

Preliminary Farmland Drain Tile Investigation Report

Date: 09/15/25

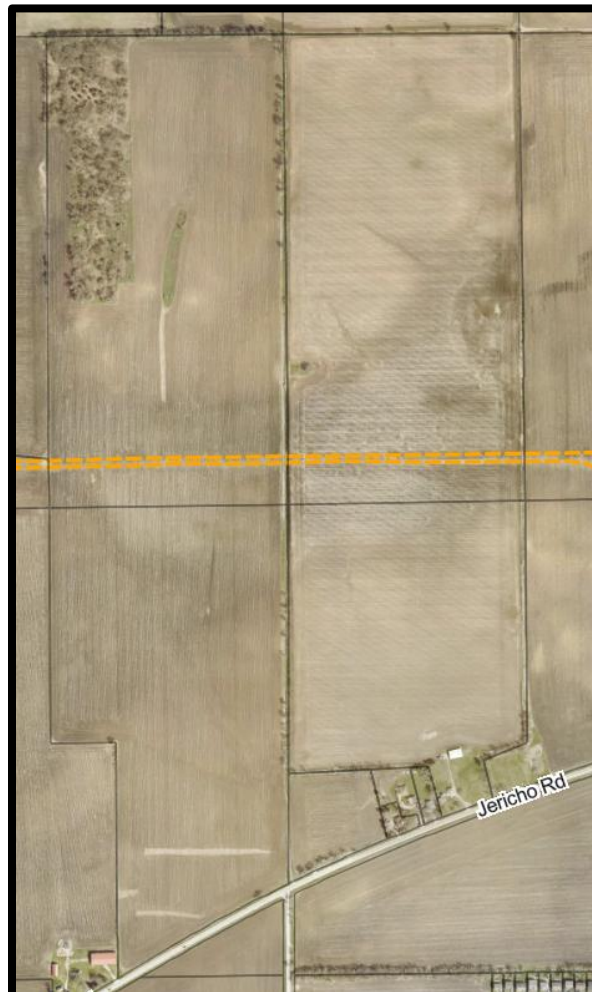
Orchard Solar is a 15 MWac Commercial Solar Energy Facility project which will be applying for a Special Use Permit (SUP) with the Kane County Development & Community Services Zoning Board of Appeals in September 2025.

Clean Field Power is submitting this Preliminary Farmland Drain Tile Investigation report to satisfy required document #32 detailed in Appendix D: Required Submittal Documents.

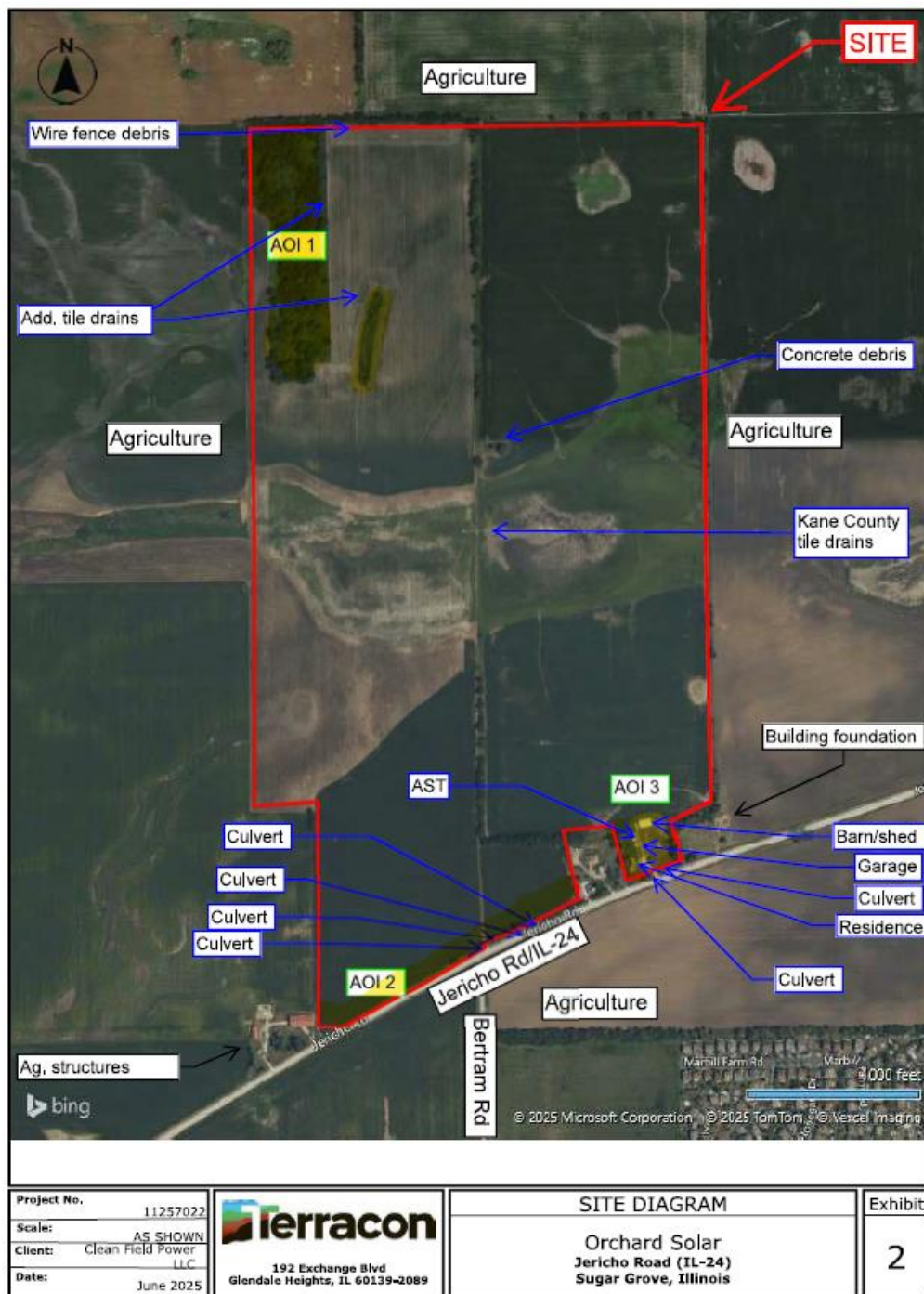
CFP IL Orchard Solar, LLC has entered into an Agricultural Mitigation Agreement (AIMA) with the Illinois Department of Agriculture which requires the Applicant to mitigate any agricultural damage that may be caused by construction activities. This includes maintaining surrounding area subsurface drainage, re-establishing subsurface drainage within the facility footprint, and permanent repairs as needed. See Attachment for Figure 1 & 2 drain tile repair standards.

The Applicant has worked with the property owner and third-party consultants to identify the primary drainage tile across the Property. There appears to be one main drain tile existing which divides the Property in half running east to west. The Applicant understands its importance to the Rob Roy Creek drain tile system and as such has designed the Project to have a significant setback (approximately 345 ft at the closest southeastern point, and 470 ft at the farthest southwestern point).

The below map was obtained from the KaneGIS4 interactive web tool which shows known drain tile paths as dashed orange lines. The project footprint avoids the known drain tile path entirely:



The below map developed by Terracon during their Phase I Environmental Site Assessment (ESA) reconnaissance further investigated the approximate locations of drainage tiles on the Property:



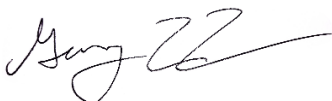
Prior to applying for a building permit, the Applicant will conduct a comprehensive physical drain tile survey to map all existing drain tile lines traversing the Property. The below Scope of Work to be completed by qualified third parties in pursuit of a Kane County Stormwater Permit for the Project:

- Delineate drainage area basins within the subject tract to the outfall of the site based on topographic information.
- Existing condition peak flow will be calculated for the 2-year, 10-year, 25-year, and 100-year events using the NRCS TR-20 method and HydroCAD modeling software.

- Field reconnaissance and research records in efforts to identify areas which are typical to installation of existing drain tile.
- Investigation areas will be staked and slit trenched, or hand probed to verify existence of drain tile. Consultant will document existing drain tiles encountered during the field investigation on field mapping according to U.S.D.A. Natural Resource Conservation Service construction practices
- Surface probing or electronic detection and field staked at 50' intervals including cut stakes for invert elevations where requested.
- All existing drain tile routes encountered during the field investigation shall be located in the field by GPS location systems (<1., Illinois State Plan East NAD 83) and recorded on final plans. Our field staking process will include pipe invert cut stakes at all perimeter locations located in the field investigation, strategic interior locations encountered and 50' interval pin flagging along tile routes for electronic survey location
- Final drain tile mapping will be computer drafted on a base map including recent color digital aerial photography, topography, and project limits. Mapped information will include the location of all existing drain tile routes and applicable drainage findings encountered during the field investigation process. A field report shall be attached to the plan containing evaluation information including size, flow, system effectiveness, restriction siltation, pipe invert to ground surface depth, pipe type/quality, system classification and specific field notes.

If you require any additional information regarding the project, please let us know.

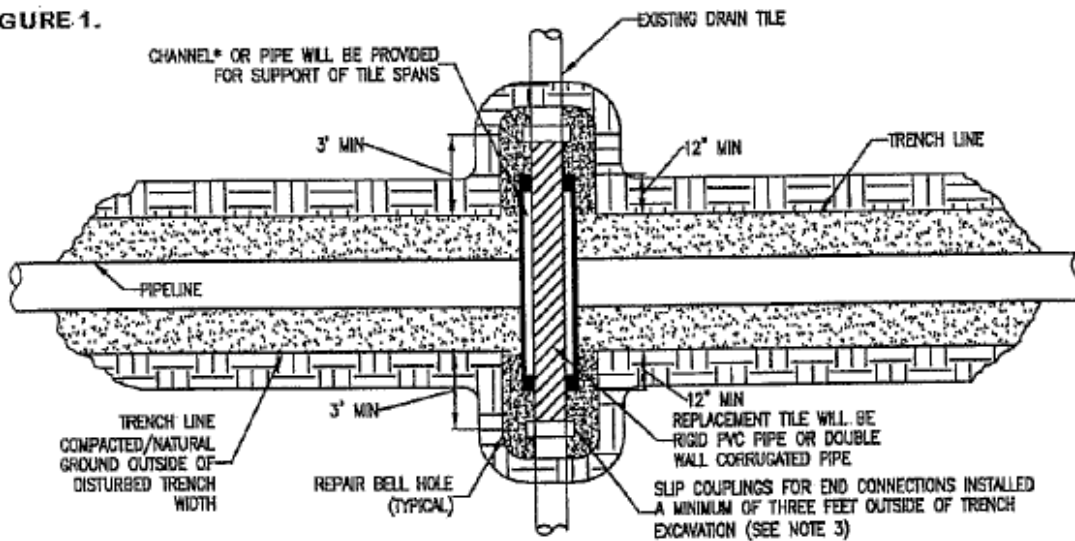
Sincerely,
Gary LaNoce



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glaunce@cleanfieldpower.com

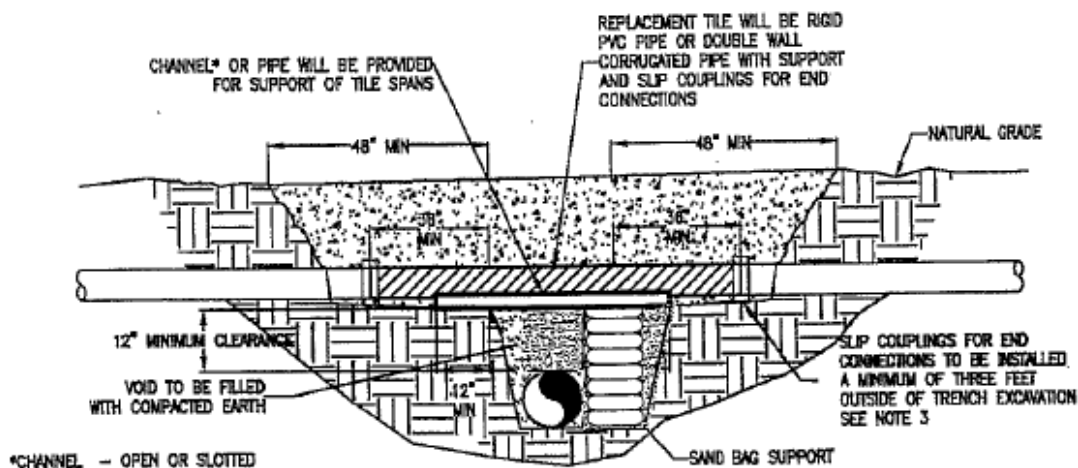
ATTACHMENT

FIGURE 1.



PLAN

N.T.S.



CROSS SECTION

N.T.S.

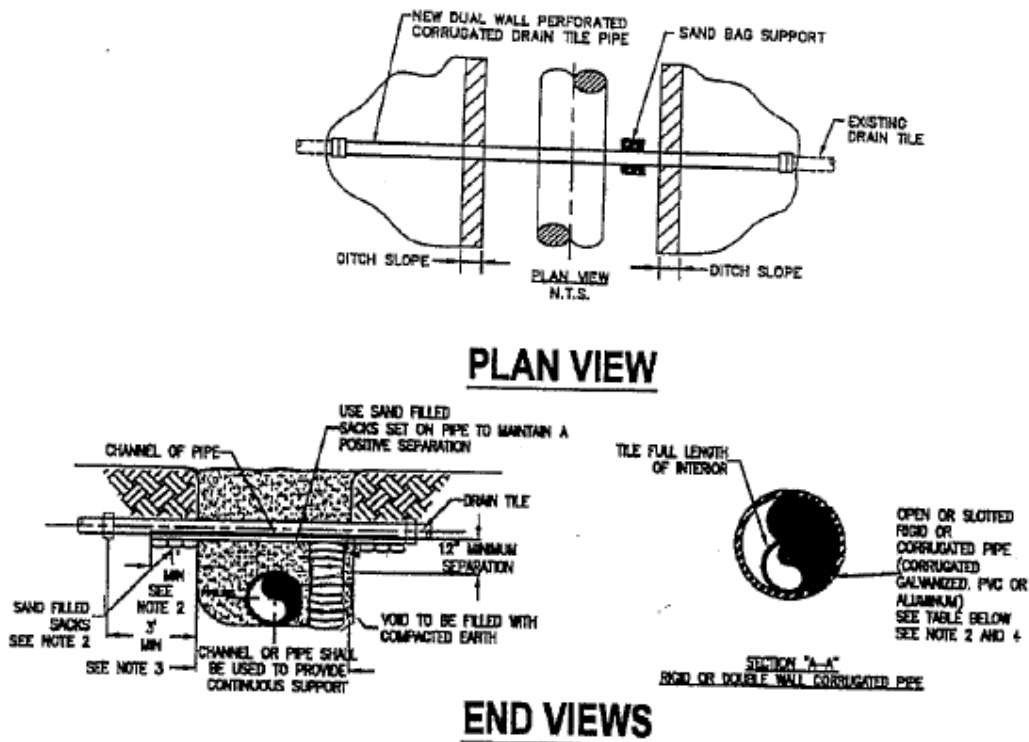
NOTE:

1. IMMEDIATELY REPAIR TILE IF WATER IS FLOWING THROUGH TILE AT TIME OF TRENCHING. IF NO WATER IS FLOWING AND TEMPORARY REPAIR IS DELAYED, OR NOT MADE BY THE END OF THE WORK DAY, A SCREEN OR APPROPRIATE "NIGHT CAP" SHALL BE PLACED ON OPEN ENDS OF TILE TO PREVENT ENTRAPMENT OF ANIMALS ETC.
2. CHANNEL OR PIPE (OPEN OR SLOTTED) MADE OF CORRUGATED GALVANIZED PIPE, PVC OR ALUMINUM WILL BE USED FOR SUPPORT OF DRAIN TILE SPANS.
3. INDUSTRY STANDARDS SHALL BE FOLLOWED TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES.

TEMPORARY DRAIN TILE REPAIR

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FIGURE 2.



MINIMUM SUPPORT TABLE		
TILE SIZE	CHANNEL SIZE	PIPE SIZE
3"	4" @ 5.4 WTS	4" STD. WT.
4"-5"	5" @ 8.7 WTS	6" STD. WT.
6"-8"	7" @ 9.5 WTS	8"-10" STD. WT.
10"	10" @ 15.3 WTS	12" STD. WT.

NOTE:

1. TILE REPAIR AND REPLACEMENT SHALL MAINTAIN ORIGINAL ALIGNMENT GRADIENT AND WATER FLOW TO THE GREATEST EXTENT POSSIBLE. IF THE TILE NEEDS TO BE RELOCATED, THE INSTALLATION ANGLE MAY VARY DUE TO SITE SPECIFIC CONDITIONS AND LANDOWNER RECOMMENDATIONS.
2. 1'-0" MINIMUM LENGTH OF CHANNEL OR RIGID PIPE (OPEN OR SLOTTED CORRUGATED GALVANIZED, PVC OR ALUMINUM CRADLE) SHALL BE SUPPORTED BY UNDISTURBED SOIL, OR IF CROSSING IS NOT AT RIGHT ANGLES TO PIPELINE, EQUIVALENT LENGTH PERPENDICULAR TO TRENCH. SHIM WITH SAND BAGS TO UNDISTURBED SOIL FOR SUPPORT AND DRAINAGE GRADIENT MAINTENANCE (TYPICAL BOTH SIDES).
3. DRAIN TILES WILL BE PERMANENTLY CONNECTED TO EXISTING DRAIN TILES A MINIMUM OF THREE FEET OUTSIDE OF EXCAVATED TRENCH LINE USING INDUSTRY STANDARDS TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES INCLUDING SLIP COUPLINGS.
4. DIAMETER OF RIGID PIPE SHALL BE OF ADEQUATE SIZE TO ALLOW FOR THE INSTALLATION OF THE TILE FOR THE FULL LENGTH OF THE RIGID PIPE.
5. OTHER METHODS OF SUPPORTING DRAIN TILE MAY BE USED IF ALTERNATE PROPOSED IS EQUIVALENT IN STRENGTH TO THE CHANNEL/PIPE SECTIONS SHOWN AND IF APPROVED BY COMPANY REPRESENTATIVES AND LANDOWNER IN ADVANCE. SITE SPECIFIC ALTERNATE SUPPORT SYSTEM TO BE DEVELOPED BY COMPANY REPRESENTATIVES AND FURNISHED TO CONTRACTOR FOR SPANS IN EXCESS OF 20', TILE GREATER THEN 10" DIAMETER, AND FOR "HEADER" SYSTEMS.
6. ALL MATERIAL TO BE FURNISHED BY CONTRACTOR.
7. PRIOR TO REPAIRING TILE, CONTRACTOR SHALL PROBE LATERALLY INTO THE EXISTING TILE TO FULL WIDTH OF THE RIGHTS OF WAY TO DETERMINE IF ADDITIONAL DAMAGE HAS OCCURRED. ALL DAMAGED/DISTURBED TILE SHALL BE REPAIRED AS NEAR AS PRACTICABLE TO ITS ORIGINAL OR BETTER CONDITION.

PERMANENT DRAIN TILE REPAIR

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