

# UAS Camera Requirements for Survey Quality Mapping

## Camera Requirements for UAS Platforms

Shutter Type:	Global type only (Mechanical) (Rolling shutters are not acceptable)
Lens Type:	Fixed Focal Length; Non-fisheye
Number of Pixels:	20 Megapixel or higher but $\leq$ 102 Megapixel
Ground Sample Distance (GSD) @ 400' above ground flying height:	Output pixel size should be less than or equal to 0.11' (0.10' is acceptable, but 0.12' is not acceptable)
Georeferencing:	Onboard or aftermarket survey grade GNSS positioning system
Aspect Ratio:	Variable
Stabilized Mounting System:	Gimbal - <i>Preferred</i>
Sensor Type:	RGB
Focus:	Manual
Aperture:	3.5 or Higher

## Environmental Conditions for Aerial collection with UAS

Wind:	$\leq$ 15 mph
Clouds:	500ft vertical clearance & 2000ft horizontal clearance
Temperature:	$\geq$ 32 degrees Fahrenheit
Precipitation:	None
Time of Day for Flights to Minimize Shadows:	10:00 am – 2:00 pm

## Acquisition Parameters & Camera Settings for UAS

UAS Platform:	Rotary-Wing (rotorcraft)- <i>Preferred</i>
Forward Overlap:	Minimum of 85%
Side Overlap:	Minimum of 80%
Flying Mode:	Continuous
Battery Life:	Avg: 20 minutes
Shutter Speed:	$\geq$ 1/800
ISO (light sensitivity):	100
White Balance:	Adjust According Weather
Aperture:	Auto
Focus:	Infinity
Imagery Format:	TIFF or JPEG
Aspect Ratio:	3:2
Ground Survey Control:	Adequate control needs to be distributed throughout the project before any flight takes place