

# Quality Report

PIX4Dmatic v1.54.2

<b>Camera</b>	DJI_FC6310S_8.8_5472x3648
<b>Average GSD</b>	1.1 cm
<b>Project CRS</b>	NAD_1983_CORS96_StatePlane_Nebraska_FIPS_2600_Ft_US + NAVD88 height (ftUS) - ESRI:103475+EPSG:6360 [GEOID18]

## Quality check i

<b>Matches</b>	Median of 5368 matches per calibrated image	✓
<b>Dataset</b>	99.55% calibrated (3979/3997)	✓
<b>Camera optimization</b>	0.48% relative difference between initial and optimized internal camera parameters	✓
<b>GCPs</b>	4 GCPs, Mean RMS position error 2.843 mm / Sigma 2.832	✓
<b>Checkpoints</b>	1 Checkpoint, Mean RMS position error 3.020 cm / Sigma 0.000	✓
<b>MTPs</b>	1 MTP, RMS reprojection error 0.3 px / Sigma 0.1	✓
<b>aITPs</b>	3 aITPs, RMS reprojection error 5.5 px / Sigma 3.8 The aITPs reprojection error is more than 3 px.	!
<b>mITPs</b>	0 mITPs	
<b>ATPs</b>	7097328 ATPs	

# Cameras

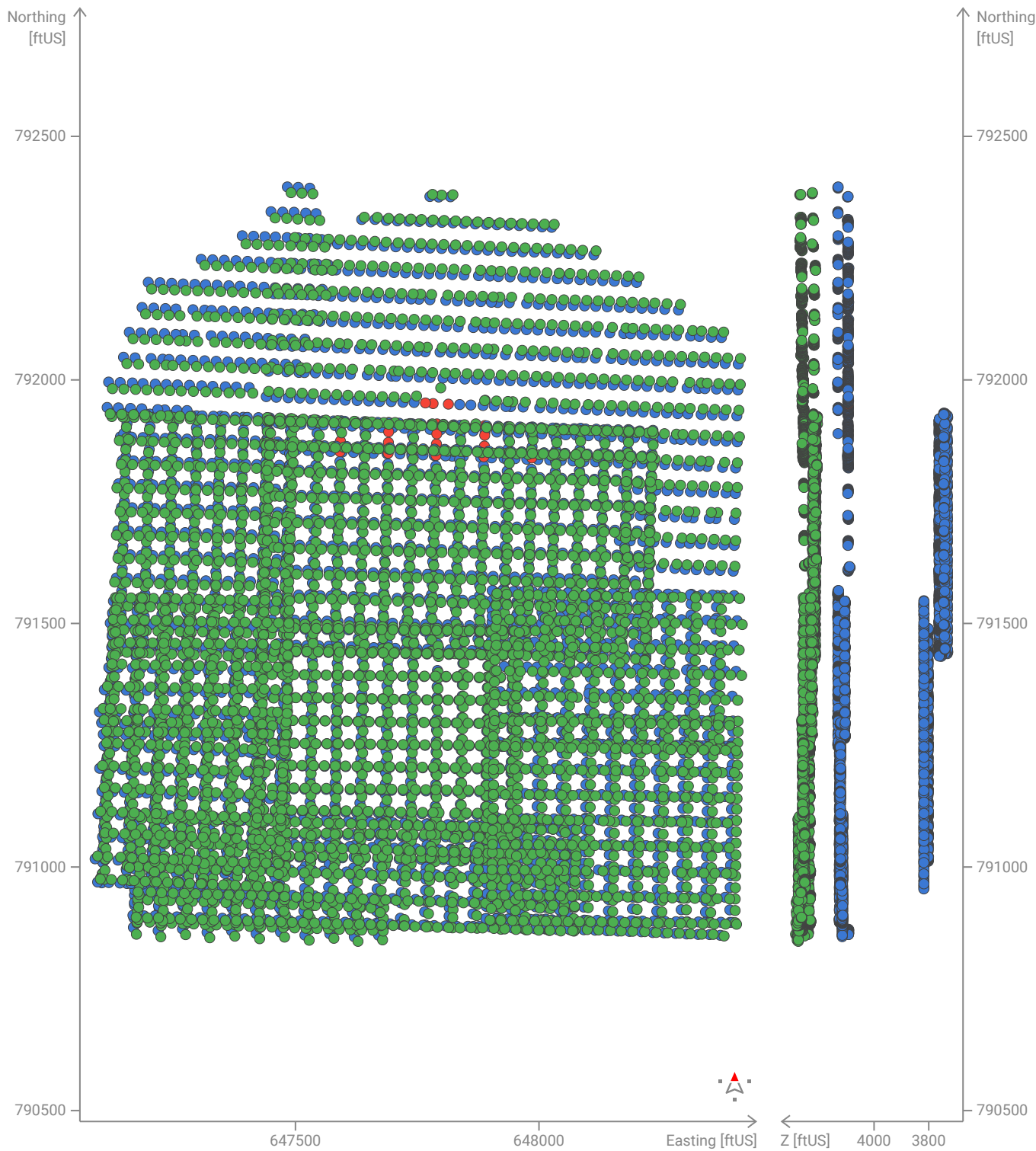


## Internal camera parameters

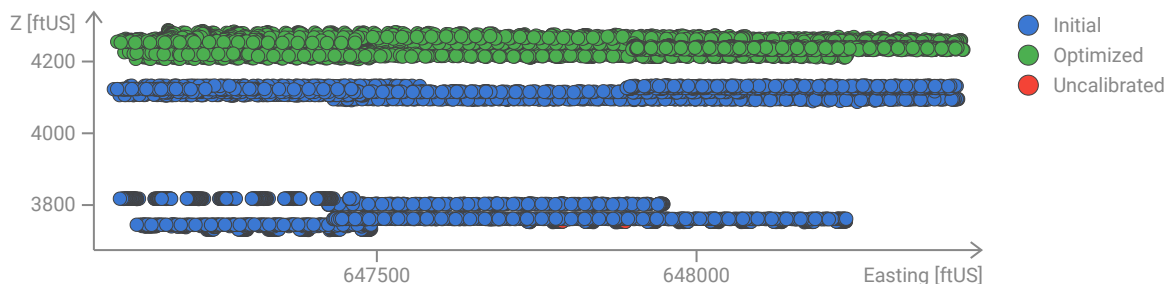
DJI\_FC6310S\_8.8\_5472x3648. Sensor dimensions: 12.833 mm x 8.556 mm

	Focal length	Principal point x	Principal point y	R1	R2	R3	T1	T2
<b>Initial</b>	3668.8 px 8.604 mm	2736.0 px 6.417 mm	1824.0 px 4.278 mm	0.0029860	-0.0076912	0.0079115	-0.0001297	0.0002212
<b>Optimized</b>	3651.0 px 8.563 mm	2726.0 px 6.393 mm	1837.7 px 4.31 mm	-0.0007307	-0.0092863	0.0093661	0.0009439	-0.0007705
<b>Uncertainties (Sigma)</b>	0.1 px 0 mm	0.0 px 0 mm	0.0 px 0 mm	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

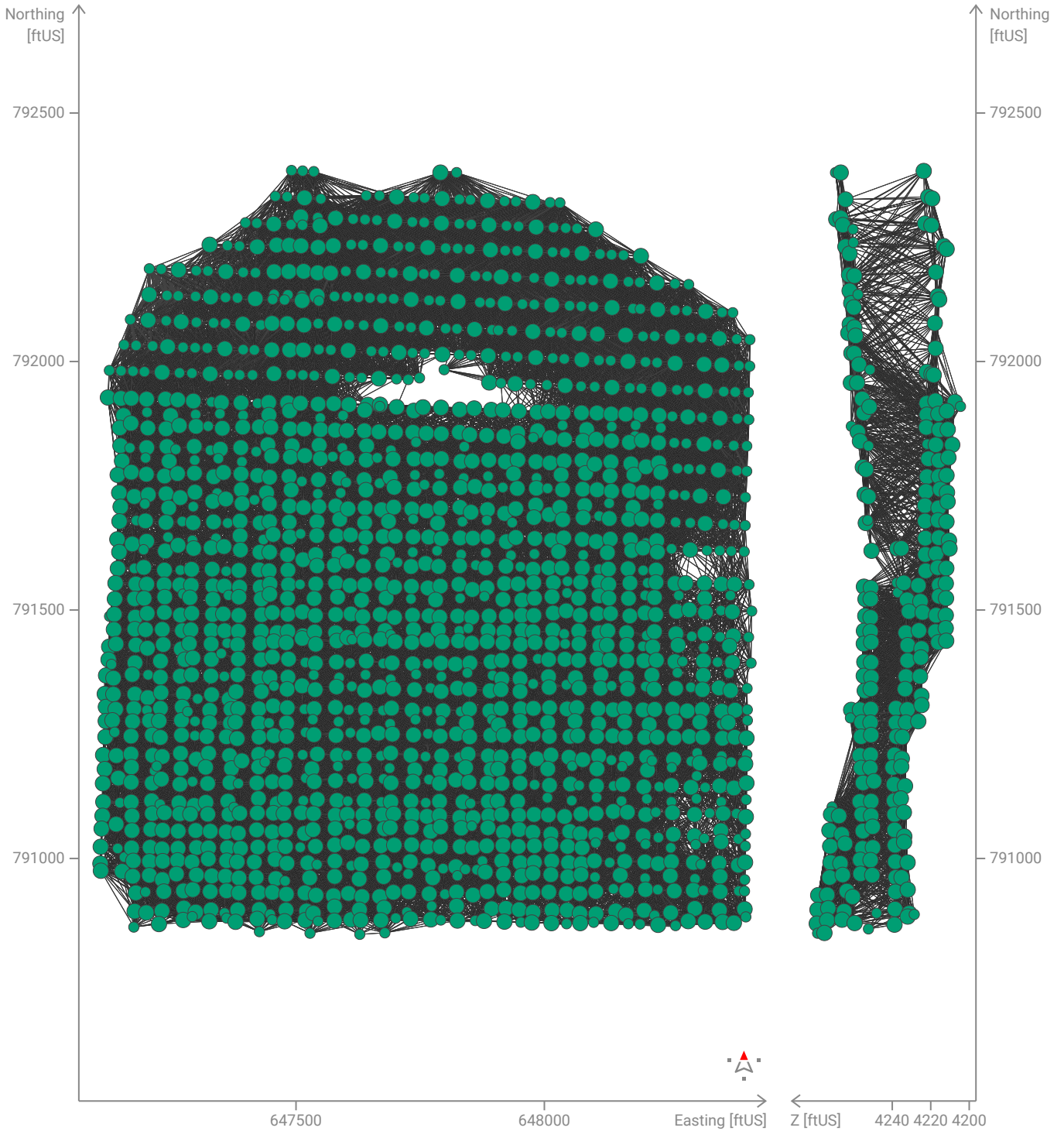
### Camera positions



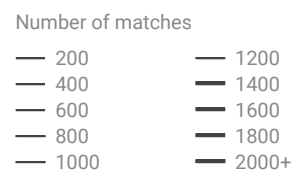
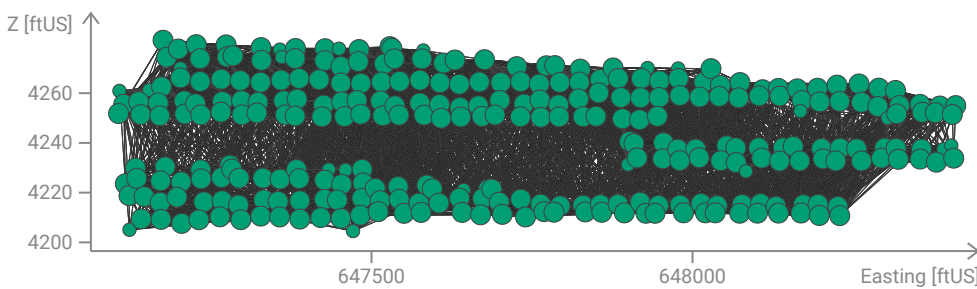
Initial and computed camera positions.



# Matches



Computed camera positions with links between matched cameras. The thickness of the links indicates the number of matched 2D keypoints between the cameras. Thin links indicate weak links and require manual tie points or more cameras. The different colors and shapes identify the distinct calibration blocks. Larger points indicate clusters of cameras.



## Tie points



### Ground control points (GCPs)

Label	Position error			Reprojection error [px]	Accuracy		Verified/Marked
	X [ftUS]	Y [ftUS]	Z [ftUS]		X/Y [ftUS]	Z [ftUS]	
106	0.003	-0.002	-0.001	0.7	0.066	0.066	18/18
105	0.003	0.006	-0.000	0.5	0.066	0.066	18/18
103	0.001	-0.003	0.000	0.3	0.066	0.066	57/57
104	-0.007	-0.001	0.002	0.5	0.066	0.066	29/29
<b>Mean</b>	0.000	0.000	0.000	0.1			
<b>Median</b>	0.001	-0.003	0.000	0.1			
<b>Min</b>	-0.007	-0.003	-0.001	0.0			
<b>Max</b>	0.003	0.006	0.002	0.7			
<b>RMS</b>	0.004	0.004	0.001	0.2			
<b>Sigma</b>	0.004	0.004	0.001	0.1			

### Checkpoints (CPs)

Label	Position error			Reprojection error [px]	Accuracy		Verified/Marked
	X [ftUS]	Y [ftUS]	Z [ftUS]		X/Y [ftUS]	Z [ftUS]	
119	0.013	0.003	0.075	0.8	0.066	0.066	14/14
<b>Mean</b>	0.013	0.003	0.075	0.1			
<b>Median</b>	0.000	0.000	0.000	0.1			
<b>Min</b>	0.013	0.003	0.075	0.0			
<b>Max</b>	0.013	0.003	0.075	0.7			
<b>RMS</b>	0.013	0.003	0.075	0.2			
<b>Sigma</b>	0.000	0.000	0.000	0.1			

### Manual tie points (MTPs)

Label	Reprojection error [px]	Verified/Marked
117	0.2	30/30
<b>Mean</b>	0.1	
<b>Median</b>	0.1	
<b>Min</b>	0.0	
<b>Max</b>	0.2	
<b>RMS</b>	0.1	
<b>Sigma</b>	0.0	

# Hardware & Settings



## System information

Hardware: CPU: Intel(R) Core(TM) i7-10700K CPU @ 3.80GHz, cpus=1, threads=16  
RAM: 31.72 GB  
GPU: NVIDIA Corporation Quadro P1000/PCIe/SSE2 (Driver: 4.1.0 NVIDIA 517.37)  
Operating system: Windows 10 Version 2009

## Coordinate reference systems

<b>Image coordinate reference system</b>	WGS 84 + EGM96 height - EPSG:4326+5773
<b>Ground control point (GCP) coordinate reference system</b>	NAD_1983_CORS96_StatePlane_Nebraska_FIPS_2600_Ft_US + NAVD88 height (ftUS) - ESRI:103475+EPSG:6360 [GEOID18]
<b>Project coordinate reference system</b>	NAD_1983_CORS96_StatePlane_Nebraska_FIPS_2600_Ft_US + NAVD88 height (ftUS) - ESRI:103475+EPSG:6360 [GEOID18]

## Processing settings

**Calibration** Completed

**Template:** Large scale and corridor  
**Pipeline:** Scalable standard  
**Image scale:** 1/2  
**Internals confidence:** Low  
**Max extracted keypoints:** Automatic  
**Reoptimized:** Yes  
**Use automatic ITPs:** Enabled

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