

PRECISIONSKY INTELLIGENCE

INTELLIGENCE MISSION OS · INSPECTION DIVISION · PROPRIETARY

BIG PICTURE ANALYSIS

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M-20260414-

Site: NE, USA

Pillar / Site type: agriculture

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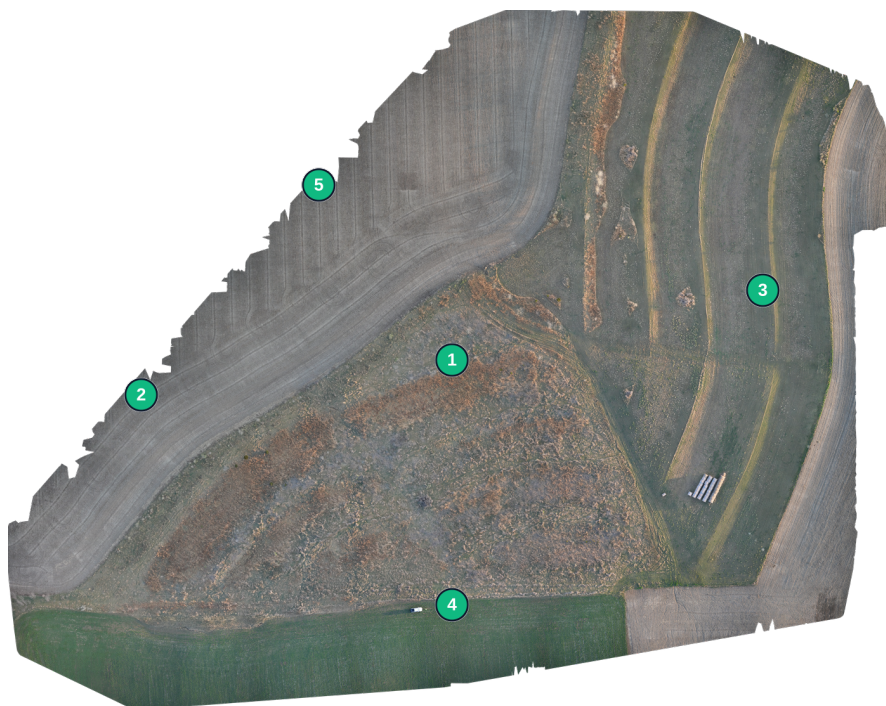
Operator: Vanna

LAYERS COMPARED

Base layer: Ortho

Overlay layer: Drainage

ANNOTATED SITE MAP · 5 OBSERVATIONS



Numbered pins above are AI-flagged inspection points. See legend below.

OBSERVATION LEGEND

- #1 Mid-field flow convergence; verify terrace channel is catching concentrated runoff
- #2 West terrace tie-in to grassed waterway; check for head-cutting at outlet
- #3 East terrace end; confirm ridge height holds against modeled flow path
- #4 Downslope waterway discharge; inspect vegetative cover per NRCS CPS 412
- #5 Upper-field closed low spot with flow accumulation but no visible outlet

BIG PICTURE SYNTHESIS

1. SIGNAL

The RGB orthomosaic is the visible-light ground truth for this Nebraska field — it resolves the parallel terrace ridges referenced in the mission name ("Terrace"), the grassed waterway, access lanes, tillage and residue patterns, and any bare or eroded soil exposed on the April flight date. The drainage overlay is a hydrology-derived product (flow accumulation / modeled flow paths)



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computed from the elevation surface — it tells you where water *wants* to go independent of what has been built or planted. Individually each layer is partial; together they tell you whether the engineered conservation system is actually intercepting the water the terrain is delivering.

2. INSIGHT

The strongest cross-layer pattern on a terraced field is the alignment — or misalignment — between modeled flow-accumulation lines and the visible terrace channels and grassed waterway. Where flow runs *along* a terrace channel and discharges into a vegetated waterway visible in the RGB, the NRCS CPS 600 (Terrace) / 412 (Grassed Waterway) system is performing as designed. Where flow accumulation crosses *over* a terrace ridge, cuts diagonally across crop rows, or pools at an interior low spot with no waterway beneath it, that is a breach or an under-capacity segment. On this site the priority zones are (a) the mid-field convergence near center where two modeled flow lines appear to merge before reaching a channel, (b) the terrace tie-ins at the west and east field edges where ridge height typically thins, and (c) the low-elevation NW/upper-field depression where drainage accumulates but the ortho shows no visible surface outlet — a chronic ponding candidate that will delay spring planting and stress the crop. These convergence points typically read in the RGB as darker, wetter soil tone or thinner residue cover — the visual fingerprint of concentrated runoff working against the conservation grade.

3. ACTIONS

- ****Walk the breach candidates.**** Field-verify any location where the drainage layer shows flow crossing a terrace ridge rather than running along the channel. Per NRCS CPS 600, ridge height and channel cross-section must hold the design storm with freeboard; a visible breach paired with continued downslope flow accumulation means the as-built no longer meets design.
- ****Inspect waterway outlets and terrace tie-ins.**** Confirm the grassed waterway shows continuous vegetative cover with no head-cutting, rilling, or bare soil at the discharge points (NRCS CPS 412). Any flow-accumulation peak landing on bare ground is a priority repair before the next significant rainfall event.
- ****Flag closed low spots for planting and drainage planning.**** Mark interior depressions where flow accumulates with no surface outlet for delayed seeding, water-tolerant varieties, or evaluation of a tile inlet / additional surface drain (NRCS CPS 606/620). Commit earthwork only after a licensed conservation engineer or agronomist confirms on-site.

****KEY FINDINGS:**** Terrace/waterway system is the dominant engineered feature; combined read flags mid-field flow convergence, terrace-end tie-ins, and an upper-field closed depression as the highest-value inspection targets.

****CONCLUSION:**** The drainage model and ortho together convert a generic "check the terraces" walkthrough into a targeted three-point field inspection grounded in NRCS CPS 600 / 412 performance criteria.