

**1. Add the following to Section 3.0 Definitions:**

**AREA OF REVIEW (AOR):** The region surrounding the geologic sequestration project where underground sources of drinking water (USDWs) could potentially be endangered by the injection of carbon dioxide, as determined through computational modeling based on site characteristics and proposed operations. This has the same meaning as in 40 CFR 146.3.

**CAP ROCK:** the layer of impermeable rock that sits above the carbon dioxide injection zone for a CLASS VI UNDERGROUND INJECTION WELL. This layer acts as a barrier that prevents the injected carbon dioxide from escaping and mixing with drinking water aquifers.

**CARBON DIOXIDE INJECTION WELL:** A facility by which a stream of carbon dioxide is injected into underground geologic formations for long-term storage.

**Commented [EML1]:** This definition was modeled after the new IL Safe CCS Act (415 ILCS 5/59).

**CARBON DIOXIDE SEQUESTRATION FIELD:** All ground surface property under which carbon dioxide is reasonably likely to flow beneath from CARBON SEQUESTRATION ACTIVITY based on the planned capacity of the CARBON SEQUESTRATION ACTIVITY facility.

**CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF):** The carbon dioxide sequestration reservoir, underground equipment including but not limited to injection well penetrations, and ground surface facilities and equipment used or proposed to be used in carbon dioxide sequestration activities including all CARBON DIOXIDE INJECTION WELLS. This definition does not include pipelines used to transport carbon dioxide to a CDSF.

**CARBON DIOXIDE PLUME (PLUME):** The dispersing volume of carbon dioxide in the underground geological formation containing pore space.

**Commented [CS2]:** CO2 might combine with other elements to form other fluids. This should include the probable area because direct detection is uncertain at this time.

**CLASS VI UNDERGROUND INJECTION WELL PERMIT:** The United States Environmental Protection Agency approved permit required for underground injection of carbon dioxide.

**MAHOMET AQUIFER:** A primary sand and gravel aquifer as mapped by the Illinois State Water Survey in 2012 and as subsequently modified by the results of Helicopter-based Time-Domain Electromagnetics (HTEM) study of the boundary of the MAHOMET AQUIFER. This includes but may not be limited to the aquifer designated by the United States Environmental Protection Agency as sole-source under the Safe Drinking Water Act on March 19, 2015.

**OUTDOOR GATHERING SPACE:** a venue that can accommodate a large number of people for events and gatherings. Examples include, but are not limited to, community or regional parks, beaches, and golf courses

**PORE SPACE:** The portion of geologic media that can be used to store carbon dioxide.

**Commented [CS3]:** An alternative definition might be more generic. Portion of geologic media not occupied by solids.

**PORE SPACE OWNER:** The person(s) who has or have title to PORE SPACE.

~~PRIMARY MAJOR SAND AND GRAVEL AQUIFER: Any sand and gravel water bearing aquifer that serves as a source of potable water in Champaign County. Major sand and gravel aquifers as mapped by the Illinois State Geological Survey (ISGS). This definition includes the MAHOMET AQUIFER and the Glasford Aquifer. Note that the extent of PRIMARY SAND AND GRAVEL AQUIFERS in the County may be more extensive than generally indicated in the Champaign County Land Resource Management Plan as adopted on April 22, 2010.~~

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Commented [CS4]: This seems to include glacial meltwater channels and unrecognized bedrock valley aquifers.

SAFE CCS ACT: Public Act 103-065 that is otherwise known as the Safety and Aid for the Environment in Carbon Capture and Sequestration Act.

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WELL BLOWOUT: the uncontrolled high-velocity release of carbon dioxide during injection activities due to well integrity failure that can pose risks to human health and the environment.

Commented [JH5]: This was included in the July 1 version

2. Amend Section 5.2 as follows:

SECTION 5.2 TABLE OF AUTHORIZED PRINCIPAL USES

Principal USES	Zoning DISTRICTS													
	CR	AG-	AG-	R-1	R-2	R-3	R-4	R-5	B-1	B-2	B-3	B-4	B-5	I-1
Industrial Uses: Miscellaneous Manufacturing and Industries														
CARBON SEQUESTRATION ACTIVITY CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF)		M B <sup>31</sup>	M B <sup>31</sup>											M B <sup>31</sup>

Footnotes

~~31. See Section 5.5 for details on the Safety Moratorium on CARBON SEQUESTRATION ACTIVITY.~~

2. Add new subparagraph 4.2.1 C.8. as follows:

8. A CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) may be authorized as a County Board SPECIAL USE permit in the AG-1, Agriculture Zoning District or the AG-2 Agriculture Zoning District as a second PRINCIPAL USE on a LOT with another PRINCIPAL USE.

3. Add new subparagraph 4.3.4 H.4.i. as follows (similar to existing 4.3.4 H.4.h. for wind farms):

- j. CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) except as PIPELINE IMPACT RADIUS regulations are required in Subsection 6.1.5.

5. Add the following as footnote 16 under the Special Provisions for the AG-1 and AG-2 Districts in Section 5.3:

15. LOTS in a CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) County Board SPECIAL USE Permit and intended for the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) and related maintenance and management facilities are exempt from the requirements of Section 5.3 except as such regulations are required by Subsection 6.1.5.

**6. Add new paragraph 5.4.3 F. as follows:**

- G. The Rural Residential Overlay Zoning District is prohibited from being established within one-half mile of a CARBON SEQUESTRATION WELL in a CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) SPECIAL USE Permit.

**Commented [CS6]:** This seems to prohibit rural subdivisions such as those impacted by the Manlove Gas Field Leak. It does not seem to prohibit non subdivision dwellings.

**8. Add new subsection 6.1.9 as follows:**

- 6.1.9 CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) County Board SPECIAL USE permit

A CARBON DIOXIDE SEQUESTRATION FACILITY County Board SPECIAL USE permit may only be authorized in the AG-1 Zoning District, AG-2 Agriculture Zoning District, or I-2 HEAVY INDUSTRY subject to the following standard conditions and the SPECIAL USE Permit Application shall include information that shall demonstrate compliance with the following:

A. General Standard Conditions

- (1) The area of the CARBON DIOXIDE SEQUESTRATION FACILITY County Board SPECIAL USE permit must include the following minimum areas:
  - a. All land that will be exposed to a noise level greater than that authorized to Class A land as established by 35 Ill. Admin. Code Parts 900, 901 and 910 under paragraph 6.1.5 I.
  - b. All necessary access lanes or driveways and any required new PRIVATE ACCESSWAYS. For purposes of determining the minimum area of the special use permit, access lanes or driveways shall be provided a minimum 40 feet wide area.
  - c. All necessary CARBON DIOXIDE SEQUESTRATION FACILITY STRUCTURES including CARBON SEQUESTRATION WELLS and ACCESSORY STRUCTURES including electrical distribution lines, and transformers. For purposes of determining the minimum area of the special use permit, underground cable installations shall be provided a minimum 40 feet wide area.
  - d. All aboveground STRUCTURES and facilities shall be of a type and shall be located in a manner that is consistent with the Agricultural Impact

**Commented [CS7]:** Is this provision to allow access by emergency vehicles?

**Commented [CS8]:** Also marked for permanent location by surface detection instruments.

Mitigation Agreement with the Illinois Department of Agriculture as required by paragraph 6.1.5 R.

- e. All ground surface areas above the CARBOON DIOXIDE PLUME (PLUME).
- (2) A SPECIAL USE Permit application for a proposed CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) that has a CARBON DIOXIDE PLUME (PLUME) that extends under another county shall include documentation that the other county has waived its authority to regulate the proposed CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) in Champaign County.
- (3) The CARBON DIOXIDE SEQUESTRATION FACILITY County Board SPECIAL USE permit shall not be located in the following areas:

a. ~~a. No CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall be allowed over, penetrate through, or store carbon dioxide under a PRIMARY MAJOR SAND AND GRAVEL the MAHOMET AQUIFER.~~

b. ~~No CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall be allowed over, penetrate through, or store carbon dioxide under a PRIMARY MAJOR SAND AND GRAVEL AQUIFER which serves as a federally designated or recognized sole source aquifer which serves as a primary source for a municipality.~~

b. No proposed CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) may have a CARBON DIOXIDE PLUME (PLUME) under an incorporated municipality.

c. Less than one-and-one-half miles from an incorporated municipality that has a zoning ordinance. Any request for a waiver of this minimum separation shall include the following:

- (a) No CARBON DIOXIDE SEQUESTRATION FACILITY shall be located within a contiguous urban growth area (CUGA) as indicated in the most recent update of the CUGA in the Champaign County Land Resource Management Plan.
- (b) The ZONING ADMINISTRATOR shall notify in writing any municipality that is located within one-and one-half miles of any proposed CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) upon the receipt of any substantial CDSF SPECIAL USE permit application in addition to any notice otherwise required.
- (c) The CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) SPECIAL USE permit application shall include documentation that the applicant has provided a complete copy of the SPECIAL USE

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permit application to any municipality within one-and-one-half miles of the proposed CDSF.

- (d) Municipal subdivision approval for any CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) land lease exceeding five years may be required by any relevant municipal authority that has an adopted comprehensive plan and when required said subdivision approval shall be necessary for compliance with Section 13.2.1.
- (e) The public hearing for any proposed CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) that is located within one-and-one-half miles of a municipality that has a zoning ordinance shall occur at a minimum of two BOARD meetings that are not less than 28 days apart to provide time for municipal comments during the public hearing, unless the 28-day comment period is waived in writing by any relevant municipality.
- (f) For any proposed CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) that is located within one-and-one-half miles of a municipality that has a zoning ordinance, the ZONING ADMINISTRATOR shall notify said municipality of the recommendation by the BOARD after the close of the public hearing.
- (g) After the initial review of the BOARD recommendation for the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) SPECIAL USE permit by the Environment and Land Use Committee of the COUNTY BOARD, if the Environment and Land Use Committee makes a preliminary determination to accept the BOARD recommendation, the CDSF SPECIAL USE permit shall remain at the Environment and Land Use Committee for a maximum 30-day comment period, or until the next regularly scheduled meeting, to allow comments regarding the CDSF SPECIAL USE permit to be received from any relevant municipal authority prior to the Environment and Land Use Committee recommendation to the County Board, unless the municipal comment period is waived in writing by any relevant municipality. If a CDSF is not located within one-and-one-half miles of a municipality the Environment and Land Use Committee recommendation can be referred to the County Board without a municipal comment period.
- (h) If no municipal resolution regarding the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) is received from any municipality located within one-and-one-half miles of the CDSF prior to the consideration of the CDSF SPECIAL USE permit by the

Commented [CS11]: ZBA?

Commented [CS12]: 30 days does not give the ELUC much time, could the determination be referred to a subcommittee for study? .

Champaign County Board, the ZONING ADMINISTRATOR shall provide documentation to the County Board that any municipality within one-and-one-half miles of the CDSF was provided notice of the meeting dates for consideration of the proposed CDSF SPECIAL USE Permit for both the Environment and Land Use Committee and the County Board.

(3) Right to farm

- a. The owners of the subject property and the Applicant, its successors in interest, and all parties to the decommissioning plan and site reclamation plan hereby recognize and provide for the right of agricultural activities to continue on adjacent land consistent with the Right to Farm Resolution 3425.

C. Minimum Lot Standards

- (1) There are no minimum LOT AREA, AVERAGE LOT WIDTH, SETBACK, YARD, or maximum LOT COVERAGE requirements for a CARBON SEQUESTRATION ~~ACTIVITY~~.
- (2) There is no maximum LOT AREA requirement on BEST PRIME FARMLAND.

Commented [CS13]: Noted.

D. Minimum Standard Conditions for Separations for CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) from adjacent USES, STRUCTURES, and property

The location of each CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall provide the following required separations as measured from the exterior of the above ground portion of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) and equipment including fencing:

- (1) CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) fencing shall be set back from the street centerline a minimum of 300 feet from the RIGHT OF WAY of any ~~STREET~~.
- (2) No CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall be in an area where ~~identified~~ geologic ~~strata where hazards including but not limited to~~ faults and geologic ~~faults~~ could be fractured by carbon dioxide injection due to increased pressure. The applicant shall, at the discretion of the County Zoning Administrator and at the applicant's expense, hire a qualified, approved third-party qualified professionals to identify risks of injecting carbon dioxide in proximity to faults, folds, or the epicenters of previously recorded earthquakes. ~~The qualified professionals can specify additional tests, studies and investigations to validate, confirm, or further determine assertions and findings regarding the geologic conditions, hazards and phenomena which may influence public health and safety.~~

Commented [CS14]: Probably includes any public road whether or not paved?

Commented [CS15]: Approval of 3<sup>rd</sup> party investigators may require an approved professional[s] to vet, examine and recommend those who will investigate on behalf of the county. The qualified professionals shall include at least one professional geologist licensed in Illinois.

Commented [CS16]: This sort of work was done for the nuclear repositories in NV and WA.

- (3) No CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) may be approved by the County unless computational fluid dynamics modeling is used to determine the impact area and associated releases from a potential well blowout and the potential rupture of surface equipment. Such analysis must be based on the planned storage of carbon dioxide at 12-month intervals. The resulting carbon dioxide impact area and associated releases shall be reviewed and certified by a qualified third-party professionals. The third party professionals can make recommendations for additional study, modeling, and analysis.
- (4) Because CARBON DIOXIDE INJECTION WELL blowouts also have the potential to be explosive and hazardous, the distance from a CARBON DIOXIDE INJECTION WELL to a PRINCIPAL STRUCTURE, outdoor gathering space, or livestock operation shall be based on the ability to safely and successfully rescue occupants and protect the life of animals, per the following:
- a. No CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) may be approved by the GOVERNING BODY unless it can be demonstrated that the COUNTY Emergency Management Agency, Local Emergency Planning Committee, the COUNTY Sheriff's Department, the relevant Fire Protection District or Department, and all other first responders in the COUNTY will be provided the equipment, training, and personnel to be able to safely and successfully rescue people near a CDSF to achieve the following goals:
- (a) Evacuate occupants of PRINCIPAL STRUCTURES or any outdoor gathering space that would be exposed to concentrations between 30,000 ppm and 40,000 ppm within 15 minutes of carbon dioxide arrival time; and
- (b) Limit exposure to carbon dioxide to occupants of PRINCIPAL STRUCTURES, outdoor gathering spaces and livestock operations so that concentrations do not reach 40,000 ppm.
- b. In all cases, the distance between a sequestration well and a primary structure shall never be less than ½ mile (2,640 feet) to prevent exposure to carbon dioxide of 40,000 ppm or greater. The distance for this setback shall be measured from the point of the PRINCIPAL STRUCTURE foundation closest to the CARBON DIOXIDE INJECTION WELL borehole.
- c. An annual reminder of evacuation routes for all PRINCIPAL STRUCTURES and outdoor gathering spaces in the AREA OF REVIEW (AOR) shall be provided to all owners or tenants of such BUILDINGS, facilities, and uses.

**Commented [CS17]:** Again, a professional might be wanted to affirm expertise and capabilities of the 3<sup>rd</sup> party professionals. The qualified professionals shall include at least one professional geologist licensed in Illinois

**Commented [CS18]:** Assume that a wind direction device is maintained and visible from outside of the area of concern including from above.

**Commented [CS19]:** Or greater?

- d. CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) equipment shall be no less than 250 feet from the property line of any lot more than 10 acres in area.
    - e. Additional separation may be required to ensure that the noise level required by 35 Ill. Admin. Code Parts 900, 901 and 910 is not exceeded or for other purposes deemed necessary by the BOARD.
  - (4) A separation of at least 5,000 feet from the end of any private air strip or airport runway.
  - (5) Any CARBON DIOXIDE SEQUESTRATION WELL shall be at least 2,000 feet from any public STREET, third party transmission line, or communication tower.
  - (6) No part of a CARBON SEQUESTRATION FIELD shall encroach beneath the property of any NON-PARTICIPATING landowner, subject to any state statute that provides for the condemnation of land for purposes of a CARBON SEQUESTRATION FIELD.
- E. Standard Conditions for Design and Installation of any CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF).
- (1) Any building that is part of a CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall include as a requirement for a Zoning Compliance Certificate a certification by an Illinois Professional Engineer or Illinois Licensed Structural Engineer or other qualified professional that the constructed building conforms to Public Act 103-0510 regarding building code compliance and conforms to the Illinois Accessibility Code.
  - (2) Electrical Components
    - a. All electrical components of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall conform to the National Electrical Code as amended and shall comply with Federal Communications Commission (FCC) requirements.
    - b. Burying power and communication wiring underground shall be minimized consistent with best management practice regarding CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction and minimizing impacts on agricultural drainage tile.
  - (3) Class VI Well Permit.
    - a. Any approved CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) SPECIAL USE Permit shall be required to have a U.S. EPA Class

VI Well Permit per 40 CFR 146.81 *et. seq.* and a sequestration permit from the Illinois EPA prior to application for a Zoning Use Permit.

- b. The CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) SPECIAL USE Permit Application shall include a copy of the Draft U.S.E.P.A. Class VI Permit and the Application shall be updated whenever changes are made.
- (3) Maximum height. The height limitation established in Section 5.3 shall not apply to a CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF). The maximum height of all above ground STRUCTURES shall be identified in the application and as approved in the SPECIAL USE permit.
- (4) Warning signs
  - a. Warning signs concerning CARBON SEQUESTRATION ACTIVITY must be placed at regular intervals on the perimeter fence around the perimeter of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) site and each injection or monitoring well and at each entrance. The sign shall provide both non-emergency and emergency contact telephone numbers
  - b. The warning signs shall be made with letters and numbers at least 3 inches in height and shall include the 911 address and an emergency phone number of the operator which shall be answered 24 hours a day by a live operator.
- (5) No construction may intrude on any easement or right of way for a GAS PIPELINE or HAZARDOUS LIQUID PIPELINE, an underground water main or sanitary sewer, a drainage district ditch or tile, or any other public utility facility unless specifically authorized by a crossing agreement that has been entered into with the relevant party.

F. Standard Conditions to Mitigate Damage to Farmland

- (1) All underground wiring or cabling for the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall be at a minimum depth of 5 feet below grade or deeper if required to maintain a minimum one foot of clearance between the wire or cable and any agricultural drainage tile or a lesser depth if so authorized in the SPECIAL USE Permit.
- (2) Protection of agricultural drainage tile
  - a. The applicant shall endeavor to locate all existing agricultural drainage tile prior to establishing any construction staging areas, construction of any necessary CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) access lanes or driveways, construction of any CDSF STRUCTURES, any common switching stations, substations, and installation of underground

Commented [CS20]: Should be capable of surface detection

wiring or cabling. The applicant shall contact affected landowners and tenants and the Champaign County Soil and Water Conservation District and any relevant drainage district for their knowledge of tile line locations prior to the proposed construction. Drainage districts shall be notified at least two weeks prior to disruption of tile.

**Commented [CS21]:** Is this convention for drainage tile notification? What about during planting and harvesting?

- b. The location of drainage district tile lines shall be identified prior to any construction and drainage district tile lines shall be protected from disturbance as follows:
  - (a) All identified drainage district tile lines and any known existing drainage district tile easement shall be staked or flagged prior to construction to alert construction crews of the presence of drainage district tile and the related easement.
  - (b) Any drainage district tile for which there is no existing easement shall be protected from disturbance by a 40-foot wide no-construction buffer on either side of the drainage district tile. The no-construction buffer shall be staked or flagged prior to the start of construction and shall remain valid for the lifetime of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) Permit and during any deconstruction activities that may occur pursuant to the CDSF SPECIAL USE Permit.
  - (c) Construction shall be prohibited within any existing drainage district easement and also prohibited within any 40-foot wide no-construction buffer centered on drainage district tile that does not have an existing easement unless specific construction is authorized in writing by all commissioners of the relevant drainage district. A copy of the written authorization shall be provided to the Zoning Administrator prior to the commencement of construction.
- c. Any agricultural drainage tile located underneath construction staging areas, access lanes, driveways, any common switching stations, and substations shall be replaced as required in Section 6.3 of the Champaign County Storm Water Management and Erosion Control Ordinance.
- d. Any agricultural drainage tile that must be relocated shall be relocated as required in the Champaign County Storm Water Management and Erosion Control Ordinance.
- e. Conformance of any relocation of drainage district tile with the Champaign County Storm Water Management and Erosion Control Ordinance shall be certified by an Illinois Professional Geologist, Landscape Architect, Land Surveyor or Engineer. Written approval by the drainage district shall be received prior to any backfilling of the relocated drain tile and a copy of the

approval shall be submitted to the Zoning Administrator. As-built drawings shall be provided to both the relevant drainage district and the Zoning Administrator of any relocated drainage district tile.

- f. All tile lines that are damaged, cut, or removed shall be staked or flagged in such manner that they will remain visible until the permanent repairs are completed.
  - g. All exposed tile lines shall be screened or otherwise protected to prevent the entry into the tile of foreign materials, loose soil, small mammals, etc.
  - h. Permanent tile repairs shall be made within 14 days of the tile damage provided that weather and soil conditions are suitable or a temporary tile repair shall be made. Immediate temporary repair shall also be required if water is flowing through any damaged tile line. Temporary repairs are not needed if the tile lines are dry and water is not flowing in the tile provided the permanent repairs can be made within 14 days of the damage. All permanent and temporary tile repairs shall be consistent with the general requirements of the Illinois Department of Agriculture as required by paragraph 6.1.5 R.
  - i. All damaged tile shall be repaired so as to operate as well after construction as before the construction began.
  - j. Following completion of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction, the applicant shall be responsible for correcting all tile line repairs that fail, provided that the failed repair was made by the Applicant.
- (3) Prior to the issuance of any Zoning Use Permit, the applicant shall provide notice to any "Drainage District," as that term is used in the Illinois Drainage Code (70 ILCS 605/1-1 et seq.), in which any construction is proposed, or which may be affected by the project. In addition:
- a. The applicant must consult and work with affected drainage districts to locate, stake and mark all the structures, facilities, ditches, drainage tiles, and rights-of-way of the affected drainage districts prior to the issuance of Building Permits.
  - b. The issuance of a Zoning Use Permit for construction of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall be conditioned on the applicant obtaining a license, easement, or right of way from any affected Drainage District consistent with 70 ILCS 605/4-30, and compliance by applicant, owner and/or operator with the construction rules and requirements of the affected drainage districts.

- c. The applicant, owner, and operator shall each become a member of the Illinois state-wide One-Call Notice System (otherwise known as the Joint Utility Locating Information for Excavators or “JULIE”) and provide JULIE with all the information necessary to update its records with respect to the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF).
- (3) All soil conservation practices (such as terraces, grassed waterways, etc.) that are damaged by CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction and/or decommissioning shall be restored by the applicant to the pre-CDSF construction condition.
- (4) Topsoil replacement

For any open trenching required pursuant to CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction, the topsoil shall be stripped and replaced as follows:

  - a. The top 12 inches of topsoil shall first be stripped from the area to be trenched and from an adjacent area to be used for subsoil storage. The topsoil shall be stored in a windrow parallel to the trench in such a manner that it will not become intermixed with subsoil materials.
  - b. All subsoil material that is removed from the trench shall be placed in the second adjacent stripped windrow parallel to the trench but separate from the topsoil windrow.
  - c. In backfilling the trench, the stockpiled subsoil material shall be placed back into the trench before replacing the topsoil.
  - d. The topsoil must be replaced such that after settling occurs, the topsoil’s original depth and contour (with an allowance for settling) will be restored.
  - e. All topsoil shall be placed in a manner consistent with the general requirements of the Illinois Department of Agriculture as required by paragraph 6.1.5 R.
- (5) Mitigation of soil compaction and rutting
  - a. The Applicant shall not be responsible for mitigation of soil compaction and rutting if exempted by the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) lease.
  - b. Unless specifically provided for otherwise in the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) lease, the Applicant shall mitigate soil compaction and rutting for all areas of farmland that were traversed with vehicles and construction equipment or where topsoil is replaced in open trenches.

**Commented [CS22]:** At least 12-inches. Or as recommended by SWCD

- c. All mitigation of soil compaction and rutting shall be consistent with the general requirements of the Illinois Department of Agriculture as required by paragraph 6.1.5 R.

(6) Land leveling

- a. The Applicant shall not be responsible for leveling of disturbed land if exempted by the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) lease.
- b. Unless specifically provided for otherwise in the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) lease, the Applicant shall level all disturbed land as follows:
  - (a) Following the completion of any open trenching, the applicant shall restore all land to its original pre-construction elevation and contour.
  - (b) Should uneven settling occur or surface drainage problems develop as a result of the trenching within the first year after completion, the applicant shall again restore the land to its original pre-construction elevation and contour.
- c. All land leveling shall be consistent with the general requirements of the Illinois Department of Agriculture as required by paragraph 6.1.5 R.

Commented [CS23]: if disturbance was part of the CDSF work

(7) Permanent Erosion and Sedimentation Control Plan

- a. Prior to the approval of any Zoning Use Permit, the Applicant shall provide a permanent soil erosion and sedimentation plan for the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) including any access road that conforms to the relevant Natural Resources Conservation Service guidelines and that is prepared by an Illinois Licensed Professional Geologist, Landscape Architect, Land Surveyor or Engineer.
- b. As-built documentation of all permanent soil erosion and sedimentation improvements for the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) including any access road prepared by an Illinois Licensed Professional Geologist, Landscape Architect, Land Surveyor or Engineer shall be submitted and accepted by the Zoning Administrator prior to approval of any Zoning Compliance Certificate.

(8) Retention of all topsoil

No topsoil may be removed, stripped, or sold from the proposed SPECIAL USE Permit site pursuant to or as part of the construction of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF).

(9) Minimizing disturbance to BEST PRIME FARMLAND

- a. Any CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) to be located on BEST PRIME FARMLAND shall minimize the disturbance to BEST PRIME FARMLAND as follows:
  - (a) The disturbance to BEST PRIME FARMLAND caused by construction and operation of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall be minimized at all times consistent with good ~~engineering~~ agronomic practice.
  - (b) Existing agricultural activities shall continue as much as possible on farmland proposed for CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) but where there is no construction.
  - (b) Disturbance to BEST PRIME FARMLAND that is not in continued agricultural production shall be offset by establishment of a vegetative ground cover within the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) that includes the following:
    - i. The vegetative ground cover shall use native plant species as much as possible and shall be based on a site assessment of the site geography and soil conditions.
    - ii. The species selected shall serve a secondary habitat purpose as much as possible.
    - iii. Maintenance of the vegetative ground cover shall use a combination of management approaches to ensure safe, cost-effective, reliable maintenance while minimizing environmental risks.
    - iv. The plan to establish and maintain a vegetative ground cover that includes native plant species as much as possible shall be detailed in a landscape plan included in the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) SPECIAL USE permit application. The landscape plan shall include the weed control plan required by Section 6.1.5 P.(3).

Commented [CS24]: This is not engineering

G. Standard Conditions for Use of Public Streets

Any CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) Applicant proposing to use any County Highway or a township or municipal STREET for the purpose of transporting CDSF parts and/or equipment for construction, operation, or maintenance of the CDSF or Substations(s), shall identify all such public STREETS and pay the costs of

any necessary permits and the costs to repair any damage to the STREETS caused by the CDSF construction, as follows:

- (1) Prior to the close of the public hearing before the BOARD, the Applicant shall enter into a Roadway Upgrade and Maintenance agreement approved by the County Engineer and State's Attorney; or Township Highway Commissioner; or municipality where relevant, except for any CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) for which the relevant highway authority has agreed in writing to waive the requirements of subparagraphs 6.1.5 G.(1), (2), and (3), and the signed and executed Roadway Upgrade and Maintenance agreements must provide for the following minimum conditions:
  - a. The applicant shall agree to conduct a pre- CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction baseline survey to determine existing STREET conditions for assessing potential future damage including the following:
    - (a) A videotape of the affected length of each subject STREET supplemented by photographs if necessary.
    - (b) Pay for costs of the County to hire a consultant to make a study of any structure on the proposed route that the County Engineer feels may not carry the loads likely during the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction.
    - (c) Pay for any strengthening of STREET structures that may be necessary to accommodate the proposed traffic loads caused by the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction.
  - b. The Applicant shall agree to pay for costs of the County Engineer to hire a consultant to make a study of any structure on the proposed route that the County Engineer feels may not carry the loads likely during the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction and pay for any strengthening of structures that may be necessary to accommodate the proposed traffic loads caused by the CDSF construction.
  - c. The Applicant shall agree upon an estimate of costs for any other necessary roadway improvements prior to construction.
  - d. The Applicant shall obtain any necessary approvals for the STREET improvements from the relevant STREET maintenance authority.
  - e. The Applicant shall obtain any necessary Access Permits including any required plans.

- f. The Applicant shall erect permanent markers indicating the presence of underground cables.
- g. The Applicant shall install marker tape in any cable trench.
- h. The Applicant shall become a member of the Illinois state wide One-Call Notice System (otherwise known as the Joint Utility Locating Information for Excavators or "JULIE") and provide JULIE with all of the information necessary to update its record with respect to the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF).
- i. The Applicant shall use directional boring equipment to make all crossings of County Highways for the cable collection system.
- j. The Applicant shall notify the STREET maintenance authority in advance of all oversize moves and crane crossings.
- k. The Applicant shall provide the County Engineer with a copy of each overweight and oversize permit issued by the Illinois Department of Transportation for CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction.
- l. The Applicant shall transport the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) loads so as to minimize adverse impact on the local traffic including farm traffic.
- m. The Applicant shall schedule CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction traffic in a way to minimize adverse impacts on emergency response vehicles, rural mail delivery, school bus traffic, and local agricultural traffic.
- n. The Applicant shall provide as much advance notice as is commercially reasonable to obtain approval of the STREET maintenance authority when it is necessary for a STREET to be closed due to a crane crossing or for any other reason. Notwithstanding the generality of the aforementioned, the Applicant will provide 48 hours notice to the extent reasonably practicable.
- o. The Applicant shall provide signs indicating all highway and STREET closures and work zones in accordance with the Illinois Department of Transportation Manual on Uniform Traffic Control Devices.
- p. The Applicant shall establish a single escrow account and a single Irrevocable Letter of Credit for the cost of all STREET upgrades and repairs pursuant to the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction.

- q. The Applicant shall notify all relevant parties of any temporary STREET closures.
- r. The Applicant shall obtain easements and other land rights needed to fulfill the Applicant's obligations under this Agreement.
- s. The Applicant shall agree that the County shall design all STREET upgrades in accordance with the most recent edition of the IDOT Bureau of Local Roads and Streets Manual.
- t. The Applicant shall provide written Notice to Proceed to the relevant STREET maintenance authority by December 31 of each year that identifies the STREETS to be upgraded during the following year.
- u. The Applicant shall provide dust control and grading work to the reasonable satisfaction of the County Engineer on STREETS that become aggregate surface STREETS.
- v. The Applicant shall conduct a post- CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction baseline survey similar to the pre-PV SOLAR FARM construction baseline survey to identify the extent of repairs necessary to return the STREETS to the pre-CDSF construction condition.
- w. The Applicant shall pay for the cost of all repairs to all STREETS that are damaged by the Applicant during the construction of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) and restore such STREETS to the condition they were in at the time of the pre-CDSF construction inventory.
- x. All CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction traffic shall exclusively use routes designated in the approved Transportation Impact Analysis.
- y. The Applicant shall provide liability insurance in an acceptable amount to cover the required STREET construction activities.
- z. The Applicant shall pay for the present worth costs of life consumed by the construction traffic as determined by the pavement management surveys and reports on the roads which do not show significant enough deterioration to warrant immediate restoration.
- aa. Provisions for expiration date on the agreement.
- bb. Other conditions that may be required.

Commented [CS25]: Eh?

- (2) A condition of the County Board Special Use Permit approval shall be that the Zoning Administrator shall not authorize a Zoning Use Permit for the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) until the County Engineer and State's Attorney; or Township Highway Commissioner; or municipality where relevant, has approved a Transportation Impact Analysis provided by the Applicant and prepared by an independent engineer that is mutually acceptable to the Applicant and the County Engineer and State's Attorney; or Township Highway Commissioner; or municipality where relevant, that includes the following:
- a. Identify all such public STREETS or portions thereof that are intended to be used by the Applicant during construction of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) as well as the number of loads, per axle weight of each load; and type of equipment that will be used to transport each load.
  - b. A schedule of the across road culverts and bridges affected by the project and the recommendations as to actions, if any, required with respect to such culverts and bridges and estimated of the cost to replace such culverts and bridges;
  - c. A schedule of the anticipated STREET repair costs to be made in advance of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction and following construction of the CDSF.
  - d. The Applicant shall reimburse the County Engineer; or Township Highway Commissioner; or municipality where relevant, for all reasonable engineering fees including the costs of a third-party consultant, incurred in connection with the review and approval of the Transportation Impact Analysis.
- (3) At such time as decommissioning takes place, the Applicant or its successors in interest shall enter into a Roadway use and Repair Agreement with the appropriate highway authority.

H. Standard Conditions for Coordination with Local Fire Protection District

- (1) The Applicant shall submit to the local fire protection district a copy of the site plan.
- (2) Upon request by the local fire protection district, the Owner or Operator shall cooperate with the local fire protection district to develop the fire protection district's emergency response plan.
- (3) Nothing in this section shall alleviate the need to comply with all other applicable fire laws and regulations.

I. Standard Conditions for Emergency and Remedial Response Plan

- (1) This should be the same narrative Emergency and Remedial Response Plan document submitted for the U.S. EPA Class VI Well Permit.
- (2) The Emergency and Remedial Response Plan should identify all potentially impacted environmental resources (e.g. ground water and surface water) or infrastructure (e.g. the well or nearby structures) near the injection well.
- (3) The Emergency and Remedial Response Plan should confirm that any subsurface leak of carbon dioxide will immediately be reported to the Zoning Administrator and the COUNTY Executive.
- (4) The Emergency and Remedial Response Plan shall address when carbon dioxide sequestration will be stopped due to mechanical failure of either a monitoring or injection well or other equipment and requires notification of such shutdown to the Zoning Administrator and the COUNTY Executive.
- (5) The Emergency and Remedial Response Plan should consider, for each identified resource or infrastructure element potentially at risk, any potential adverse events that may occur including induced seismicity and shall include commitments to do the following:
  - a. Notify the Zoning Administrator and the COUNTY Executive and the public in addition to the U.S. EPA Underground Injection Control (UIC) Program Director when a natural or induced earthquake 1.5 to 2.0 magnitude (M) or greater has occurred, per a notification plan approved by the COUNTY Board;
  - b. Initiate a CO2 rate reduction plan when a natural or induced earthquake M2.0 or greater is reported until an inspection and evaluation of any damage to the confining zone, any injection or monitoring wells or other wells or equipment associated with the CDSF takes place. The plan must indicate that injection of CO2:
    - (a) May only be resumed if it can be determined, in consultation with the U.S. EPA, that resuming injection will not pose an undue risk to public health and safety, drinking water, or to the natural or built environment; and
    - (b) Must be scaled back until a potentially safe operation level has been identified and verified by a qualified third-party consultant; and
    - (c) Initiate a CO2 shutdown plan when a natural or induced earthquake M2.0 or greater occurs and there is confirmation of damage. This shutdown plan must include:

- i. The initiation of an evacuation plan.
  - ii. Immediate contact with the U.S. EPA UIC Program Director to identify and implement corrective action measures.
  - iii. Communication to the County Executive of all decisions related to such corrective action required by the U.S. EPA's UIC Program Director.
- (6) The Emergency and Remedial Response Plan should describe response actions to address the identified risk scenarios including proposed evacuation plans in the event of a leak or blowout. The proposed evacuation plans shall include the following:
  - a. Evacuation plans for occupants of each primary structure that could be exposed to CO2 concentrations of 20,000 ppm or greater or as deemed a risk to human health by generally accepted medical or occupational authority in the event of an injection well leak or blowout that avoid travel towards the well;
  - b. Plans for barricading roadways that pass within modeled CO2 concentrations of 20,000 ppm; and
  - c. A plan for county and municipal first responders to assist with evacuation that has been coordinated and approved by such first responders.
- (7) The Emergency and Remedial Response Plan should identify the personnel and equipment needed to implement the response actions. This information will likely need to be regularly updated. The information should include the following:
  - a. Local emergency response agencies that the facility operator must notify immediately in the event of a carbon dioxide monitoring well leak or injection well leak or blowout, including the name and contact information for each agency and include a process for annual updates.
  - b. CDSF operator emergency response personnel contacts for use by County and municipal emergency response personnel, including name and contact information for each personnel and a process for annual updates.
  - c. Recommended emergency response equipment and training required by County and municipal emergency response personnel and a plan for both providing and funding such equipment and training.
- (8) The Emergency and Remedial Response Plan should include a commitment for the following:

**Commented [CS26]:** Attempting to allow for a change in level pending new information from recognized authority [-ies].

- a. The applicant shall work with emergency response personnel to design, construct, and fund a telephonic and electronic emergency alert system for individuals who live or operate businesses near the CDSF to provide alerts to evacuate in the event of an uncontrolled release of CO<sub>2</sub> into the atmosphere, for example from the rupture of CDSF surface equipment or a well blowout; and
- b. The applicant shall provide CO<sub>2</sub> detectors with alarms to occupants of primary structures that could be exposed to concentrations of 20,000 ppm or more in the event of an uncontrolled release of CO<sub>2</sub> into the atmosphere, for example, from the rupture of CDSF surface equipment or a well blowout. Such CO<sub>2</sub> detectors must be provided, maintained and replaced at the applicant's expense, and monitored annually and replaced as needed to ensure continuous protection.

J. Standard Condition for Water Replacement

- (1) The Application shall include a water replacement plan that addresses potential impacts to groundwater from carbon dioxide injection.
- (2) The water replacement plan must include methodologies for remediating any leak of carbon dioxide, identification of alternative water sources, and show how such water would legally and financially be obtained and distributed to potentially affected groundwater users.

K. Standard Conditions for Allowable Noise Level

- (1) Noise levels from any CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall be in compliance with the applicable Illinois Pollution Control Board (IPCB) regulations (35 *Illinois Administrative Code* Subtitle H: Noise Parts 900, 901, 910).
- (2) The Applicant shall submit manufacturer's sound power level characteristics and other relevant data regarding noise characteristics of proposed CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) equipment necessary for a competent noise analysis.
- (3) The Applicant, through the use of a qualified professional, as part of the siting approval application process, shall appropriately demonstrate compliance with the above noise requirements as follows:
  - a. The pre-development 24-hour ambient background sound level shall be identified at representative locations near the site of the proposed CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF).
  - b. Computer modeling shall be used to generate the anticipated sound level resulting from the operation of the proposed CARBON DIOXIDE

SEQUESTRATION FACILITY (CDSF) within one mile of the proposed CDSF.

- c. Results of the ambient background sound level monitoring and the modeling of anticipated sound levels shall be clearly stated in the application and the application shall include a map of the modeled noise contours within one mile of the proposed CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF).
  - d. The application shall also clearly state the assumptions of the computer model's construction and algorithms so that a competent and objective third party can as simply as possibly verify the anticipated sound data and sound levels.
- (4) Post-construction verification of CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) operational noise level:
- a. Any application for a CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) SPECIAL USE permit shall include a fee for a Post-construction CDSF Noise Study. The fee for the Post-construction CDSF Noise Study shall be held by the COUNTY and used to pay for a qualified noise consultant to conduct the Post-construction CDSF Noise Study. Any excess fees shall be refunded to the applicant upon the approval of the Noise Study and any additional fees necessary to cover the full cost of the Noise Study will be billed to the CDSF owner.
  - b. Within the first year of CDSF operation, the CDSF owner shall allow the COUNTY to conduct a post-construction noise study including noise monitoring, data analysis, preparation of a report intended to verify if the noise generated by the CDSF and all CARBON DIOXIDE INJECTION WELLS is in compliance with the Allowable Noise Level and in general compliance with the CDSF approval. The COUNTY shall select a qualified noise consultant to conduct the Post-construction CDSF Noise Study.
  - c. The post-construction noise study shall include noise monitoring at a minimum of five different representative locations within the area of the CDSF. The locations shall be agreeable to the COUNTY and to the COUNTY's qualified noise consultant and to the CDSF owner. If more than five representative locations are needed the CDSF shall bear the costs. The representative locations shall include the following:
    - (a) Two noise monitoring locations shall be in proximity to the worst-case and second worst case noise locations indicated in the CDSF application noise study. The actual locations may be on property that is participating in the CDSF but shall be as close as possible to non-

**Commented [MH27]:** This is a longer time period than I typically see. Usually 6 months to a year.

**Commented [MH28]:** Again, non-participating?

participating property lines and NON-PARTICIPATING DWELLINGS.

- (b) The other noise monitoring locations shall be distributed throughout the CDSF area.
- (c) Noise monitoring locations shall not be in areas where there are undue obstructions to sound or areas that reflect or absorb sound unduly.
- c. Noise monitoring timing and duration.
  - (a) Noise monitoring shall occur continuously during November for nighttime hours of 10 p.m. to 7 a.m., unless the COUNTY, the COUNTY's qualified noise consultant, and the CDSF owner agree to a different time and duration.
  - (b) Every effort should be made to conduct noise monitoring during times of maximum CDSF injection.
  - (c) Sound pressure level, audio recordings, and meteorological data should be collected at each monitoring location.
- d. Noise measurement standards.
  - (a) American National Standards Institute (ANSI) S1.4-1983 (R2006) American National Standard Specifications for Sound Level Meters.
  - (b) ANSI S1.13-2005 (R2010) American National Standard Measurement of Sound Pressure Level in Air.
  - (c) ANSI S2.9-Part 3- 2013 American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound- Part 3: Short-Term Measurements with an Observer Present.
  - (d) ANSI S12.18-1994 (R2009) Outdoor Measurement of Sound Pressure Level.
  - (e) ANSI S12.100 American National Standard Methods to Determine and Measure the Residual Sound in Protected Natural and Quiet Residential Areas.
  - (f) 35 Ill. Admin. Code 910.105 and 106, where not in conflict with any of the above.
- e. Data analysis.

**Commented [MH29]:** This could be confusing, near the residence and the property line? In my opinion, nighttime is the major issue and therefore it makes sense to measure near the residence. Not too close, as we like to stay away from reflecting surfaces and trees. We usually end up placing monitors 50 to 100 feet from the residence in the direction of the nearest turbine.

**Commented [MH30]:** Not randomly. These should also be placed at non-participating residences of concern.

**Commented [MH31]:** This is what IPCB follows and what most acoustical consultants follow. Keep in mind, this standard states it is for attended measurements, but in my opinion can be used for continuous unattended measurements too. But just letting you know you specify a month of measurements, and some will argue you need to be there at all times.

- (a) Care must be taken to exclude any ambient noise that may interfere with measurement of noise from the CDSF. Examples include noise from agricultural harvesting activities and noise from vehicular and train traffic. Exclusion of such data should be documented in the final report.
  - (b) Noise measurements should be excluded at wind speeds above 5 meter per second (11 miles per hour). Each monitoring location should have an anemometer.
  - (c) “Spikes” of sporadic noise, such as a motorized vehicle passing by, or a clap of thunder, or a dog barking may be eliminated from the data as long as an explanation with validation is included in the final report.
  - (d) Best practices shall be used in the analysis of the noise monitoring data.
- f. Data reporting.
  - (a) The entire post-construction noise study shall be documented in a written final report that shall be approved by the GOVERNING BOARD upon a recommendation from the Champaign County Board’s Environment and Land Use Committee. Approval of the written final report shall not confer approval of any exceedance of the allowable noise level.
  - (b) The final report shall at a minimum include the following:
    - i. Scaled maps of all injection CARBON DIOXIDE INJECTION WELL locations, all monitoring locations, all residences and/or PRINCIPAL STRUCTURES or BUILDINGS within one mile of any CARBON DIOXIDE INJECTION WELL.
    - ii. Continuous sound measurements at all wind speeds that occurred during monitoring and charts illustrating the time series measurements.
    - iii. One-third octave band analysis of data recorded at each monitoring location.

- iv. Use monitoring results to assess sound measurements over the range of sound frequencies to estimate the total noise level while the CARBON DIOXIDE INJECTION WELLS were in operation. Present these results in charts and tables as appropriate.
    - v. Compare the monitoring results to the allowable noise level and highlight any exceedances.
    - vi. Include a written narrative conclusion regarding how well the monitored results compare to the allowable noise level and the predicted sound levels for the CDSF. Explain any unfavorable results or exceedances of the allowable noise level.
  - g. Amend the Special Use Permit. Any exceedance of the allowable noise level shall require an amendment to the CDSF SPECIAL USE permit. The amendment to the CDSF SPECIAL USE permit shall include any changes to CDSF operation that are necessary to comply with the allowable noise level. An application for any required amendment to the CDSF SPECIAL USE permit shall be received (with full application fees) within 180 days of the County Board approval of the post-construction noise study.
- (5) After construction of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF), the Zoning Administrator shall take appropriate enforcement action as necessary to investigate noise complaints in order to determine the validity of the complaints and take any additional enforcement action as proves warranted to stop any violation that is occurring, including but not limited to the following:
- a. The Zoning Administrator shall make the Environment and Land Use Committee aware of complaints about noise that have been received by the Complaint Hotline.
  - b. If the Environment and Land Use Committee determines that the noise is excessive, the Environment and Land Use Committee shall require the Owner or Operator to take reasonable steps to mitigate the excessive noise.

L. Standard Condition for Endangered Species Consultation

The Applicant shall apply for consultation with the Endangered Species Program of the Illinois Department of Natural Resources. The Application shall include a copy of the Agency Action Report from the Endangered Species Program of the Illinois Department of Natural Resources or, if applicable, a copy of the Detailed Action Plan Report submitted to the Endangered Species Program of the Illinois Department of Natural Resources and a copy of the response from the Illinois Department of Natural Resources.

M. Standard Condition for Historic and Archaeological Resources Review

The Applicant shall apply for consultation with the State Historic Preservation Officer of the Illinois Department of Natural Resources. The Application shall include a copy of the Agency Action Report from the State Historic Preservation Officer of the Illinois Department of Natural Resources.

N. Standard Condition for Acceptable Wildlife Impacts

The CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall be located, designed, constructed, and operated so as to avoid and if necessary mitigate the impacts to wildlife to a sustainable level of mortality.

O. Screening and fencing

(1) Perimeter fencing

- a. CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) equipment and structures shall be fully enclosed and secured by a fence with a minimum height of 7 feet.
- b. Knox ~~boxes~~ and keys shall be provided at locked entrances for emergency personnel access.
- c. Vegetation between the fencing and the LOT LINE shall be maintained such that NOXIOUS WEEDS are controlled or eradicated consistent with the Illinois Noxious Weed Law (505 ILCS 100/1 et seq.). Management of the vegetation shall be explained in the application.

Commented [CS32]: Is there a generic term for this?

(2) Screening

- a. A visual screen shall be provided around the perimeter of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) STRUCTURES, electrical transformer(s), cabling, switching station, electrical cabling from the CDSF to the substations(s), ancillary equipment, meteorological station, maintenance and management facilities, as follows:
  - (a) The visual screen shall be provided for any part of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) that is visible to an existing DWELLING or residential DISTRICT except that the visual screen shall not be required if the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) is not visible to a DWELLING or residential DISTRICT by virtue of the existing topography.
  - (b) The visual screen shall be waived if the owner(s) of a relevant DWELLING(S) have agreed in writing to waive the screening

requirement and a copy of the written waiver is submitted to the BOARD or GOVERNING BODY.

(c) The visual screen shall be a vegetated buffer as follows:

- i. A vegetated visual screen buffer that shall include a continuous line of native evergreen foliage and/or native shrubs and/or native trees and/or any existing wooded area and/or plantings of tall native grasses and other native flowering plants and/or an area of agricultural crop production that will conceal the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) from view from adjacent abutting property may be authorized as an alternative visual screen subject to specific conditions.
- ii. Any vegetation that is part of the approved visual screen buffer shall be maintained in perpetuity of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF). If the evergreen foliage below a height of 7 feet disappears over time, the screening shall be replaced.
- iii. The continuous line of native evergreen foliage and/or native shrubs and/or native trees shall be planted at a minimum height of 5 feet tall and shall be planted in multiple rows as required to provide a 50% screen within 2 years of planting. The planting shall otherwise conform to Natural Resources Conservation Service Practice Standard 380 Windbreak/Shelterbreak Establishment except that the planting shall be located as close as possible to the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) fence while still providing adequate clearance for maintenance.
- v. An area of agricultural crop production may also be authorized by the BOARD as an alternative visual screen buffer with a width of planting as authorized by the BOARD provided that the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) perimeter fence is opaque. Any area of crop production that is used as a vegetated visual screen shall be planted annually and shall be replanted as necessary to ensure a crop every year regardless of weather or market conditions.
- vi. Any vegetated screen buffer shall be detailed in a landscape plan drawing that shall be included with the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) SPECIAL USE Permit application.

**Commented [CS33]:** Who is responsible for maintaining the visual screen?

P. Standard Condition for Liability Insurance

- (1) Commencing with the issuance of a Zoning Use Permit, the Owner or Operator of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall maintain a current general liability policy covering bodily injury and property damage with minimum limits of a least \$5 million per occurrence and \$50 million in the aggregate.
- (2) Self-insuring or self-bonding shall not be allowed.
- (3) The general liability policy shall identify landowners in the SPECIAL USE permit as additional insured.
- (4) The COUNTY and its officers, appointed and elected officials, employees, contractors, and agents (the "COUNTY Affiliates") and all affected Road Districts and their officers, appointed and elected officials, employees, contractors, and agents (the "Road District Affiliates") shall be included as additional insureds on the insurance certificate(s), endorsement(s) and policies for all aspects of construction of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) and for all automobiles owned, leased, hired or borrowed, as applicable for the CDSF.
- (5) The coverage shall contain no special limitations on the scope of protection afforded to the COUNTY and the COUNTY Affiliates or the affected Road Districts and the Road Districts' Affiliates. The insurance coverage of the shall be primary and noncontributory for the additional insureds. The applicant shall file the original certificate of insurance with the Zoning Administrator upon issuance of a CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) Zoning Use Permit and prior to the commencement of construction, corresponding policies and endorsements to be provided within sixty (60) days of issuance, and at each subsequent renewal, at least annually thereafter until completion of construction.
- (6) The applicant shall defend, indemnify, and hold harmless the COUNTY and its officers, appointed and elected officials, employees, contractors, and agents (collectively and individually, the "Indemnified Parties") from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses, and liabilities whatsoever, including reasonable attorney's fees, relating to the construction of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF). This includes, without limitation, liability for property damage or personal injury (including death or illness), whether said liability is premised on contract, tort, or any violations of local, state, or federal law, including the Illinois Constitution and the United State Constitution (including without limitation strict liability or negligence) or any acts or omissions of the applicant or the owner under this Ordinance or the Special Use Permit. This general indemnification shall not be construed as limiting or qualifying the County's other indemnification rights available under the law.

## Q. Operational Standard Conditions

## (1) Maintenance

- a. The Owner or Operator of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) must submit, on an annual basis, a summary of operation and maintenance reports to the Environment and Land Use Committee and any other operation and maintenance reports as the Environment and Land Use Committee reasonably requests.
- b. Any physical modification to the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) that increases the number of CDSF SEQUESTRATION WELL or structures and/or the land area occupied by the CARBON DIOXIDE SEQUESTRATION FIELD shall require a new County Board SPECIAL USE Permit.
- c. Like-kind replacements shall not require recertification provided replacement is done in a fashion similar to the original installation but shall require written approval of the County Zoning Administrator.
- d. Prior to making any physical modification (other than a like-kind replacement), the owner or operator shall confer with a relevant third-party certifying entity and a professional engineer determined by the County Zoning Administrator to determine whether the physical modification requires recertification. The cost of the third-party certifying entity and professional engineer shall be paid by the owner or operator.
- e. Any replacement of equipment that is not a like-kind replacement shall require a new special use permit.

## (2) Materials Handling, Storage and Disposal

- a. All solid wastes related to the construction, operation and maintenance of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall be removed from the site promptly and disposed of in accordance with all federal, state and local laws.
- b. All hazardous materials related to the construction, operation and maintenance of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall be handled, stored, transported and disposed of in accordance with all applicable local, state and federal laws.

## (3) Vegetation management

- a. The CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) SPECIAL USE permit application shall include a weed control plan for the total area of the

SPECIAL USE permit including areas both inside of and outside of the perimeter fencing.

- b. The weed control plan shall ensure the control and/or eradication of NOXIOUS WEEDS consistent with the Illinois Noxious Weed Law (505 ILCS 100/1 et seq.)
- c. The weed control plan shall be explained in the application.

(4) Containment of carbon dioxide

- a. Once the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) begins to inject carbon dioxide, the owner or operator shall submit semi-annual reports to the Zoning Administrator that identify the actual horizontal spread and vertical rise of the underground carbon dioxide PLUME, and the extent of subsurface pressure changes caused by the CDSF. These reports shall be required until such time as the U.S EPA determines the post closure care of the project is complete or as otherwise might be determined by the Illinois EPA. The purpose of this requirement is to verify that the injected carbon dioxide is following models approved by the U.S. EPA and not escaping containment or moving to unauthorized areas which would be considered trespass.
- b. The applicant shall submit semi-annual reports that compare the location of the carbon dioxide PLUME to that which was modeled and approved by the U.S. EPA. When such reports show the footprint of the PLUME is within 90% ~~of that which was approved~~, injection of carbon dioxide shall cease to avoid trespass. Resuming injection may only occur if it can be demonstrated to the COUNTY Board, in consultation with an approved third-party qualified professional, that such injection of carbon dioxide can continue without risking trespass ~~or posing a hazard to any MAJOR SAND AND GRAVEL the MAHOMET AQUIFER~~. This may require adjusting the rate and or volume of carbon dioxide injected, or other methods may be put in place to prevent trespass.
- c. Carbon dioxide that has migrated horizontally beyond the approved underground shall be considered a trespass, requiring immediate cessation of carbon dioxide injection and the following:
- d. If, despite the required reporting or agreed-to actions put in place to allow carbon dioxide injection to continue without trespass, it is determined that carbon dioxide has migrated beyond the approved underground PLUME, the operator shall cease all injection of carbon dioxide and compensate the affected non-consenting landowners per requirements and procedures set forth in the SAFE CCS Act.

**Commented [CS34]:** Dispersing and distributing as predicted by

**Commented [CS35]:** Why 90%? If an arbitrary figure, why not 80% or another% ?

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**Commented [CS36]:** Will excess carbon dioxide be removed?

- e. If the carbon dioxide PLUME is moving vertically toward the CAP ROCK at a rate faster than anticipated:
  - (a) The applicant or owner shall pay an approved third-party qualified professional to perform necessary field and office studies in order to submit documentation to the County Board demonstrating that the pace of the vertical rise is not related to a path created by a fault or a fissure or fracture that was either unmapped or created by an induced earthquake that could allow carbon dioxide to move into an aquifer or leak into overlying strata or the atmosphere.
  - (b) If the submitted studies and documentation does not demonstrate that the pace of the vertical rise is not related to a path created by a fault or a fissure or fracture that was either unmapped or created by an induced earthquake that cannot be demonstrated, the COUNTY Executive shall contact the U.S. EPA's UIC Program Director of their concern for a potential leak, along with a request to the U.S. EPA to halt carbon dioxide injection, until such time as it can be determined that carbon dioxide injection can be safely resumed.

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(5) Subsurface leaks

- a. The CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) operator must immediately notify the COUNTY Emergency Management Agency and the COUNTY Executive whenever an injection or monitoring well experiences subsurface leaks or malfunctions to the extent it no longer can sample in all required zones.
- b. ~~b.~~ The owner or operator must demonstrate that coordination with the U.S. EPA has occurred and shall report measures taken to contain the leak to the COUNTY Executive.
- c. If the COUNTY Board determines the agency's actions do not adequately ensure the protection of an underground source of drinking water, the COUNTY Board may appeal such remediation to the U.S. EPA Board of Appeals, as applicable, or seek other remedies provided by law. Costs of any appeal shall be paid for by the owner(s) or operator(s) of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF).

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(6) Water quality reporting

- a. One year after the date that carbon dioxide injection begins at a CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) and every year thereafter for the duration of CDSF, the operator shall have an approved third-party qualified professional to submit water quality reports to the Zoning Administrator. The water quality reports shall highlight any changes

in pH, ~~or toxic~~ metals, ~~cations, anions, or chemical compounds~~ that are in the groundwater and shall include a written narrative to explain whether or not carbon dioxide has leaked from the CDSF and migrated into groundwater that is a source of drinking water.

- b. Groundwater that is a source of drinking water and that is contaminated by a carbon dioxide leak from a CDSF must be replaced with an alternate water supply, pursuant to the water replacement plan submitted to and approved by the COUNTY Board as part of this SPECIAL USE permit.

R. Standard Condition for Decommissioning and Site Reclamation Plan

- (1) The Applicant shall submit a signed decommissioning and site reclamation plan conforming to the requirements of paragraph 6.1.1 A.
- (2) In addition to the purposes listed in subparagraph 6.1.1 A.4. the decommissioning and site reclamation plan shall also include provisions for anticipated repairs to any public STREET used for the purpose of reclamation of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) and all costs related to removal of access driveways.
- (3) The decommissioning and site reclamation plan required in paragraph 6.1.1 A. shall also include the following:
  - a. A stipulation that the applicant or successor shall notify the GOVERNING BODY by certified mail of the commencement of voluntary or involuntary bankruptcy proceeding, naming the applicant as debtor, within ten days of commencement of the proceeding.
  - b. A stipulation that the applicant shall agree that the sale, assignment in fact or law, or such other transfer of applicant's financial interest in the PV SOLAR FARM shall in no way affect or change applicant's obligation to continue to comply with the terms of this plan. Any successor in interest, assignee, and all parties to the decommissioning and site reclamation plan shall assume the terms, covenants, and obligations of this plan and agrees to assume all reclamation liability and responsibility for the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF).
  - c. Authorization for the GOVERNING BODY and its authorized representatives for right of entry onto the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) premises for the purpose of inspecting the methods of reclamation or for performing actual reclamation if necessary.
  - d. A stipulation that at such time as decommissioning takes place the applicant, its successors in interest, and all parties to the decommissioning

Commented [CS40]: Ought this state that there are few or no restrictions?

and site reclamation plan are required to enter into a Roadway Use and Repair Agreement with the relevant highway authority.

- e. A stipulation that the Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall provide evidence of any new, additional, or substitute financing or security agreement to the Zoning Administrator throughout the operating lifetime of the project.
- f. A stipulation that the Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall be obliged to perform the work in the decommissioning and site reclamation plan before abandoning the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) or prior to ceasing production of electricity from the CDSF, after it has begun, other than in the ordinary course of business. This obligation shall be independent of the obligation to pay financial assurance and shall not be limited by the amount of financial assurance. The obligation to perform the reclamation work shall constitute a covenant running with the land.
- g. The decommissioning and site reclamation plan shall provide for payment of any associated costs that Champaign County may incur in the event that decommissioning is actually required. Associated costs include all administrative and ancillary costs associated with drawing upon the financial assurance and performing the reclamation work and shall include but not be limited to attorney's fees; construction management and other professional service fees; and the costs of preparing requests for proposals and bidding documents required to comply with state law or Champaign County purchasing policies.
- h. The depth of removal of foundation concrete below ground shall be a minimum of 54 inches. The depth of removal of foundation concrete shall be certified in writing by an Illinois Licensed Professional Geologist or Engineer and the certification shall be submitted to the Zoning Administrator.
- i. Underground electrical cables at a depth of 5 feet or greater may be left in place.
- j. The hole resulting from the removal of foundation concrete during decommissioning shall be backfilled as follows:
  - (a) The excavation resulting from the removal of foundation concrete shall only be backfilled with subsoil and topsoil in similar depths and similar types as existed at the time of the original CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction except that a lesser quality topsoil or a combination of a lesser quality topsoil and a subsoil that is similar to the native subsoil may

**Commented [CS41]:** Who retains logs of the borings, foundation, operation, etc.?

be used at depths corresponding to the native subsoil but not less than 12 inches below grade.

- (b) The native soils excavated at the time of the original CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) construction may be used to backfill the concrete foundation excavations at the time of decommissioning provided that the soils are adequately stored throughout the operating lifetime of the CDSF. The methods for storing the excavated native soils during the operating lifetime of the CDSF shall be included in the decommissioning and site reclamation plan.
- (c) If the excavated native soils are not stored for use for backfilling the concrete foundation excavations, a qualified soil scientist or Illinois Licensed Professional Geologist or Engineer shall certify that the actual soils used to backfill the concrete foundation excavations are of equal or greater quality than the native soils or that, in the case of subsoil, the backfill soil meets the requirements of this paragraph. The certification shall be submitted to the Zoning Administrator.
- (d) An Illinois Licensed Professional Geologist or Engineer shall certify in writing that the concrete foundation excavations have been backfilled with soil to such a depth and with a minimum of compaction that is consistent with the restoration of productive agricultural use such that the depth of soil is expected to be no less than 54 inches within one year after backfilling.
- k. A stipulation that should the decommissioning and site reclamation plan be deemed invalid by a court of competent jurisdiction the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) SPECIAL USE permit shall be deemed void.
- l. A stipulation that the Applicant's obligation to complete the decommissioning and site reclamation plan and to pay all associated costs shall be independent of the Applicant's obligation to provide financial assurance.
- m. A stipulation that the liability of the Applicant's failure to complete the decommissioning and site reclamation plan or any breach of the decommissioning and site reclamation plan requirement shall not be capped by the amount of the financial assurance.
- n. If the Applicant desires to remove equipment or property credited to the estimated salvage value without the concurrent replacement of the property with property of equal or greater salvage value, or if the Applicant installs equipment or property increasing the cost of decommissioning after the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) begins to

**Commented [CS42]:** What if the Applicant pauses the decommissioning and reclamation for an extended or indefinite time leaving the work partly or even undone? Ought there be a provision that the work should be done with diligence and progress to completion?

produce electricity, at any point, the Applicant shall first obtain the consent of the Zoning Administrator. If the Applicant's lien holders remove equipment or property credited to the salvage value, the Applicant shall promptly notify the Zoning Administrator. In either of these events, the total financial assurance shall be adjusted to reflect any change in total salvage value and total decommissioning costs resulting from any such removal or installation.

- (4) To comply with paragraph 6.1.1 A.5., the Applicant shall provide financial assurance in the form of an irrevocable letter of credit as follows:
- a. At the time of Special Use Permit approval, the amount of financial assurance to be provided for the decommissioning and site reclamation plan shall be 125% of the decommissioning cost as determined in the independent geologist or engineer's cost estimate to complete the decommissioning work described in Sections 6.1.1 A.4.a. and 6.1.1 A.4.b. and 6.1.1 A.4.c. and shall otherwise be compliant with Section 6.1.1 A.5. except that if the SOLAR PV modules have an unlimited warranty of at least 10 years and also have a limited power warranty to provide not less than 80% nominal power output up to 25 years and proof of that warranty is provided at the time of Zoning Use Permit approval, financial assurance may be provided for the decommissioning and site reclamation plan as follows:
- (a) No Zoning Use Permit to authorize construction of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) shall be authorized by the Zoning Administrator until the CDSF owner shall provide the County with Financial Assurance to cover 12.5% of the decommissioning cost as determined in the independent geologist or engineer's cost estimate to complete the decommissioning work described in Sections 6.1.1 A.4.a. and 6.1.1 A.4.b. and 6.1.1 A.4.c. and otherwise compliant with Section 6.1.1 A.5.
- (b) On or before the sixth anniversary of the Commercial Operation Date, the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) Owner shall provide the County with Financial Assurance to cover 62.5% of the decommissioning cost as determined in the independent geologist or engineer's cost estimate to complete the decommissioning work described in Sections 6.1.1 A.4.a. and 6.1.1 A.4.b. and 6.1.1 A.4.c. and otherwise compliant with Section 6.1.1 A.5.
- (c) On or before the eleventh anniversary of the Commercial Operation Date, the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) owner shall provide the County with Financial Assurance to cover 125% of the decommissioning cost as determined in the

**Commented [CS43]:** This work could also be performed by a surveyor or landscape architect

independent geologist or engineer's cost estimate to complete the decommissioning work described in Sections 6.1.1 A.4.a. and 6.1.1 A.4.b. and 6.1.1 A.4.c. and otherwise compliant with Section 6.1.1 A.5.

**Commented [CS44]:** Is a licensed professional opinion wanted or is this solely engineering?

- b. Net salvage value may be deducted from decommissioning costs as follows:
- (a) One of the following standards shall be met:
    - i. The Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall maintain the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) free and clear of liens and encumbrances, including financing liens and shall provide proof of the same prior to issuance of the SPECIAL USE Permit; or
    - ii. The Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall deduct from the salvage value credit the amount of any lien or encumbrance on the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF); or
    - iii. Any and all financing and/or financial security agreements entered into by the Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall expressly provide that the agreements are subject to the covenant required by Section 6.1.1 A.2 that the reclamation work be done.
  - (b) The Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall provide proof of compliance with paragraph 6.1.5. Q.(4)b.(a) prior to issuance of any Zoning Use Permit and upon every renewal of the financial assurance and at any other time upon the request of the Zoning Administrator.
  - (c) The Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall provide in the decommissioning and site reclamation plan for legal transfer of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) to the demolisher to pay the costs of reclamation work, should the reclamation work be performed.
  - (d) The net estimated salvage value that is deducted from the estimated decommissioning costs shall be the salvage value that results after all related costs for demolition and any required preparation for transportation for reuse or recycling or for simple disposal and other

similar costs including but not limited to the decommissioning of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) STRUCTURES, equipment, and access roads.

- (e) Estimated salvage value shall be based on the average salvage price of the past five years as published in a reputable source for salvage values and shall reflect sound engineering professional judgment as to anticipated changes in salvage prices prior to the next update of estimated net salvage value.
  - (f) The deduction from the estimated decommissioning costs for net estimated salvage value shall be capped at 70% of the total net estimated salvage value even though the total actual salvage value shall be available in the event that decommissioning is actually required.
  - (g) The total financial assurance after deduction of the net estimated salvage value shall not be less than \$1,000 per acre.
  - (h) The credit for net estimated salvage value attributable to any CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) may not exceed the estimated cost of removal of the above-ground portion of that CDSF on the subject site.
- c. The GOVERNING BODY has the right to require multiple letters of credit based on the regulations governing federal insurance for deposits.
- d. The Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall adjust the amount of the financial assurance to ensure that it reflects current and accurate information as follows:
- (a) At least once every three years for the first 12 years of the financial assurance and at least once every two years thereafter or, if the SOLAR PV modules have an unlimited warranty of at least 10 years and also have a limited power warranty to provide not less not than 80% nominal power output up to 25 years and proof of that warranty is provided at the time of Zoning Use Permit approval, then at least once every five years for the first 25 years of the financial assurance and at least once every two years thereafter, the Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall use an independent Illinois Licensed Professional Geologist or Engineer to provide updated estimates of decommissioning costs and salvage value, by including any changes due to inflation and/or change in salvage price. The Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall, upon receipt, provide

a copy of the adjusted Professional Engineer's report to the Zoning Administrator.

- (b) At all times, the value of the irrevocable letter of credit shall equal or exceed the amount of the independent geologist or engineer's cost estimate as increased by known and documented rates of inflation based on the Consumer Price Index since the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) was approved.
- e. The long term corporate debt (credit) rating of the letter of credit issuing financial institution by both Standard & Poor's Financial Services LLC (S&P) and Moody's Investors Service (Moody's) shall be equal to or greater than the minimum acceptable long term corporate debt (credit) rating, as follows:
  - (a) The Zoning Administrator shall verify the long term corporate debt (credit) rating of the proposed financial institution by both Standard & Poor's Financial Services LLC (S&P) and Moody's Investors Service (Moody's).
  - (b) The minimum acceptable long term corporate debt (credit) rating of the proposed financial institution shall be a rating of "A" by S&P or a rating of "A2" by Moody's.
  - (c) Whenever the most current long term corporate debt (credit) rating of the proposed financial institution by either S&P or Moody's is lower than the minimum acceptable long term corporate debt (credit) rating, the letter of credit shall be replaced with a new irrevocable letter of credit from an issuing financial institution whose most current long term corporate debt (credit) rating by either S&P or Moody's meets or exceeds the minimum acceptable long term corporate debt (credit) rating,
- f. At all times the value of the irrevocable letter of credit shall be increased annually as necessary to reflect actual rates of inflation over the life span of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) and the amount shall be equal to or exceed 125% of the amount of the independent geologist or engineer's cost estimate as increased by known and documented rates of inflation since the CDSF was approved.
- g. Should the salvage value of components be adjusted downward or the decommissioning costs adjusted upward pursuant to paragraph 6.1.5 Q.(4)d., the amount of the irrevocable letter of credit pursuant to this paragraph 6.1.5 Q.(4) shall be increased to reflect the adjustment, as if the adjusted estimate were the initial estimate.

- h. Any financial assurance required per the Agricultural Impact Mitigation Agreement with the Illinois Department of Agriculture as required by paragraph 6.1.5 R. shall count towards the total financial assurance required for compliance with paragraph 6.1.1 A.5.
  - i. Unless the Governing Body approves otherwise, the Champaign County State's Attorney's Office shall review and approve every Letter of Credit prior to acceptance by the Zoning Administrator.
- (5) In addition to the conditions listed in subparagraph 6.1.1 A.9. the Zoning Administrator may also draw on the funds for the following reasons:
  - a. In the event that any CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) or component thereof ceases to be functional for more than six consecutive months after it starts producing electricity and the Owner is not diligently repairing such CDSF or component of the CDSF.
  - b. In the event that the Owner declares the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) or any CDSF component to be functionally obsolete for tax purposes.
  - c. There is a delay in the construction of any CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) of more than 6 months after construction on that CDSF begins.
  - d. Any CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) or component thereof that appears in a state of disrepair or imminent collapse and/or creates an imminent threat to the health or safety of the public or any person.
  - e. Any CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) or component thereof that is otherwise derelict for a period of 6 months.
  - f. The CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) is in violation of the terms of the CDSF FARM SPECIAL USE permit for a period exceeding ninety (90) days.
  - g. The Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan has failed to maintain financial assurance in the form and amount required by the special use permit or compromised the COUNTY's interest in the decommissioning and site reclamation plan.
  - h. The COUNTY discovers any material misstatement of fact or misleading omission of fact made by the Applicant in the course of the special use permit zoning case.

- i. The Applicant has either failed to receive a copy of the certification of design compliance required by paragraph 6.1.5 D. or failed to submit it to the County within 12 consecutive months of receiving a Zoning Use Permit regardless of the efforts of the Applicant to obtain such certification.
  - (6) The Zoning Administrator may, but is not required to, deem the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) abandoned, or the standards set forth in Section 6.1.5 Q.(5) met, with respect to some, but not all, of the CDSF. In that event, the Zoning Administrator may draw upon the financial assurance to perform the reclamation work as to that portion of the CDSF only. Upon completion of that reclamation work, the salvage value and reclamation costs shall be recalculated as to the remaining CDSF.
  - (7) The Decommissioning and Site Reclamation Plan shall be included as a condition of approval by the BOARD and the signed and executed irrevocable letter of credit and evidence of the escrow account must be submitted to the Zoning Administrator prior to any Zoning Use Permit approval.
- S. Complaint Hotline
- (1) Prior to the commencement of construction on the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) and during the entire term of the County Board SPECIAL USE permit and any extension, the Applicant and Owner shall establish a telephone number hotline for the general public to call with any complaints or questions.
  - (2) The telephone number hotline shall be publicized and posted at the operations and maintenance center and the construction marshalling yard.
  - (3) The telephone number hotline shall be manned during usual business hours and shall be an answering recording service during other hours.
  - (4) Each complaint call to the telephone number hotline shall be logged and identify the name and address of the caller and the reason for the call.
  - (5) All calls shall be recorded and the recording shall be saved for transcription for a minimum of two years.
  - (6) A copy of the telephone number hotline calls shall be provided to the Zoning Administrator on a monthly basis.
  - (7) The Applicant and Owner shall take necessary actions to resolve all legitimate complaints.
- T. Standard Condition for Expiration of CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) County Board SPECIAL USE Permit

**Commented [CS45]:** Should this be part of a record kept for the duration of the operation until or even after decommissioning and reclamation?

A CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) County Board SPECIAL USE Permit designation shall expire in 10 years if no Zoning Use Permit is granted.

U. Application Requirements

- (1) In addition to all other information required on the SPECIAL USE Permit application and required by Section 9.1.11 A.2., the application shall contain or be accompanied by the following information:
  - a. A CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) Project Summary, including, to the extent available:
    - (a) A general description of the project including any proposed new CDSF or proposed modifications to an existing CDSF that identifies all structures and equipment to be installed including the location and number of injection and monitoring wells, compressors, pipelines, and facility water and electrical demands.
    - (b) Identification of the applicant, owner(s) and operator(s) of the CDSF including their name(s), address(es), phone number(s) and email addresses and the names(s), owner(s), address(es), phone numbers and email addresses of all businesses owned and/or properties owned that would be associated with the CDSF.
    - (c) The names, addresses, and phone numbers of all property owners of any part of the CDSF, including the AOR and the sequestration field.
    - (d) The specific proposed location of the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) including all tax parcels on which pore space will be used by the CDSF.
    - (e) The specific proposed location of all tax parcels required to be included in the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) County Board SPECIAL USE Permit.
    - (f) A description of the Applicant; Owner and Operator, including their respective business structures.
    - (g) Identifies proposed suppliers and identifies electricity, natural gas, water, and other physical material and energy demands; facility maintenance plans; facility emergency response plan; facility expansion potential, and facility decommissioning plan and costs.
    - (h) A description of the proposed CARBON DIOXIDE PLUME (PLUME) location in sufficient detail to document that the PLUME

shall not be over, penetrate through, or store carbon dioxide under a PRIMARY SAND AND GRAVEL AQUIFER.

- (i) Provides an estimate of the projected average annual and average daily gross volume of carbon dioxide proposed to be injected by the CDSF and the number of years the project will be in operation.
- (j) Describes where and how captured carbon dioxide will be transported to the CDSF, including information related to any proposed or existing CDCF or CDP that would capture or transport the carbon dioxide.
- (k) Confirms that the applicant has applied for the following:
  - i. Class VI well permit from either the U.S. EPA or the State of Illinois; and
  - ii. Carbon dioxide sequestration permit from the Illinois EPA.
- b. A site plan and maps in printed and digital formats for the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) indicating the following:
  - (a) The approximate planned location of all CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) STRUCTURES, property lines (including identification of adjoining properties), required separations, public access roads and turnout locations, access driveways, electrical transformer(s), cabling, switching station, electrical cabling from the CDSF to the substations(s), ancillary equipment, screening and fencing, third party transmission lines, meteorological station, maintenance and management facilities, and layout of all structures within the geographical boundaries of any applicable setback.
  - (b) The site plan shall clearly indicate the area of the proposed CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) County Board SPECIAL USE Permit as required by subparagraph 6.1.5 A.(1).
  - (c) The location of all below-ground wiring, utilities, and foundations installed or constructed during the duration of the project.
  - (d) The location, height, and appearance of all above-ground wiring and wiring structures.
  - (e) The separation of all CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) structures from adjacent DWELLINGS and/or

**Commented [CS46]:** The as-built and historical records, information, plans, maps, etc. are wanted for post closure and subsequent use.

PRINCIPAL BUILDINGS or uses shall be dimensioned on the approved site plan and that dimension shall establish the effective minimum separation that shall be required for any Zoning Use Permit. Greater separation and somewhat different locations may be provided in the approved site plan for the Zoning Use Permit provided that that the greater separation does not increase the noise impacts and/or glare that were approved in the CDSF County Board SPECIAL USE Permit. CDSF structures includes substations, third party transmission lines, maintenance and management facilities, or other significant structures.

- c. A map of the AREA OF REVIEW (AOR) at a scale sufficient to depict:
  - (a) All municipal and county boundaries;
  - (b) Boundaries of PRIMARY SAND AND GRAVEL AQUIFERS;
  - (c) All STREETS;
  - (d) The proposed location of each injection, monitoring, or groundwater monitoring well;
  - (e) The extent of the underground carbon dioxide PLUME associated with each injection well, as modeled by the applicant and submitted to and approved by the U.S. EPA;
  - (f) The extent of the underground pressure plume associated with each injection well beyond the extent of the underground carbon dioxide PLUME;
  - (g) Abandoned and monitoring wells that might facilitate a leak of carbon dioxide to the ground surface;
  - (h) Active oil, gas, wastewater, water wells and any other active well not identified in this section;
  - (i) PRINCIPAL STRUCTURES, livestock operations, and OUTDOOR GATHERING SPACE(S).
- d. Information about seismic activity within the AOR and the potential for inducing earthquakes shall be provided, including:
  - (a) Seismic history, including a detailed record of historical and recent seismic activity within the AOR that specifies date, magnitude, frequency, and location of natural earthquakes, if any;

- (b) Geologic fault characterization, including detailed mapping of any known geologic structures including faults and geologic folds within the AOR; the proximity of geologic faults or geologic folds to the proposed injection wells; and the assessment of potential for reactivation; and
  - (c) An assessment of potential fault reactivation or fractures of the cap rock due to CO2 injection.
- e. All other required studies, reports, certifications, and approvals demonstrating compliance with the provisions of this Ordinance in printed and digital formats.
- f. The CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) SPECIAL USE permit application shall include documentation that the applicant has provided a complete copy of the SPECIAL USE permit application to any municipality within one-and-one-half miles of the proposed CDSF as required by Section 6.1.5 B.(2)a.(b).
- g. A municipal resolution regarding the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) by any municipality located within one-and-one-half miles of the CDSF must be submitted to the ZONING ADMINISTRATOR prior to the consideration of the CDSF SPECIAL USE permit by the Champaign County Board or, in the absence of such a resolution, the ZONING ADMINISTRATOR shall provide documentation to the County Board that any municipality within one-and-one-half miles of the CDSF was provided notice of the meeting dates for consideration of the proposed CDSF SPECIAL USE Permit for both the Environment and Land Use Committee and the County Board as required by Section 6.1.5 B.(2)a.(c).
- h. Documentation that the applicant and owner, and any parent companies of applicant and owners are financially sound and sufficiently experienced to complete the proposed CDSF or to modify the existing CDSF that is the subject of the application. Such documentation must include evidence of project financial viability; applicant, owner, and operator financial health including current financial reports; applicant's project development experience; applicant's and/or operator's experience managing and operating CDSF or similar industrial facilities; and applicant's fiscal capability to provide compensation, not including any financial assurance provided under Article XIV, FINANCIAL ASSURANCE, for possible damages caused by the CDSF including but not limited to damage to drinking water supplies, the impacts of a CDSF well blowout, CO2 release from CDSF surface facilities, or the release of CO2 to the atmosphere via third-party wells, natural faults, or other CO2 release routes.

**Commented [CS47]:** Where are the applications placed?  
Library? Municipal building?

- i. An explanation of the commercial purposes of the CDSF or CDSF modifications, including documentation for claimed public benefits.
  - j. A description of all COUNTY, state, and federal statutes, regulations, ordinances, permits, codes, and standards applicable to the CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF).
  - k. Any other information normally required by the County as part of its Zoning Ordinance.
  - l. Any other information requested by the Zoning Administrator that may be useful in evaluating the potential environmental and socioeconomic impacts of the proposed CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) on Christian County residential, business, agricultural, livestock operations and any adjacent land uses.
- (2) The Applicant shall submit at least ten paper copies of the SPECIAL USE Permit Application and one electronic copy in a generally used format.
  - (3) The Applicant shall notify the COUNTY of any changes to the information provided above that occurs while the County Board SPECIAL USE permit application is pending.

**9. Add the following paragraph 9.3.1 J. for Zoning Use Permit fee:**

- K. CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF) .... \$275 per ground surface acre of carbon dioxide PLUME

**10. Add new subsection 9.3.3 B.(9) as follows for Zoning Case Filing Fees:**

- (9) CARBON DIOXIDE SEQUESTRATION FACILITY (CDSF).....  
Upon submission of the application, applicant shall submit a certified check to Champaign County in the amount of \$250,000:
- a. This amount shall be placed in a guaranteed money market account that will be used to cover the COUNTY'S costs, including but not limited to the costs of third party experts, geologists, landscape architects, land surveyors or engineers, and attorneys, that may be required pursuant to this Ordinance, during the special use application review process, public hearing(s) and any appeals or subsequent litigation.
  - b. Should the actual costs to the COUNTY exceed \$250,000, the applicant shall be responsible for those costs. The COUNTY shall provide an accounting and invoice for such overage on a quarterly basis. The applicant shall remit additional funds within 30 days of invoice.

- c. Any amount remaining in the account after the COUNTY renders its decision and all bills and invoices have been paid, shall be refunded to the applicant.
- d. The applicant, owner, or operator shall reimburse the COUNTY for any and all reasonable ~~engineering~~ fees for professional services incurred if the COUNTY, in its sole discretion, deems it necessary to hire an outside geologist, landscape architect, land surveyor or engineering consulting firm to work on any or all parts of the CDSF application process.