

Numbered plots you can find again

Layout 2026-09-08-A | FIELD REVIEW | Coordinates: WGS84 decimal degrees

For Dave and Eli: use this packet to review the planting edges, locate numbered centers, and count trees consistently. Plain field instructions; image precision must not be confused with ground accuracy.

36 main-planting plots + 7 earlier-trial plots. Yellow IDs start 26-P; green IDs start 25-T. The same IDs and coordinates appear in the GPX, Google Earth KML and register. These replace the earlier approximate P01-P40 picture; they are a new layout, not measurements of those old dots.

Recommendation: use Google Earth for desk review, onX on the phones for field navigation, and a numbered stake or flag plus a tape for each actual plot. Both apps use the same prepared coordinates. No extra mapping subscription is needed to try this workflow.

Before the first count: Eli should verify that the cyan edge encloses the 2026 planting and that the green trial outline encloses the 2025 planting. Mark roads, landings, retained forest and other genuinely unplanted ground. Keep mortality patches in the survey. Aerial imagery cannot identify planting year or surviving seedlings.

Evidence: Eli's email image shows August 3-17, 2026 imagery. Three parcel-line corners in the original onX KML locate that image geographically. The traced outer clearing is about 21.1 acres; removing its overlap with the saved trial gives about 20.8 working acres. The saved trial is about 1.1 acres. These are approximate map areas before net planting exclusions, not confirmed survival denominators.

Smaller 2025 trial: the green sample plots allow a separate sample result. Because only about 300 trees were reportedly planted in that trial, a complete living/dead/uncertain tree count may be more useful if the rows can be followed. Do not blend a full trial count with the 2026 plot average.

First field check: visit REF-JUNCTION and REF-SOUTH, the two visible road junctions, and compare the phone location to the mapped feature. They are approximate aids, not surveyed controls. If the whole layout appears shifted, record the discrepancy and stop relocating centers by eye; correct the map consistently first.

Precision: six coordinate decimals preserve the file positions; they do not imply inch-level field accuracy. Screenshot interpretation, parcel data, imagery alignment and phone GPS all add uncertainty. Ground markers make later visits repeatable.

Plot map on Eli's August image

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Yellow: 2026 sample centers. Green: 2025 trial and sample centers. Cyan: traced visible clearing. White diamonds: road references. Labels are larger than the actual 16.65-foot circles. Boundary and road exclusions need field review.

Load the map and find a plot

Layout 2026-09-08-A | FIELD REVIEW | Coordinates: WGS84 decimal degrees

1. Keep one layout version. Use only 2026-09-08-A. Import KraemerTower-numbered-plots-REVIEW.gpx into onX; import the KML into Google Earth for review. Put the onX waypoints in a new folder named KT Survey 2026-09-08-A. Keep the two road references separate from sample counts.

2. Prepare both phones. On Wi-Fi, each person imports or receives the same plot file, verifies 43 plot names and downloads the surrounding onX map at high detail. Each phone must have its own offline map. Test in airplane mode with location services on, including opening a plot and its notes.

3. Check the ground before counting. Confirm year, planting edge and exclusions. Use the map to plan a safe approach. The row numbering is a list order, not a surveyed walking trail. Do not walk a straight line across unsafe slash or steep ground simply because the app points that way.

4. Locate, then mark. Select the plot and use Go-To Waypoint. Let GPS settle and record its reported accuracy if available. Put in a labeled center marker before assessing the nearby trees. Save the actual center separately, for example 26-P01-A. Keep the planned waypoint and record any offset; do not move toward a tree or an easy spot.

5. Tape the circle. Measure a 16.65-foot horizontal radius from the marker. Use short level steps on slopes. Phone GPS does not define this small circle. Count rooted stems inside the circle, one planted root per seedling; multiple shoots do not become multiple trees.

6. Record every outcome. Write H healthy live, D damaged live, U uncertain, X identifiable dead, M known missing planting position, and O other conifers. Write 0 only for a completed zero count. Blank, unsafe, not planted and edge are distinct statuses. Photograph the marker and plot; keep photos and notes backed up separately.

7. Preserve the sampling design. Do not delete or replace points because trees are absent. Mark EDGE if the circle crosses an actual planting edge or exclusion. Count only the portion in the unit, sketch it and resolve its area/edge method with the reviewer. Do not apply the full-circle multiplier to a partial plot.

8. Summarize separately. For each planting year, full-plot live trees per acre = $\text{total}(H+D) / \text{completed full plots} \times 50$. Mixed full/partial plots need a consistent edge estimator. Whole-area live totals and survival require confirmed net acres and the actual planted tally for that same year. Gaps found by scouting are separate records, not additional random plots.

Coordinate register

Layout 2026-09-08-A | FIELD REVIEW | Coordinates: WGS84 decimal degrees

ID	Year	Latitude	Longitude	Review
26-P01	2026	44.753156	-123.426626	FIELD CHECK
26-P02	2026	44.753158	-123.426046	FIELD CHECK
26-P03	2026	44.753160	-123.425465	FIELD CHECK
26-P04	2026	44.753162	-123.424885	FIELD CHECK
26-P05	2026	44.753164	-123.424305	FIELD CHECK
26-P06	2026	44.752751	-123.424302	FIELD CHECK
26-P07	2026	44.752749	-123.424882	FIELD CHECK
26-P08	2026	44.752747	-123.425462	FIELD CHECK
26-P09	2026	44.752744	-123.426042	FIELD CHECK
26-P10	2026	44.752331	-123.426039	EDGE CHECK
26-P11	2026	44.752333	-123.425459	FIELD CHECK
26-P12	2026	44.752335	-123.424879	FIELD CHECK
26-P13	2026	44.752337	-123.424299	FIELD CHECK
26-P14	2026	44.752340	-123.423719	EDGE CHECK
26-P15	2026	44.751926	-123.423716	FIELD CHECK
26-P16	2026	44.751924	-123.424296	FIELD CHECK
26-P17	2026	44.751922	-123.424876	FIELD CHECK
26-P18	2026	44.751920	-123.425456	FIELD CHECK
26-P19	2026	44.751918	-123.426036	EDGE CHECK
26-P20	2026	44.751504	-123.426033	EDGE CHECK
26-P21	2026	44.751506	-123.425453	FIELD CHECK
26-P22	2026	44.751509	-123.424873	FIELD CHECK
26-P23	2026	44.751511	-123.424293	FIELD CHECK
26-P24	2026	44.751513	-123.423713	FIELD CHECK
26-P25	2026	44.751099	-123.423710	FIELD CHECK
26-P26	2026	44.751097	-123.424290	FIELD CHECK

EDGE CHECK means within about 15 m of a mapped edge, allowing a review margin; it is not a field decision. Every point still needs a ground check, including interior road/landing exclusions. Never delete an edge point merely because it complicates the count.

Coordinate register - continued

Layout 2026-09-08-A | FIELD REVIEW | Coordinates: WGS84 decimal degrees

ID	Year	Latitude	Longitude	Review
26-P27	2026	44.751095	-123.424870	FIELD CHECK
26-P28	2026	44.751093	-123.425450	FIELD CHECK
26-P29	2026	44.750680	-123.425447	FIELD CHECK
26-P30	2026	44.750682	-123.424867	FIELD CHECK
26-P31	2026	44.750684	-123.424287	FIELD CHECK
26-P32	2026	44.750686	-123.423707	FIELD CHECK
26-P33	2026	44.750273	-123.423704	EDGE CHECK
26-P34	2026	44.750270	-123.424284	FIELD CHECK
26-P35	2026	44.750268	-123.424864	FIELD CHECK
26-P36	2026	44.750266	-123.425444	FIELD CHECK
25-T01	2025	44.752828	-123.426847	EDGE CHECK
25-T02	2025	44.752584	-123.426502	EDGE CHECK
25-T03	2025	44.752583	-123.426845	FIELD CHECK
25-T04	2025	44.752582	-123.427189	EDGE CHECK
25-T05	2025	44.752338	-123.426844	EDGE CHECK
25-T06	2025	44.752340	-123.426500	FIELD CHECK
25-T07	2025	44.752341	-123.426157	EDGE CHECK

EDGE CHECK means within about 15 m of a mapped edge, allowing a review margin; it is not a field decision. Every point still needs a ground check, including interior road/landing exclusions. Never delete an edge point merely because it complicates the count.

Method and source notes

Layout 2026-09-08-A | FIELD REVIEW | Coordinates: WGS84 decimal degrees

2026: a square grid with 151-foot horizontal spacing. A single seeded random offset was drawn before inspecting plot-level survival, giving 36 centers inside the working frame (target approximately 40). All resulting centers were retained, including near-edge centers. Numbering runs north to south in alternating row directions.

2025: a square grid with 89-foot horizontal spacing. A single seeded random offset was drawn before inspecting plot-level survival, giving 7 centers inside the working frame (target approximately 6). All resulting centers were retained, including near-edge centers. Numbering runs north to south in alternating row directions.

Boundary changes: preserve this draft and all existing IDs. Resolve exclusions consistently before counting. If an edge expands, add points using the same stored grid origin and spacing; do not squeeze or shift old centers to keep the same sample count. A material boundary revision needs a new version and a reviewed sampling frame.

Source preservation: original 31001.jpg from Eli, email subject OnX, September 8 at 4:05 p.m.; Dave's screenshot; original onx-markups-09082026.kml. The KML contains the old harvest outline, trial outline and parcel polygons, not a new traced clearcut. Dave instructed use of Eli's newer image over the old harvest outline. Original sources are retained unchanged.

Alignment limits: three manually picked parcel-line corners were fitted with one scale and rotation. Their internal fit residual is below 0.5 m; this is not an estimate of ground accuracy. The screenshot scale bar independently agrees at approximately 200 ft. Parcel lines are location references, not legal survey monuments. Imagery dates refer to the app's displayed interval, not a verified single capture date.

Software choices: onX supplies offline field mapping and navigation with the phone's GPS; Google Earth accepts the same locations as KML for visual review. If this becomes a repeated inventory with integrated data-entry forms or an external precision GPS receiver, QField is an option to evaluate then. Changing apps alone does not improve the receiver.

onX: importing and exporting

onX: location and orientation

onX: offline maps

Google Earth: KML import

QField: phone vs. external positioning

Field records

Layout 2026-09-08-A | Fill after locating and marking each center | Blank is not zero

26-P01 | 2026 planting

Planned: 44.753156, -123.426626 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P02 | 2026 planting

Planned: 44.753158, -123.426046 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P03 | 2026 planting

Planned: 44.753160, -123.425465 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P04 | 2026 planting

Planned: 44.753162, -123.424885 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

Field records

Layout 2026-09-08-A | Fill after locating and marking each center | Blank is not zero

26-P05 | 2026 planting

Planned: 44.753164, -123.424305 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P06 | 2026 planting

Planned: 44.752751, -123.424302 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P07 | 2026 planting

Planned: 44.752749, -123.424882 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P08 | 2026 planting

Planned: 44.752747, -123.425462 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

Field records

Layout 2026-09-08-A | Fill after locating and marking each center | Blank is not zero

26-P09 | 2026 planting

Planned: 44.752744, -123.426042 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P10 | 2026 planting

Planned: 44.752331, -123.426039 | EDGE CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P11 | 2026 planting

Planned: 44.752333, -123.425459 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P12 | 2026 planting

Planned: 44.752335, -123.424879 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

Field records

Layout 2026-09-08-A | Fill after locating and marking each center | Blank is not zero

26-P13 | 2026 planting

Planned: 44.752337, -123.424299 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P14 | 2026 planting

Planned: 44.752340, -123.423719 | EDGE CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P15 | 2026 planting

Planned: 44.751926, -123.423716 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P16 | 2026 planting

Planned: 44.751924, -123.424296 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

Field records

Layout 2026-09-08-A | Fill after locating and marking each center | Blank is not zero

26-P17 | 2026 planting

Planned: 44.751922, -123.424876 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P18 | 2026 planting

Planned: 44.751920, -123.425456 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P19 | 2026 planting

Planned: 44.751918, -123.426036 | EDGE CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P20 | 2026 planting

Planned: 44.751504, -123.426033 | EDGE CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

Field records

Layout 2026-09-08-A | Fill after locating and marking each center | Blank is not zero

26-P21 | 2026 planting

Planned: 44.751506, -123.425453 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P22 | 2026 planting

Planned: 44.751509, -123.424873 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P23 | 2026 planting

Planned: 44.751511, -123.424293 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P24 | 2026 planting

Planned: 44.751513, -123.423713 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

Field records

Layout 2026-09-08-A | Fill after locating and marking each center | Blank is not zero

26-P25 | 2026 planting

Planned: 44.751099, -123.423710 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P26 | 2026 planting

Planned: 44.751097, -123.424290 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P27 | 2026 planting

Planned: 44.751095, -123.424870 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P28 | 2026 planting

Planned: 44.751093, -123.425450 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

Field records

Layout 2026-09-08-A | Fill after locating and marking each center | Blank is not zero

26-P29 | 2026 planting

Planned: 44.750680, -123.425447 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P30 | 2026 planting

Planned: 44.750682, -123.424867 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P31 | 2026 planting

Planned: 44.750684, -123.424287 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P32 | 2026 planting

Planned: 44.750686, -123.423707 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

Field records

Layout 2026-09-08-A | Fill after locating and marking each center | Blank is not zero

26-P33 | 2026 planting

Planned: 44.750273, -123.423704 | EDGE CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P34 | 2026 planting

Planned: 44.750270, -123.424284 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P35 | 2026 planting

Planned: 44.750268, -123.424864 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

26-P36 | 2026 planting

Planned: 44.750266, -123.425444 | FIELD CHECK | Radius 16.65 ft horizontal

Date Observer Status
H D U X M O Accuracy m

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

Field records

Layout 2026-09-08-A | Fill after locating and marking each center | Blank is not zero

25-T01 | 2025 planting

Planned: 44.752828, -123.426847 | EDGE CHECK | Radius 16.65 ft horizontal

Date	Observer	Status
H	D	U
X	M	O
Accuracy m		

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

25-T02 | 2025 planting

Planned: 44.752584, -123.426502 | EDGE CHECK | Radius 16.65 ft horizontal

Date	Observer	Status
H	D	U
X	M	O
Accuracy m		

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

25-T03 | 2025 planting

Planned: 44.752583, -123.426845 | FIELD CHECK | Radius 16.65 ft horizontal

Date	Observer	Status
H	D	U
X	M	O
Accuracy m		

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

25-T04 | 2025 planting

Planned: 44.752582, -123.427189 | EDGE CHECK | Radius 16.65 ft horizontal

Date	Observer	Status
H	D	U
X	M	O
Accuracy m		

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

Field records

Layout 2026-09-08-A | Fill after locating and marking each center | Blank is not zero

25-T05 | 2025 planting

Planned: 44.752338, -123.426844 | EDGE CHECK | Radius 16.65 ft horizontal

Date	Observer	Status
H	D	U
X	M	O
Accuracy m		

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

25-T06 | 2025 planting

Planned: 44.752340, -123.426500 | FIELD CHECK | Radius 16.65 ft horizontal

Date	Observer	Status
H	D	U
X	M	O
Accuracy m		

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes:

25-T07 | 2025 planting

Planned: 44.752341, -123.426157 | EDGE CHECK | Radius 16.65 ft horizontal

Date	Observer	Status
H	D	U
X	M	O
Accuracy m		

Actual lat, lon / marker / edge sketch reference / photo names / acceptable crop count / notes: