

1N20PMFHR_building_3

Packington Moor Farm

Building 3 stables

26 February 2023



Survey Data

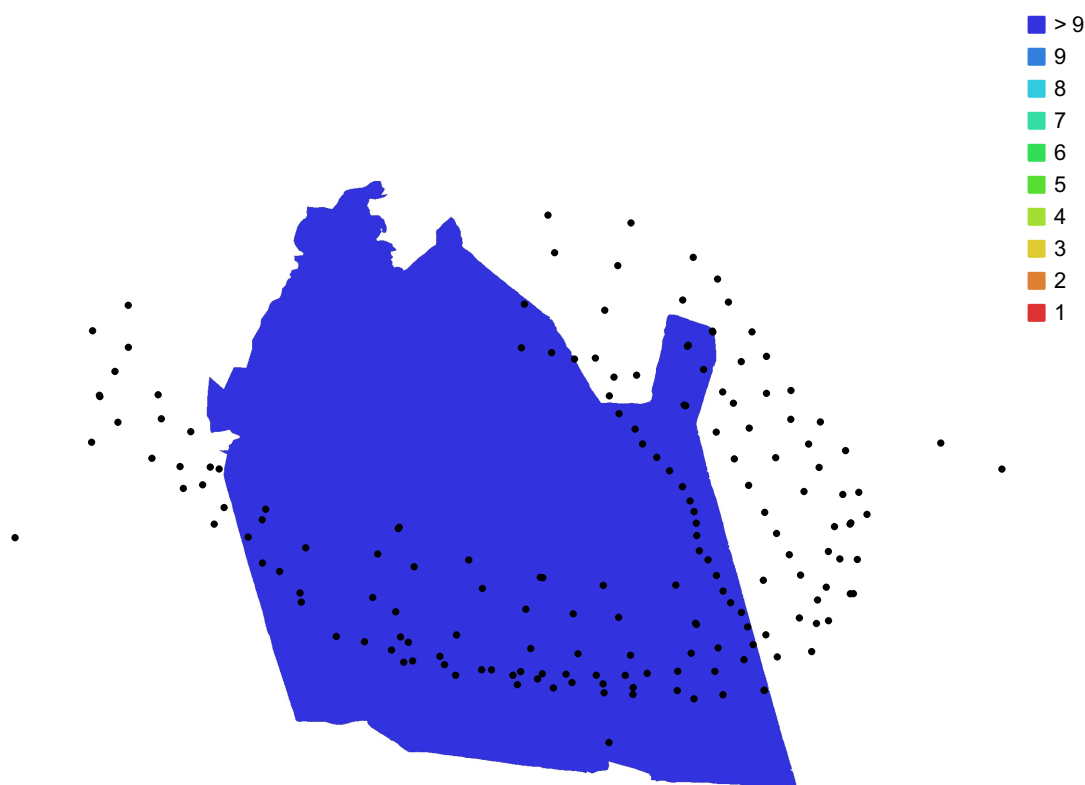


Fig. 1. Camera locations and image overlap.

Number of images:	173	Camera stations:	173
		Tie points:	441,872
		Projections:	1,580,374
		Reprojection error:	1.11 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
ILCE-5100, E PZ 16-50mm F3.5-5.6 OSS (16mm)	6000 x 4000	16 mm	4 x 4 μ m	No

Table 1. Cameras.

Camera Calibration

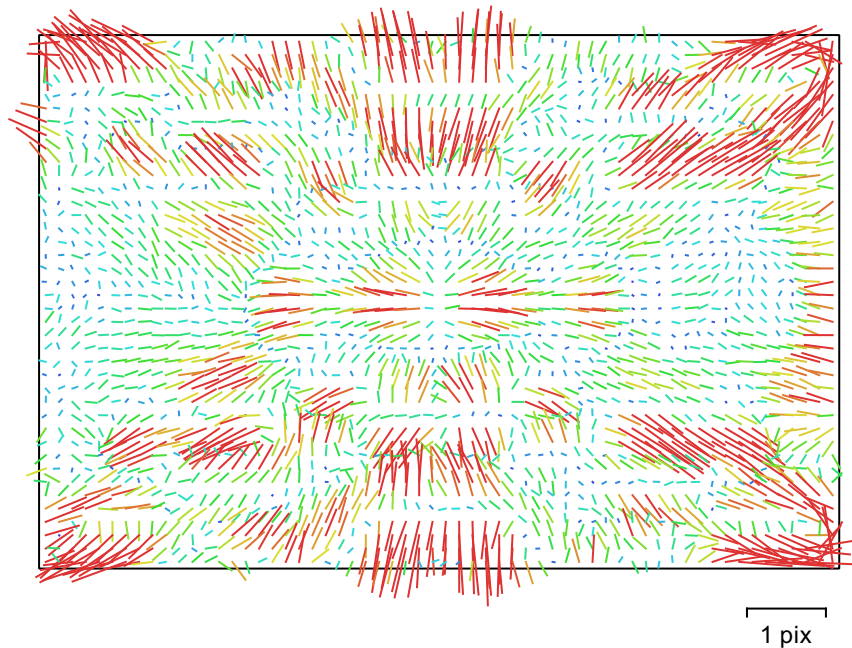


Fig. 2. Image residuals for ILCE-5100, E PZ 16-50mm F3.5-5.6 OSS (16mm).

ILCE-5100, E PZ 16-50mm F3.5-5.6 OSS (16mm)

173 images

Type	Resolution	Focal Length	Pixel Size
Frame	6000 x 4000	16 mm	4 x 4 μm

	Value	Error	F	Cx	Cy	B1	B2	K1	K2	K3	P1	P2
F	4019.63	0.11	1.00	0.02	0.24	-0.80	-0.05	-0.02	0.07	-0.06	0.03	0.13
Cx	27.8012	0.11		1.00	0.01	0.05	0.11	-0.05	0.05	-0.05	0.93	0.03
Cy	-17.4604	0.089			1.00	-0.28	-0.05	-0.01	0.01	-0.00	0.03	0.85
B1	0.511292	0.11				1.00	0.06	-0.03	0.02	-0.01	0.04	-0.17
B2	0.41339	0.067					1.00	0.00	0.01	-0.00	0.05	-0.00
K1	-0.057635	2.8e-05						1.00	-0.95	0.90	-0.04	-0.03
K2	0.0679149	8.5e-05							1.00	-0.98	0.04	0.02
K3	-0.0294137	7.8e-05								1.00	-0.04	-0.02
P1	0.00243034	6.1e-06									1.00	0.04
P2	-0.000525642	4.1e-06										1.00

Table 2. Calibration coefficients and correlation matrix.

Digital Elevation Model

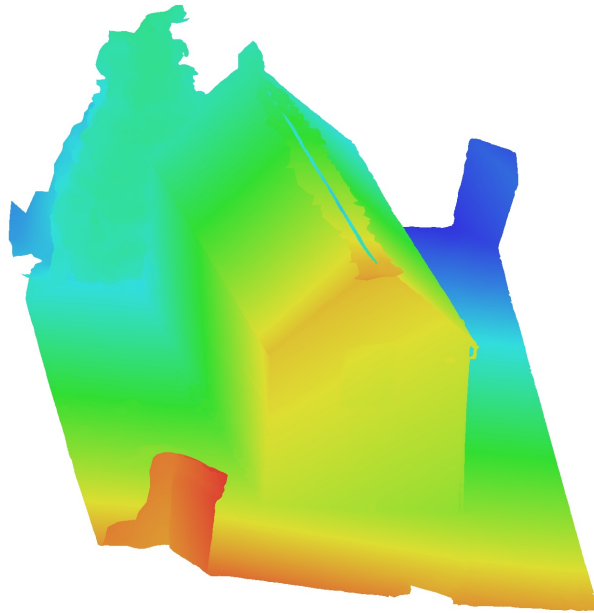


Fig. 3. Reconstructed digital elevation model.

Processing Parameters

General

Cameras	173
Aligned cameras	173
Markers	3

Point Cloud

Points	441,872 of 473,905
RMS reprojection error	0.146329 (1.10521 pix)
Max reprojection error	0.564532 (39.8559 pix)
Mean key point size	7.1888 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.78916

Alignment parameters

Accuracy	Medium
Generic preselection	Yes
Reference preselection	Source
Key point limit	80,000
Tie point limit	30,000
Guided image matching	No
Adaptive camera model fitting	Yes
Matching time	2 minutes 55 seconds
Matching memory usage	334.76 MB
Alignment time	4 minutes 22 seconds
Alignment memory usage	131.33 MB

Optimization parameters

Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	Yes
Optimization time	10 seconds
Date created	2020:10:22 09:00:01
Software version	1.6.2.10247
File size	38.89 MB

Depth Maps

Count	173
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	15 minutes 31 seconds
Memory usage	881.63 MB
Date created	2020:10:28 15:47:31
Software version	1.6.2.10247
File size	283.47 MB

Dense Point Cloud

Points	19,983,907
Point colors	3 bands, uint8

Depth maps generation parameters

Quality	Medium
Filtering mode	Moderate
Processing time	15 minutes 30 seconds
Memory usage	883.11 MB

Dense cloud generation parameters

Processing time	22 minutes 33 seconds
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Memory usage	5.16 GB
Date created	2020:10:22 09:43:46
Software version	1.6.2.10247
File size	339.47 MB
Model	
Faces	2,288,040
Vertices	1,145,478
Vertex colors	3 bands, uint8
Texture	4,096 x 4,096, 4 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Mild
Processing time	15 minutes 31 seconds
Memory usage	881.63 MB
Reconstruction parameters	
Surface type	Arbitrary
Source data	Depth maps
Interpolation	Enabled
Strict volumetric masks	No
Processing time	15 minutes 56 seconds
Memory usage	3.02 GB
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	4,096
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	2 minutes 5 seconds
UV mapping memory usage	5.21 GB
Blending time	2 minutes 0 seconds
Blending memory usage	2.26 GB
Blending GPU memory usage	1.39 GB
Date created	2020:10:28 16:03:17
Software version	1.6.2.10247
File size	129.89 MB
Orthomosaic	
Size	19,134 x 7,454
Coordinate system	OSGB 1936
Colors	3 bands, uint8
Reconstruction parameters	
Blending mode	Mosaic
Surface	Mesh
Enable hole filling	Yes
Processing time	6 minutes 47 seconds
Memory usage	3.86 GB
Date created	2020:10:28 16:14:49
Software version	1.6.2.10247
File size	2.42 GB
System	
Software name	Agisoft Metashape Standard
Software version	1.7.3 build 12473
OS	Windows 64 bit
RAM	31.95 GB
CPU	AMD Ryzen 7 5800X 8-Core Processor
GPU(s)	NVIDIA GeForce RTX 3060