

Waikato Regional Council policy on the use of remotely piloted aerial systems

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1 Introduction

Remotely Piloted Aerial Systems (RPAS), Unmanned Aerial Vehicles (UAVs) and Unmanned Aerial Systems (UAS) (hereafter referred to as drones) are rapidly gaining in popularity in New Zealand, both for commercial and recreational use. They have a diverse range of applications for Waikato Regional Council (the Council) from aerial application of agrichemicals to remote sensing. Whilst there are undoubtedly a wide range of benefits to the Council to be gained through the use of this technology, it is acknowledged that if they are incorrectly operated there are reputational, legal and safety risks.

2 Policy Purpose

This policy has been developed to provide clear direction to Council staff on the use of drones and to ensure that the safety and reputation of the Council and its staff is protected. This policy covers the following three scenarios:

1. where a contractor is being engaged to undertake drone services on behalf of the Council;
2. where a council staff member is undertaking drone services on behalf of the Council; and
3. where a member of the public has approached the Council for permission to operate a drone over council-owned land.

A promapp process has been created to guide staff through this process, see here: [Undertake a drone operation](#).

3 Drone Purpose and legal compliance

3.1 Purpose

Before using a drone or engaging a contractor to use a drone, Council staff must:

- (a) identify the purpose for using a drone; and
- (b) make an assessment of whether a drone is the best option to achieve that purpose.

3.2 Licence to operate drone

Council staff and contractors must be licenced or be under the direct supervision of a person [licenced under Part 102 of the Civil Aviation Rules](#) in order to operate a drone on behalf of the Council.

3.3 Rules

All rules and regulations in respect to the operation of a drone must be complied with. Before operating or authorising the operation of a drone in any airspace, staff must:

- (a) Check the rules that are relevant to the use of a drone in the area in which the drone will be used. This involves checking the relevant territorial authority requirements, the Civil Aviation Rules and any other relevant rules and regulations in force at that time. Airshare provides maps of controlled airspaces in New Zealand and can be accessed online: www.airshare.co.nz.
- (b) Identify whether consent from the landowner or any other person or persons will be required to the operation of the drone. It may be possible for Council to use its statutory powers to operate the drone without the consent of the landowner.

The specific statutory power (for example, under the Resource Management Act, Biosecurity Act, or other legislation) will need to be identified and carefully checked to ensure that the correct process is followed. Particular care is required to ensure that the person operating the drone has the required authorisation under the relevant Act. In the absence of clear statutory authority, written permission from the landowner, and any person present on the land at the time of the drone flight, must be obtained. The written permission should be in the format in [Appendix One](#).

- (c) Identify whether there are any specific requirements in respect to the proposed use of the drone. For example: aerial spraying requires the drone operator to hold Registered Chemical Applicator status for compliance with the Regional Plan, and the drone must not fly higher than 120 metres above ground level.

4 Data

Before operating or authorising the operation of a drone, staff must should identify what the data requirements might be. Guidelines for data specifications are in two parts:

1. the specification for data provided by the Council **to** the drone contractor to explicitly identify the area of interest, and
2. the specification for data being requested by the Council **from** the drone contractor.

Consideration also needs to be given to what happens to the data post-flight i.e. where the data will be stored on Council systems.

Things to consider before drone flight:

- What is the purpose of the data?
 - Primary purpose?
 - Other purposes?
- Who are/will be the users of the data?
 - Who are the primary users and are they internal to the Council?
 - Will the data be shared internally/externally?
- How will the data be used?
 - Is it derived products such as DEM and DSM, contours and other outputs that the users want to view?
 - Will we require 3-D uses, surface draping, fly-through or other more detailed visualisations?
 - Do we need the raw data so that analysts can derive further information post-flight?

[Appendix Two](#) outlines some of the specifications that typically need consideration when determining what data is required, and how the data should be managed post-flight.

A **Drone Activity Register** has been created to track drone flights being undertaken by Council staff and outcomes from these flights. In the process of planning your drone flight check the register, as the data you require may have already been gathered by another staff member. The Drone Activity Register can be found here:

<https://discover.wairc.govt.nz/otcs/llisapi.dll?func=ll&objaction=overview&objid=10393919>

If staff require support, the Spatial Information Team should be contacted by completing a [Request for Service](#).

5 Procurement and contracts

If the services of a drone operator are to be contracted, staff must follow the processes outlined in the [financial delegations manual](#), the [procurement policy](#) and [contracts policy](#). Staff can refer to their directorate contracts person, Legal Services or the procurement officer for more assistance in this regard. The corporate and group specific template contracts do not require special clauses to cover the use of drones.

Data specifications should be outlined in your contract (e.g. by way of a schedule) and your requirements should be confirmed with the Spatial Information Team through the appropriate information request channel (see Section 4 Data above).

6 Use of drones over Council land by private operators

Please see [Appendix Three](#) for more information about use of drones over Council land by private operators and the related permissions they will require.

7 Personal Use

Council drones must only be used for Council purposes. Personal drones must not be used for Council purposes.

Appendix One Landowner permission form

The below form can be accessed here:

<https://discover.wairc.govt.nz/otcs/llisapi.dll?func=ll&objaction=overview&objid=10431226>

Landowner/Land Occupier Consent Form			
Permission for operation of Remote Piloted Aerial System over land - Part 101.207 (a)(ii) Civil Aviation Rules			
Under Part 101 of the Civil Aviation Rules, operators of RPAS, UAV, UAS, Drones and Model Aircraft require the consent of landowners, or any person present on the land to be flown over (land occupier), to fly over that land. This form must be completed and signed by the landowner(s)/land occupier(s) prior to flight.			
1. Operator			
Pilot name: _____			
Pilot Organisation: _____			
Observers: _____			
2. Operation and Data			
Date and time	_____		
Equipment description	_____		
Operation Description	_____		
Data to be gathered	_____		
3. Property			
Property address/description: _____			

Map attached showing operating areas? <input type="checkbox"/>			
4. Permission			
<i>List below the Land Owner(s) and/or any occupiers/persons on the property at the time of the flight. If permission is being granted with restrictions, please indicate these below.</i>			
Restrictions: _____			

The undersigned, being Land Owner(s) and/or Land Occupiers of the above Property, hereby grant permission to the Operator and its agents for the purpose(s) detailed in paragraph 2 above.			
Full Name	Contact Details (phone/email)	Signature and date	Data copy required?
Waikato Regional Council Private Bag 3038, Waikato Mail Centre, Hamilton 3240 Phone: 0800 800 401 Email: info@waikatoregion.govt.nz			
			Doc# 10431226

Appendix Two Data specifications and management

1. Data provided by the Council to the contractor

The Council will provide a data file to the contractor that explicitly defines the minimum area of interest to be captured by the contractor. This will be in a mutually agreed format that the operator can readily utilise and incorporate into their flight planning.

- Spatial Information will provide this assistance to the Council business owner using the request for service (RFS) from IRIS.
- Typically a map will be prepared by Spatial Information and once confirmed by the Council business owner will be shared with the contractor.

2. Data provided to the Council from the contractor

Drones are most commonly used to collect simple, visual-spectrum photography. But they are also useful for collecting multi-spectral imagery, photogrammetric data, LiDAR and derived products, such as for use in slope analysis or flood modelling.

Typically, visual photography will also be supplied with GPS location data such that the photographic images can be correctly positioned using GIS software. This is important for the development of maps and/or for any further analysis that might be undertaken.

The table below outlines some typical formats (beyond simple photos) that data might be required to be supplied in, their use, specifications and formats.

Deliverable	Use	Specification	Format	Accuracy	Application
Orthophoto	When measurements are required from the image	5-8 cm GSD	GeoTiff, ECW RGB/RGBI		Visual
Pointcloud	When a Z value (vertical) is required	Thinned	LAS	+/- 0.05m	Raw Data
DTM/DEM	Hydrologic modelling, Terrain stability, soil mapping	Bare earth (free of non-ground objects)	ARC ASCII	+/- 0.05m	Derived
DSM	3D modelling, urban planning, aviation and forestry	Above ground objects included (buildings, vegetation etc)	ARC ASCII	+/- 0.05m	Derived
Contours	For varying engineering works i.e. catchment area and capacity	0.5m interval	Shape file		Derived

All data is to be supplied in New Zealand Transverse Mercator (NZTM).

Please contact the Spatial Information Team in the first instance if you require assistance with determining the appropriate data type(s) required for your work/project by completing a [Request for Service](#).

3. Data management post-flight

All data that the Council receives from drone flights, whether gathered via a Council owned drone or via a contractor, is the property of the Council (unless explicitly agreed via the contract process). As such the data needs to be stored and managed correctly and may be subject to a Local Government Official Information and Meetings Act request (LGOIMA request) at any time. This is especially relevant to data that is provided to the Council on portable external storage devices such as CDs or USB sticks/flash drives.

Prior to collecting the data, the requestor should discuss data management with the Spatial Information Team so they understand the size and nature of the data being collected and can plan appropriate data storage and access.

Once your data has been stored the [Drone Activity Register](#) will need to be updated to include where and how the data can be accessed.

Appendix Three Use of drones over Council land by private operators

Council may receive requests by private operators who would like to fly their drone over Council land. Property owned by the Council may be broadly categorised into two categories:

1. the Council offices and depots and the land associated with them (Council offices), and
2. the land associated with flood protection schemes such as stopbanks (scheme land).

All requests by private operators to operate drones over Council offices should be referred to the Manager, Facilities and Property. All requests to operate drones over scheme land should be referred to the Team Leader, Asset Management. These staff members have the delegated authority to approve these requests on behalf of the Council.

Operators wishing to operate drones over Council offices or scheme land will not be required to hold registration under Part 102 of the Civil Aviation Rules, but they must be able to provide a sound health and safety plan for the operation of their drone, and must comply with all relevant legislation at all times. In the case of scheme land that has been leased for grazing, it will be the responsibility of the drone operator to seek written permission from the licensee prior to obtaining permission from the Council. A form for seeking consent is attached below and can be accessed here: <https://discover.wairc.govt.nz/otcs/llisapi.dll?func=ll&objaction=overview&objid=10429955>.

If there is any doubt as to the ownership of the land, the requestor will be responsible for covering costs associated with determining land ownership.

Consent to Operate a Remote Piloted Aircraft System on Land Controlled by Council
Part 101.207 (a)(ii) Civil Aviation Rules



Under Part 101 of the Civil Aviation Rules, users of RPAS, UAV, UAS, Drones and Model Aircraft now require the consent of the Council to fly over land controlled by the Council. Completion of this form by a person wishing to operate a RPAC is required and an authorised officer of the Council will provide this consent. This form must be completed and signed by a person over 18 years of age.

1. Applicant details

Full Name: _____
Postal Address: _____
Postcode: _____
Contact number: _____ Alternative Number: _____
Email address: _____

2. Remotely Piloted Aircraft System (drones or model aircraft) details

Serial No.	Manufacturer	Model

3. Location(s) where consent is being sought to operate a remotely piloted aircraft system

Location/Property Names

4. Applicant Certification

I hereby certify that:
I have read Part 101 of the Civil Aviation Rules (amendment 7) as they apply to the Remotely Piloted Aircraft System
I will abide by all Civil Aviation Rules (Part 101) that relate to the operation of the aircraft identified at all times
I will comply with all conditions of operations imposed by the Waikato Regional Council at all times

Applicant's signature: _____ Date: _____

Consent to Operate Remote Piloted Aircraft System (RPAS)

(This section to be completed by Waikato Regional Council)

Conditions of Consent

The operator must:

- Comply with all rules and regulations applicable to the operation of a RPAS (including part 101 of the Civil Aviation Rules and any other applicable rules or any rules and regulations amending or replacing the same).
- Comply with the Privacy Commissioner guidelines relating to preserving peoples personal privacy when using a RPAS.
- Not operate the RPAS within 10 metres of any residential boundaries and buildings.
- Not operate the RPAS within 10 metres of any overhead power or telecommunication cables.
- Not fly the RPAS within 10 metres of any other users of the land it is being operated on.
- Not operate the RPAS within 10 metres of or over any buildings or structures on the land it is being operated on.
- Only operate the RPAS over the land authorised at all times and not over any road or roadway.
- Ensure that all safety features (which shall include rotor guards on drones) are installed and maintained while in use.
- Cease operation if requested to do so by a Council staff member or representative.

This consent may be revoked at any time.

Consent to operate a Remote Piloted Aircraft System (RPAS)

Consent is granted to operate a RPAS as detailed above for the period between: _____ and _____

Authorised Officer: _____ Date: _____

Waikato Regional Council | Private Bag 3038, Waikato Mail Centre, Hamilton 3240
Phone: 0800 800 401 | Email: info@waikatoregion.govt.nz

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