

ARTICLE 4. SPECIAL USE STANDARDS

Sec. 4-1 Accessory Solar Energy System

4-1-1 Purpose

This section is established to enable the use of accessory solar energy systems (SES) while protecting the character of residential neighborhoods and prominent roadway corridors.

4-1-2 Permitting Districts

Accessory building- or roof-mounted SES are permitted in all zoning districts. Accessory ground-mounted SES are permitted in the Agricultural District (AG), Rural Residential District (R-5A), Recreational District (REC), Light Industrial District (I-1), and Heavy Industrial District (I-2)

4-1-3 Definitions

- (A) **Solar Energy System.** A device, array of devices, or structural design feature that provides for the generation, storage, or transmission of photovoltaic electricity or that utilizes solar energy for space heating or cooling, interior lighting, or water heating. Solar energy systems are intended to produce and distribute energy for wholesale.
- (B) **Solar Energy System (SES), Accessory.** A device such as rooftop solar panels or stand-alone panels that generate and utilize solar energy or photovoltaic electricity on-site. An accessory SES does not distribute electricity for wholesale and is an accessory use on the parcel(s) on which it is located.

4-1-4 General Standards

- (A) **Building Permit.** A building permit is required for the installation of all SES.
- (B) **Glare.** All SES using a reflector to enhance solar production shall minimize glare from the reflector affecting adjacent or nearby properties.

4-1-5 Standards for Roof-Mounted SES

- (C) **Height.** Roof-mounted SES shall not exceed the maximum allowed height in any zoning district.

- (D) **Setbacks.** Roof-mounted SES shall not extend beyond the exterior perimeter of the building on which the system is mounted, unless the collector and mounting systems has been explicitly engineered to extend beyond the building edge and setback standards are not violated.
- (E) **Aesthetics.** Roof-mounted systems on pitched roofs that are visible from the right-of-way shall have the same finished pitch as the roof and shall not extend more than ten (10) inches above the roof. Roof-mounted systems on flat roofs that are visible from the right-of-way shall not extend more than three (3) feet above the roof.

4-1-6 Standards for Ground-Mounted SES

- (A) **Height.** Small ground-mounted SES shall not extend more than 15 feet above grade when solar arrays are oriented at maximum tilt.
- (B) **Setbacks.** Small ground-mounted SES shall not extend into the side or rear yard setback when oriented at minimum tilt, except as otherwise allowed for building mechanical systems.
- (C) **Accessory Structure Limitations.** Small ground-mounted SES shall not count toward accessory structure limitations.
- (D) **Septic Fields.** Small ground-mounted SES shall not be located over a septic field.
- (E) **Compliance with Other Laws and Ordinances.** All SES shall comply with applicable Local, State, and Federal laws and ordinances not in conflict with this Section, including but not limited to building codes, fire codes, electrical codes, and placement in floodplains.

Sec. 4-2 Utility-Scale Solar Energy System

4-2-1 Purpose

This section is established to enable the orderly development of utility-scale solar energy systems (SES) in McKenzie County; to protect public health, safety, and welfare; and to minimize adverse impacts to pre-existing development, infrastructure, and economic activities.

4-2-2 Permitting Districts

Utility-scale SES may be permitted in the Agricultural District (AG) with a conditional use permit, subject to the standards of this section.

4-2-3 Definitions

- (A) **Agrivoltaics.** A utility-scale SES co-located with an agricultural use or uses, such as crop production, grazing, beekeeping, etc.
- (B) **Solar Energy System.** A device, array of devices, or structural design feature that provides for the generation, storage, or transmission of photovoltaic electricity or that utilizes solar energy for space heating or cooling, interior lighting, or water heating.
- (C) **Solar Energy System, Utility-Scale.** Any SES that produces and distributes photovoltaic electricity for wholesale. A utility-scale SES has a minimum capacity of 20 megawatts (MW) and is the principal use on the parcel(s) on which it is located.

4-2-4 Development Standards

- (D) **Solar Array Height.** Ground-mounted SES shall not extend more than 20 feet above grade when solar arrays are oriented at maximum tilt.
- (E) **Ground Clearance.** Panels shall be placed at least two (2) feet off the ground when oriented at maximum tilt, as measured from the panel edge, and allow at least four (4) feet of clearance for mowing and other maintenance.
- (F) **Setback Standards.** Setbacks shall be measured as the horizontal distance between the nearest solar array or other structural component integral to SES operation and the roadway centerline. All setbacks may be reduced by up to 50 percent if solar arrays are fully screened from the setback point of measurement, so long as development satisfies the Agricultural District (AG) setback requirements (*Table 3-2*) and McKenzie County’s general roadway setback standards (*Section 2-10*).

Table 1-1. Utility-Scale Solar Facility Setback Standards

Building/Feature	Setback Distance
Occupied Buildings (Participating) ¹	50 feet
Occupied Buildings (Non-Participating)	250 feet
Property Lines (Non-Participating) ²	100 feet
Federal, State, and County Roads ³	250 feet
Township Roads	150 feet
Section Lines	133 feet
1. Denotes participating and non-participating landowner properties. 2. Setbacks from property lines for non-participating properties may be reduced to 25 feet with written permission from the affected landowner.	

3. Measured from the roadway centerline.

- (G) **Septic Fields.** Ground-mounted SES shall not be located over a septic field.
- (H) **Construction and Maintenance Standards.**
 - (1) **Roads.** Roads accessing utility-scale SES may be required by the County Engineer. The location and construction of access roads and other infrastructure shall, to the extent reasonably practicable, minimize disruption to the landscape, farmland, and agricultural operations. All public roads must be constructed to McKenzie County standards. The applicant shall ensure that, following completion of construction of a utility-scale SES, County roads will be repaired or restored to a condition satisfactory to the County Engineer.
 - (2) **Power and Communication Lines.** Power and communication lines running between the banks of solar arrays may be placed above ground, provided they do not extend above the solar modules. Power and communication lines to electric substations or interconnections with buildings shall be buried underground. Exemptions may be granted by the Planning and Zoning Director in the following cases:
 - (a) Where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines.
 - (b) When required by the utility company.
 - (3) **Ground Cover.** Grassland/grazing vegetation shall be installed and maintained for the duration of use. Panels shall be placed to allow vegetation to establish and become self-sustaining, and to facilitate mowing and maintenance of the site. A seeding plan and maintenance plan shall be submitted prior to issuance of the building permit.
 - (4) **Inspection.** The owner/operator of the SES facility shall allow the McKenzie County Soil Conservation District to conduct site visits to verify that ground cover is properly maintained. McKenzie County may require submittal of an inspection fee prior to construction to support ongoing inspection of ground cover.
 - (5) **Agrivoltaics.** Applicants are encouraged to co-locate utility-scale SES with compatible agricultural uses, including crop production

and grazing, to mitigate the loss of farmland. In facilities that incorporate agrivoltaics, panels should be arranged to enable such activities to occur in a safe and effective manner.

- (6) **Tree Removal.** Large-scale tree removal is discouraged. Permittees shall minimize removal of trees and shall not remove tree groves or shelterbelts without written approval of the landowner.
- (7) **Compliance with Other Laws and Ordinances.** All SES shall comply with applicable Local, State, and Federal laws and ordinances not in conflict with this Section, including but not limited to building codes, fire codes, electrical codes, and placement in floodplains.

(I) **Public Safety Standards**

- (1) **Public Safety Plan.** Prior to construction, the applicant shall prepare a public safety plan in consultation with local fire departments, law enforcement, and the McKenzie County Emergency Management Coordinator.
- (2) **Security.** A minimum 6-foot security fence shall enclose all electrical and mechanical components of the SES facility. Fences shall be maintained by the owner/operator of the facility. Lock boxes and keys shall be stored at locked entrances for emergency personnel access.
- (3) **Firebreak.** To mitigate fire risk, vegetation clearance shall be maintained around the site perimeter. A clear area with a minimum width of 10 feet of defensible space shall be maintained within the fence line with additional defensible space outside the fence line. The developer/operator of the SES facility shall be responsible for maintaining this area free of potential fire hazards in accordance with the approved public safety plan.
- (4) **Signage.** Signs identifying the SES facility owner, operator, and emergency contact information shall be affixed at all entrances to the facility. Warning signs, including contact information, shall be displayed at intervals of 500 feet along the perimeter of the facility.

4-2-5 Site Decommissioning and Restoration

- (J) **Decommissioning.** Within one (1) year of termination or abandonment of leases or easements for a utility-scale SES in McKenzie County, the permittee shall, at its expense, fully remove all SES structures and

components from the site. Underground cables do not require removal, but any easements of record must be released.

- (K) **Surface Restoration.** Areas disturbed by the construction or decommissioning of a utility-scale SES shall be restored to their original condition and shall be graded, top-soiled, and reseeded according to Natural Resource Conservation (NRCS) recommendations or similar best practices, unless the landowner requests in writing that access roads or other development be retained.

4-2-6 Application Requirements

- (A) **Environmental Review.** Applicants shall fulfill all State and Federal requirements for environmental review and permitting, including a wetland determination, wetland mitigation, archeological surveys, biological surveys, and storm water permitting, in coordination with the U.S. Army Corps of Engineers (USACE), the U.S. Fish and Wildlife Service (USFWS), North Dakota Game and Fish (NDGF), the State Historic Preservation Office (SHPO), and other agencies, as needed.
- (B) **Development Plan.** Applications for utility-scale SES shall include to-scale horizontal and vertical (elevation) drawings. Drawings must show the location of solar arrays, access roads, any required landscaping, occupied buildings within and adjacent to the site, utility buildings, and property lines.
- (C) **Visual Impact Assessment.** Applicants shall prepare a visual impact assessment for the proposed SES. The visual impact assessment must analyze the potential visual impacts of solar panels and fencing from non-participating properties. To mitigate visual impacts, the County Board of Commissioners may require vegetative screening or buffering in accordance with *Section 2-12* of this Ordinance.
- (D) **Platting Process.** Applicants shall satisfy all requirements for subdivision platting and easement recordation, as needed. See *Article X – Subdivision Regulations*.
- (E) **Reclamation Bond.** To ensure compliance with these regulations the permittee shall post a reclamation bond pursuant to *Section 2-13* of this Ordinance.