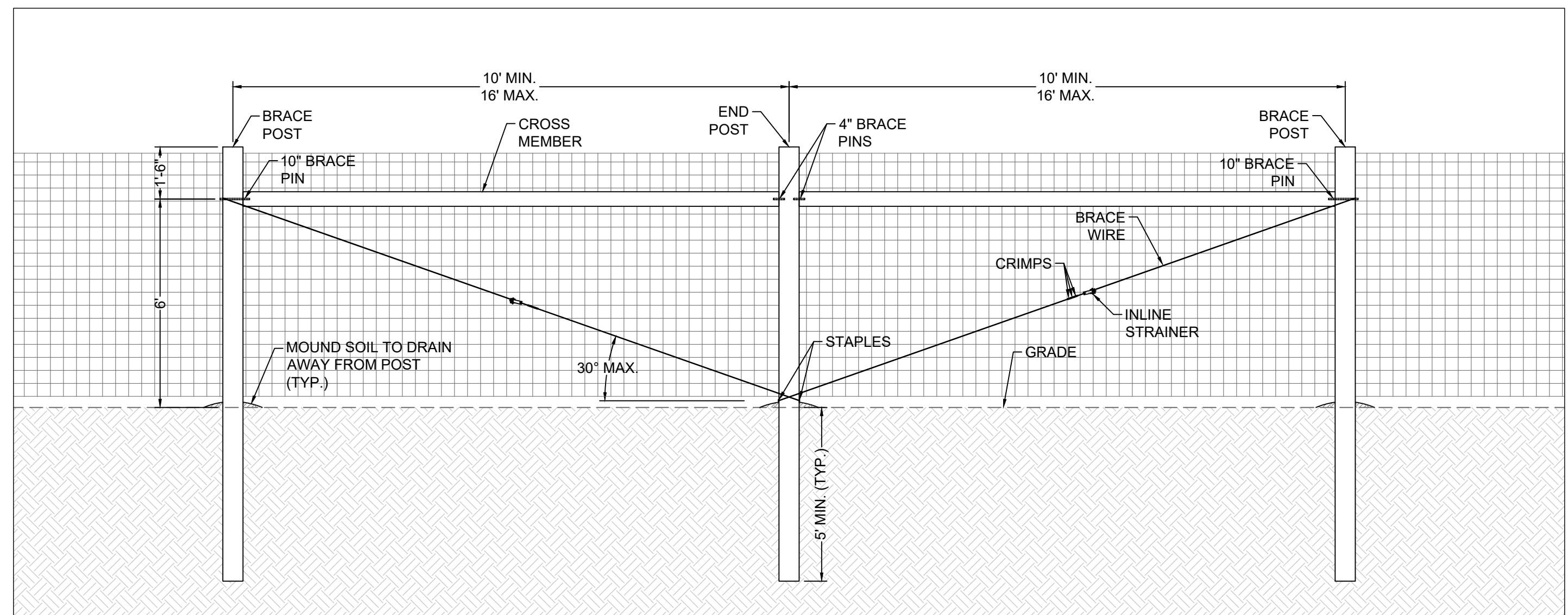
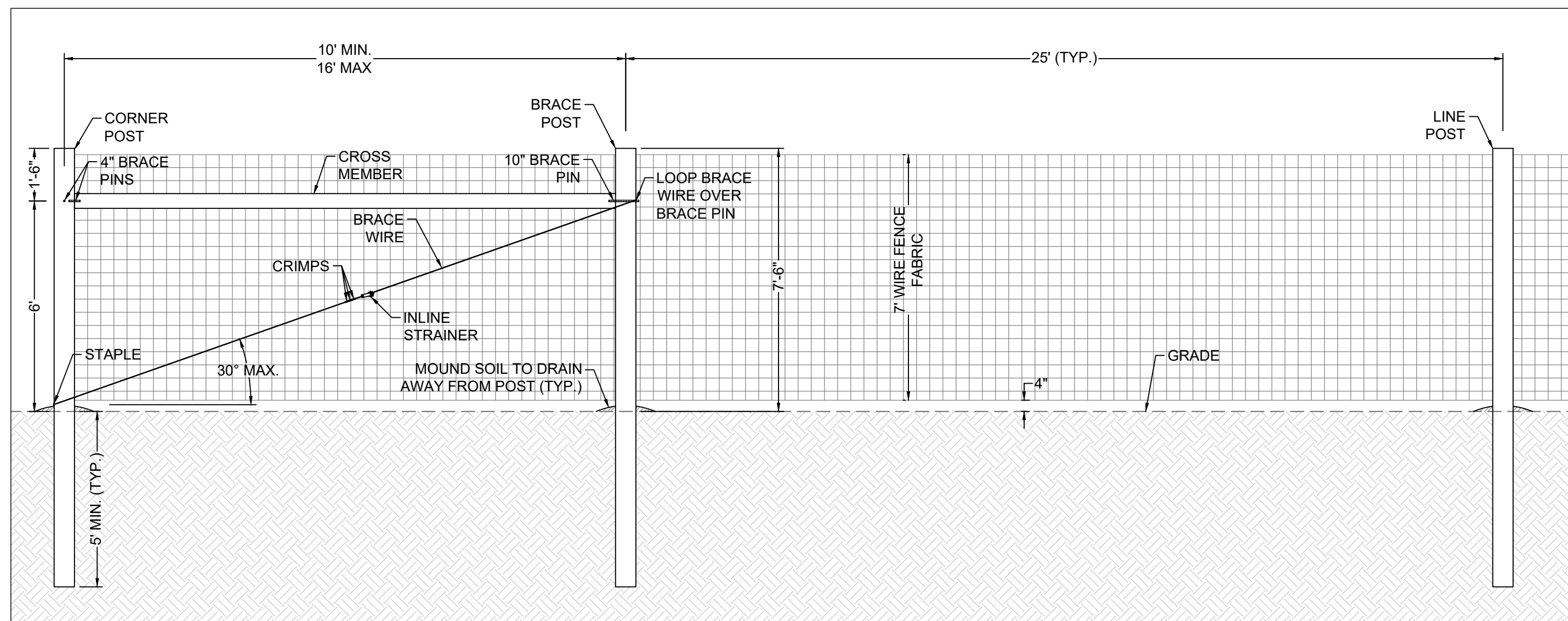
JONES GARDEN LLC (05331801)
WGS84 GPS: 44.5168° -92.5228°
GOODHUE COUNTY, MN

SHEET NAME
GRADING & EROSION CONTROL PLAN

SHEET NUMBER
C301

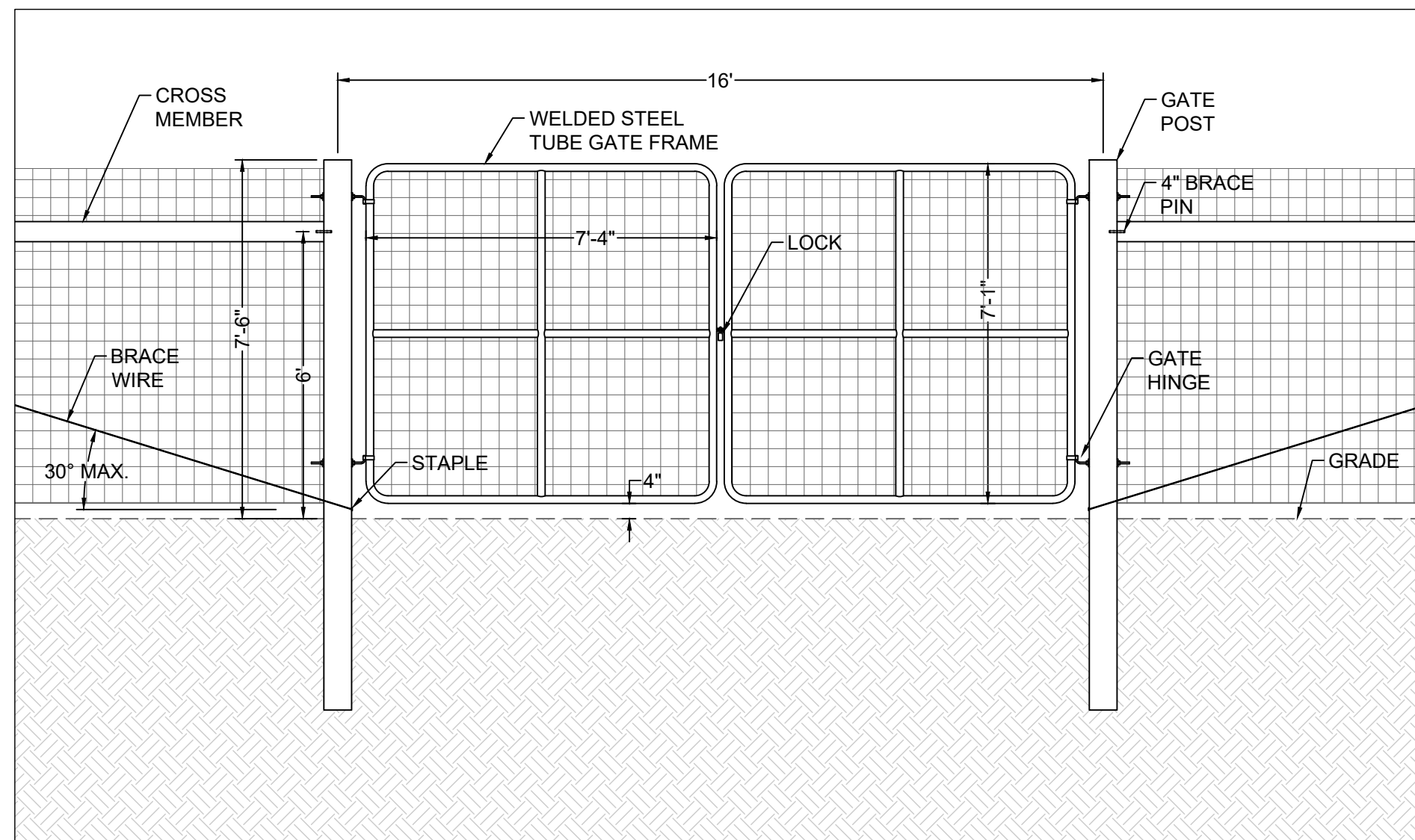
SHEET SIZE
22"x34"

REVISION
0



1 7' PERIMETER GAME FENCE
SCALE: 1"=3' VIEW: ELEVATION

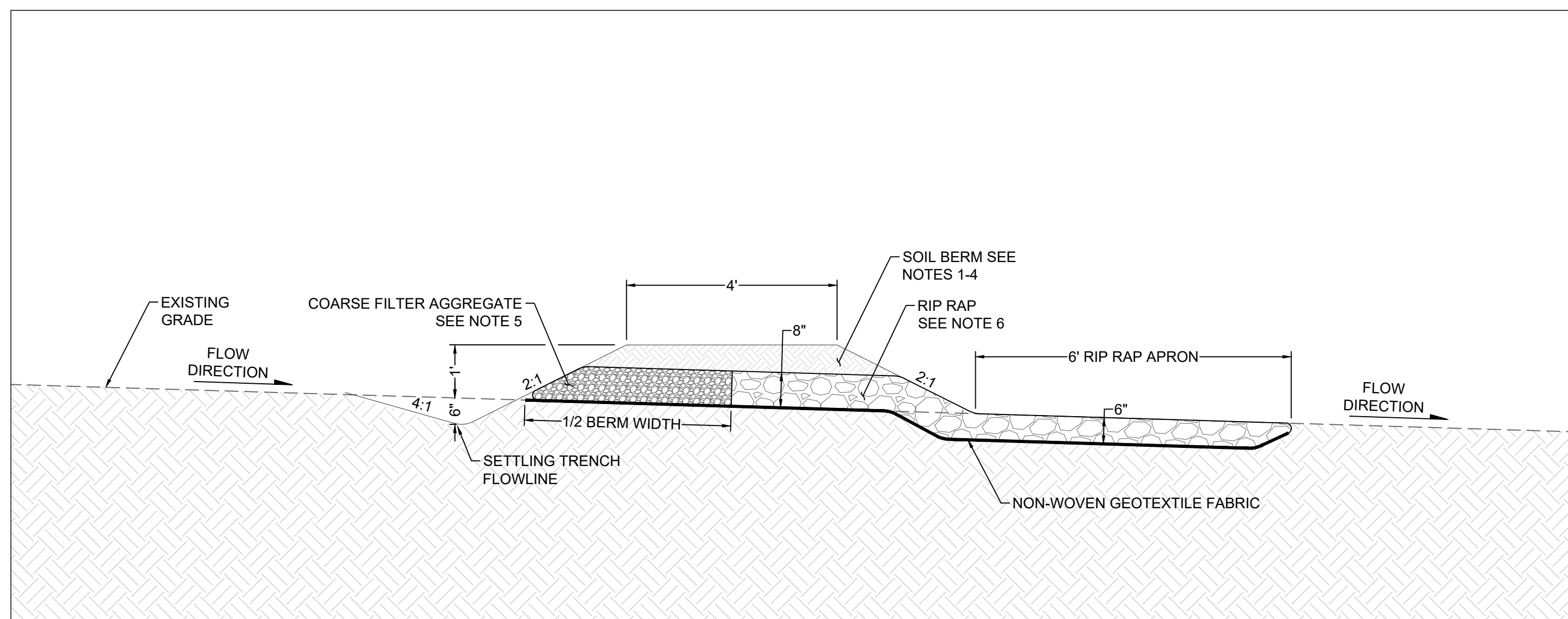
2 GAME FENCE BRACE PANEL
SCALE: 1"=3' VIEW: ELEVATION



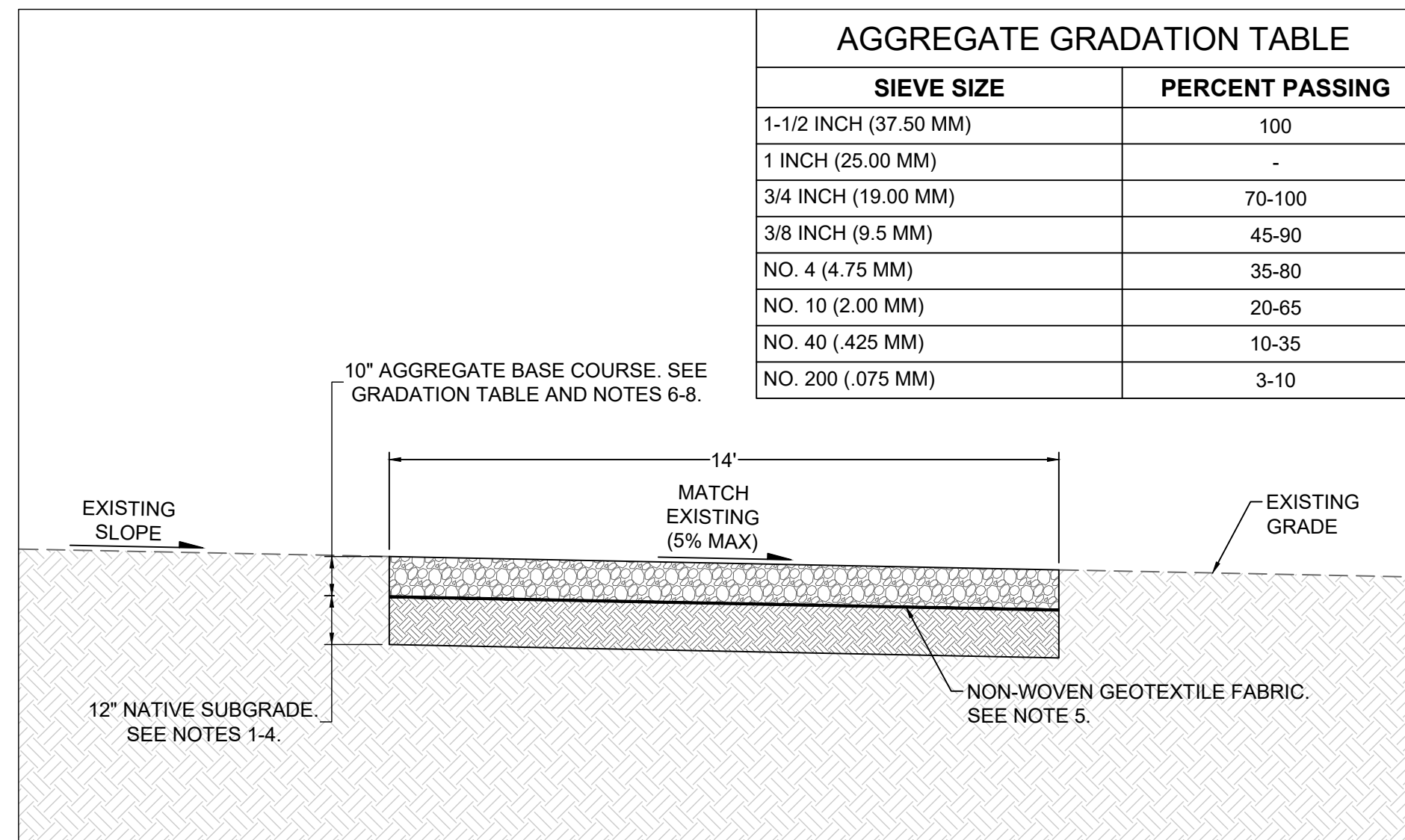
GAME FENCE & GATE NOTES

- FENCE DESIGN SHALL COMPLY WITH THE SPECIFICATIONS OF SECTION 110.31 "ENCLOSURE FOR ELECTRICAL INSTALLATIONS" FROM THE LATEST VERSION OF THE NATIONAL ELECTRIC CODE.
- ALL HARDWARE, FENCE FABRIC AND OTHER METAL COMPONENTS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
- FENCE FABRIC SHALL BE 12-1/2 GAUGE HIGH TENSILE CLASS 3 WELDED WIRE MESH WITH 4" OPENINGS.
- SOFTWOOD POSTS SHALL BE PRESSURE TREATED WITH CHROMATE COPPER ARSENATE WITH A MINIMUM LEVEL OF 0.40%. HARDWOOD POSTS DO NOT REQUIRE TREATMENT.
- VERTICAL POSTS (CORNER, BRACE, LINE, END, AND GATE) SHALL BE 7" DIAMETER HARDWOOD OR TREATED SOFTWOOD.
- CROSS MEMBERS SHALL BE 5" DIAMETER WOOD POSTS.
- BRACE PINS SHALL BE 1/2" DIAMETER OR GREATER.
- BRACE WIRE SHALL BE DOUBLE WRAPPED 12-1/2 GAUGE HI-TENSILE WIRE.
- STAPLES SHALL BE 1-3/4" DOUBLE BARBED SPACED AT 12" MAX.
- BRACE SECTIONS SHALL BE USED AT TERMINAL AND ANGLE POINTS AND WHERE THE DISTANCE BETWEEN BRACED SECTIONS EXCEEDS 1320'.
- GATES ALONG THE PERIMETER SHALL HAVE HEAVY DUTY BOLT-CUTTER RESISTANT PADLOCKS

3 16' DRIVE GATE
SCALE: 1"=3' VIEW: ELEVATION

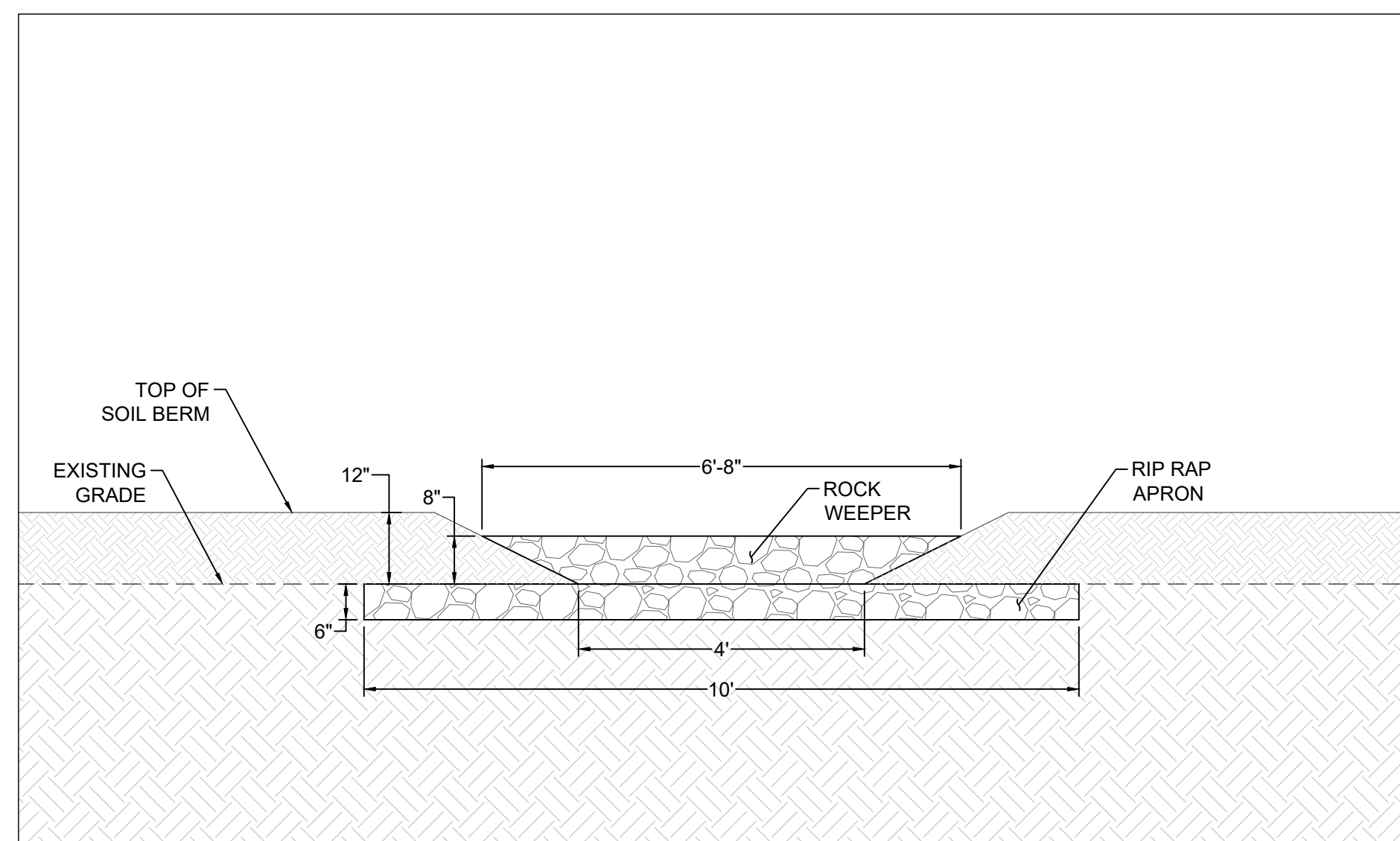


5 FILTRATION BERM
SCALE: 1"=2' VIEW: SECTION



AGGREGATE GRADATION TABLE	
SIEVE SIZE	PERCENT PASSING
1-1/2 INCH (37.50 MM)	100
1 INCH (25.00 MM)	-
3/4 INCH (19.00 MM)	70-100
3/8 INCH (9.5 MM)	45-90
NO. 4 (4.75 MM)	35-80
NO. 10 (2.00 MM)	20-65
NO. 40 (.425 MM)	10-35
NO. 200 (.075 MM)	3-10

4 AT-GRADE ACCESS ROAD
SCALE: 1"=3' VIEW: SECTION



6 FILTRATION BERM - ROCK WEEPER
SCALE: 1"=2' VIEW: SECTION

ACCESS ROAD NOTES

- SOIL PREPARATION SHALL INCLUDE THE REMOVAL OF EXISTING VEGETATION, CULTIVATED SOIL, TOPSOIL, AND OTHER SOFT, UNSUITABLE OR DELETERIOUS MATERIAL AND CLODS OR FRAGMENTS LARGER THAN 3" IN ANY DIMENSION.
- NATIVE MATERIAL SHALL BE SCARIFIED TO THE FULL DEPTH OF THE SUBGRADE AND MIXED TO ACHIEVE UNIFORM MOISTURE CONTENT AT ±3% OF OPTIMUM AND RECOMPACTED TO 95% OF THE MAXIMUM DRY DENSITY USING STANDARD PROCTOR METHOD (ASTM-D698).
- THE COMPACTED SUBGRADE SHALL BE PROOF ROLLED AND SOFT OR UNYIELDING AREAS OR LOW POINTS WHICH MAY COLLECT WATER SHALL BE REPAIRED IN PLACE BY ADDITIONAL DENSIFICATION/COMPACTION, OR REPLACED WITH ENGINEERED FILL.
- IF FROZEN SOILS ARE ENCOUNTERED THEY SHALL BE REMOVED AND REPLACED WITH SUITABLE FILL PRIOR TO PLACING SUBGRADE OR SURFACE MATERIAL.
- PROTRUDING SHARP OBJECTS SHALL BE REMOVED FROM THE FINISHED SUBGRADE PRIOR TO PLACING THE GEOTEXTILE.
- SURFACE AGGREGATE SHALL CONFORM TO MNDOT STANDARD SPEC 3138.
- AGGREGATES SHALL BE FREE FROM LARGE QUANTITIES OF DUST, SOFT OR FLAKY PARTICLES, LOAMS, ALKALI, ORGANIC MATTER, PAPER, WOOD, OR OTHER DELETERIOUS MATTER.
- SURFACE AGGREGATE SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY AT ±3% OF THE OPTIMUM MOISTURE CONTENT USING STANDARD PROCTOR METHOD (ASTM-D698).
- UPON COMPLETION OF CONSTRUCTION THE ROAD SURFACE SHALL BE INSPECTED FOR FINISHING AND ANY LOW POINTS SHALL BE RESTORED TO FINISHED GRADE AND TEMPORARY ROADS UTILIZED DURING CONSTRUCTION SHALL BE REMOVED AND RESTORED TO PRE-CONSTRUCTION CONDITION.

FILTRATION BERM NOTES

- SOIL PREPARATION SHALL INCLUDE THE REMOVAL OF EXISTING VEGETATION, CULTIVATED SOIL, TOPSOIL, AND OTHER SOFT, UNSUITABLE OR DELETERIOUS MATERIAL AND CLODS OR FRAGMENTS LARGER THAN 3" IN ANY DIMENSION.
- SOILS USED TO CONSTRUCT THE BERM SHALL BE FREE OF ROOTS, VEGETATION, ORGANIC MATTER, AND CONTAIN A SAND CONTENT BELOW 70 PERCENT.
- SOIL SHALL BE MIXED TO ACHIEVE UNIFORM MOISTURE CONTENT AND COMPACTED. THE FINISHED BERM MUST BE STABILIZED IMMEDIATELY WITH PERMANENT VEGETATION OR EROSION CONTROL BLANKETS. IN AREAS WHICH ARE ANTICIPATED TO RECEIVE HIGH FLOW, SEED SHALL BE COVERED WITH EROSION CONTROL BLANKETS UNTIL PERMANENT VEGETATION IS ACHIEVED.
- BERMS SHALL BE INSTALLED ON THE CONTOUR PERPENDICULAR TO SHEET FLOW AND SHALL HAVE A CONSISTENT SHAPE THROUGHOUT
- COARSE FILTER AGGREGATE SHALL BE 1" ROCK CONSISTING OF NATURALLY OCCURRING UNIFORMLY BLENDED MINERAL MATERIALS WITH NO MORE THAN 20% PASSING THE NO. 200 SIEVE AND CONTAINING NO TOPSOIL, ORGANICS, OR SEVERELY WEATHERED ROCK.
- RIP RAP SHALL HAVE A D50 = 6" AND SHALL BE FREE OF SOIL AND OTHER DEBRIS AND CONSIST OF STONES WITH AT LEAST ONE FRACTURED FACE WHOSE WIDTHS ARE NOT LESS THAN 30% OF THE LENGTH OF EACH STONE.
- INSPECT BERMS WEEKLY AND BEFORE AND AFTER A RAIN EVENT. REPAIR DAMAGED AREAS WITHIN 24 HOURS AND REESTABLISH VEGETATIVE COVER OR TEMPORARY STABILIZATION AS SOON AS POSSIBLE. IF PORTIONS OF THE BERM OUTSIDE OF THE ROCK FILTERS ARE BREACHED THE BERM SHALL BE EXPANDED OR ENLARGED UNTIL BREACHING IS PREVENTED.

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.

Sarah Smedley
SARAH SMEDLEY, MINNESOTA LICENSE NO. 52904
DATE OF SIGNATURE: DECEMBER 8, 2023

REVISIONS		
NO.	DATE	DESCRIPTION
0	12/08/2023	CONDITIONAL USE PERMIT

JONES GARDEN LLC (05331801)
WGS84 GPS: 44.5168° -92.5228°
GOODHUE COUNTY, MN