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Christchurch City Council submission on the discussion document: Enabling Drone Integration consultation

Christchurch City Council thanks the Ministry for the opportunity to provide comment on its discussion document: Enabling Drone Integration. We are encouraged to see the Ministry and CAA reviewing the rules for drones to ensure they are fit for purpose to keep up with the changing technology and increased opportunities for drone use.

Enabling the integration of drones into the aviation and wider transport system should seek to align with the Government's and Christchurch City Council's greenhouse gas emission reduction goals. We recommend a target date of 2025 is set for all registered drones to have zero exhaust emissions.

Full integration of drones into the transport system, and advanced technological development could ease land transport congestion and associated emissions if some goods and/or passenger service trips are replaced by drone operations. At that level, however, there will need to be consideration of infrastructure requirements and associated legislative changes/provisions (e.g. Land Transport Management Act, Land Transport Act, Land Transport (Road User) Rules and Land Transport Rule: Traffic Control Devices).

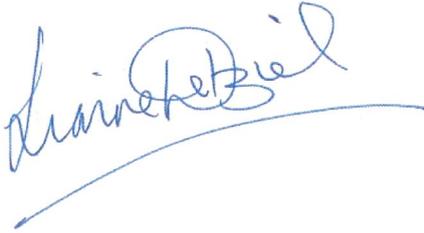
We do, however, have some concerns about how the changes to the rules to better integrate drones into the wider transport system will align with Council policy to protect Council-owned property, including sites where birds live (nest, feed or rest), and the requirements for permission to undertake certain activities on Council-owned property, including commercial activities and causing obstructions.

The Council supports a wellbeing approach to considering regulatory change, which takes a broad approach to evaluating the potential costs and benefits of this developing sector. A balance needs to be found between the benefits to business/individuals (e.g. cheaper transportation/delivery costs) with potential increased public nuisance such as increased noise over properties and privacy concerns. We need to consider the four aspects of community well-being – social, economic, environmental and cultural – as set out in the Local Government Act 2002.

We look forward to working with both the Ministry and the Civil Aviation Authority on the implications of drone use in public space, including for the wider integration of drones into the transport system.

For any clarification on points within this submission, please contact Libby Elvidge at libby.elvidge@ccc.govt.nz

Kind regards

A handwritten signature in blue ink, appearing to read 'Lianne Dalziel', with a long horizontal flourish underneath.

Lianne Dalziel
Mayor of Christchurch

Christchurch City Council submission on the discussion document: Enabling Drone Integration consultation

Question	Council comment
<p>1. What is your view on the proposed series of measures? Are there any other alternatives you suggest we consider?</p>	<p>In general, the intent of the proposed series of measures is supported. However, we have concerns related to some aspects of the proposed measures – specifically the proposed rule update to relax the need to obtain consent to fly over people and property.</p> <p>The discussion document also seems to focus this aspect of the proposed rule change on flights <u>over</u> property, and doesn't address associated take-off / landing and ground-based operations of flights that are conducted on Council owned land and public spaces.</p> <p>The proposed measures must ensure that provisions remain to allow Council to manage and control use of drones on and around its property and horizontal infrastructure. Consideration of ground operations will also be important in the longer term, as drones are integrated in to the wider transport system and development of specialist infrastructure (or modification of existing infrastructure) is required. More of a 'rules based approach' is likely to be required when drones move into transporting people and goods. This will require knowledge of both the safety of the drone operation and regulatory requirements of local authorities.</p>
<p>2. Would the proposed approach help achieve the desired objectives?</p>	<p>Generally yes, but this will depend greatly on detail of the final rule changes and the level of compliance with proposed drone registration and basic pilot qualification measures. It is perhaps questionable how successful the proposed approach will be in achieving objective four (i.e. New Zealanders feel confident that drones are being used responsibly and accept them in their day-to-day lives) – particularly in regard to nuisance and privacy concerns.</p> <p>The discussion document largely seems to seek to serve small scale domestic use and not address drones for e.g. delivery or the next evolution we'd expect to see (other than appendix 2), which means industry still suffer from long lead times. At the same time, the government may also suffer from long lead in times in regulating an activity that will already be occurring (like what happened with e-scooters – a new piece of technology which was essentially put on the streets as a commercial activity and then local authorities had to decide how to deal with them after they were already being used, with gaps in traffic legislation to manage it). As drone technology advances, it will be important to keep up with changes to the regulatory measures and not have to 'play catch up'.</p>

	<p>The discussion document could have gone further to address the more commercial elements people are coming up against, like process and infrastructure, including the regulatory requirements at ground level (both national and local).</p> <p>The use of drones for recreation and commercial activities needs to be balanced with other uses in public spaces. Examples of this include drones being flown in close proximity to paragliders on the Port Hills; drones being used a part of an event (for recording or as a lightshow) and attendees trying to film with their own drones.</p> <p>It is important that climate change implications are a focus. While drones may be a lower-emission means of transport than other types of transport, there are still a number of (mostly larger) drones using greenhouse gases or are hybrids. Setting a target, e.g. 2025, for all drones to be emission-free would align with the government's zero carbon goals.</p>
<p>3. Would the proposed approach help address the problems and opportunities identified?</p>	<p>Generally yes, but will again depend on final outcome and detail of proposed rule changes and level of compliance with (and enforcement of) proposed regulatory measures.</p> <p>Realisation of longer term transport opportunities will require CAA/MoT to involve local authorities and other key transport sector stakeholders in the process.</p>
<p>4. Are there any other problems and opportunities you can think of?</p>	<p>We note these in our responses to the following questions, but to summarise:</p> <ul style="list-style-type: none"> • Greenhouse gas emission reduction – We recommend a target date of 2025 is set for all registered drones to have zero exhaust emissions. This would align with both the Government's and Christchurch City Council's greenhouse gas emission reduction goals. • Council bylaws and policies – we can protect against noise and nuisance (take-off/landing, not flying over certain areas) or require permission for commercial activities or obstructions, however, penalties do not include infringements when made under the Local Government Act 2002 (i.e. fine on conviction). Councils also have a duty to protect and manage council property. How can councils work better with the Ministry and CAA to integrate/align drone regulations into local authority regulations? • Commercial use – distinguishing recreational flights from commercial flights would benefit the drone operator in helping them understand different requirements (permissions) for flying over council-owned property. • Privacy concerns – while mostly a matter for the Privacy Commissioner, councils and CAA both receive privacy-related complaints about drone use. Further work needs to be done to address

	<p>these concerns, particularly as camera technology develops and pictures become clearer. There is a potential high risk that users may inadvertently breach privacy of individuals. Clear and effective guidance would need to be developed to protect personal rights and mitigate risk to users.</p> <ul style="list-style-type: none"> • Compliance – as drone use increases, there will be further difficulties in the ability to enforce the rules. Will CAA be able to issue infringements after the fact? How will CAA be able to resource this, e.g. will other authorities be authorised to issue fines? • Transport – the use of drones could provide opportunities for transport asset owners and operators for tasks such as traffic management, incident response, road/road layout inspections, and traffic and pedestrian surveys.
5. Do you agree with the proposed order of implementation of the measures?	Yes, although the longer-term measures to integrate drones into the aviation system and then the wider transport system will have a number of cross-overs, particularly when drones are landing/taking-off from public spaces. Aspects of the measures to enable drones to work successfully in the wider transport system should be brought forward to manage the risks of drones above the transport corridor, including when drones are being flown in urban areas where taller building can impact the wind, etc.

Rules Update

Question	Council comment
Major changes to the Rules	
1. Should drones have their own standalone Rule Part?	Yes.
2. Should we review the four-kilometre minimum flight distance from aerodromes?	<p>Yes, we agree with reducing the distance from aerodromes, but consideration should be given to the type/use of aerodrome(s). For example, major airports need a greater clearance distance than say the roof-top helicopter pad at Christchurch Hospital.</p> <p>We recommend distinguishing between fixed wing aerodromes and heliports. Heliports could come down to a 1km radius, while fixed wing airports could be modified to reflect the approach and take-off gates.</p>

	<p>We note that most of Christchurch airspace is controlled airspace and often drone operators think the Council's landowner approval for a flight is all that they need (even though the Council policy requires full compliance with the Rules), and they do not seek air traffic control permission. There needs to be more education about the different approvals from different organisations.</p>
<p>3. Should we change the requirement to gain consent to fly above property by:</p> <ul style="list-style-type: none"> a. Using 'safe distances' as an alternative? b. Relaxing the requirement in another way? c. Removing the requirement completely? 	<p>We do not agree that the landowner permission should be removed completely. We do recognise that this rule can be impractical and often unachievable for drone operators. However, if the rule is removed then it will fall to councils to manage permissions solely through its bylaws and policies. Many drone operators are already unaware of the different permissions required from landowner and also air traffic control in the airspace above Christchurch.</p> <p>This question appears to be focussed on flights transiting above private property, in which case relaxing the requirement or using safe distances might be appropriate.</p> <p>However, many drone operators use Council land for take-off and landing as well as flights above Council land. These changes must also consider associated ground operations within/from Council-owned land and infrastructure/property, not just flights over.</p> <p>Any rule change must still allow the Council to manage/control use of its property for ground operations. If the 'safe distances' alternative is adopted, we would suggest a tiered-approach that considers different types of property/land (e.g. arterial roads, pedestrian malls and public spaces with large concentrations of people, bird nesting areas)? It is recognised, however, that such an approach would be more difficult to implement, manage and enforce.</p> <p>Another consideration is that of occupied and/or developed land versus unoccupied/undeveloped land. It may be more appropriate to fly without permission over undeveloped land. However councils have many of the same issues on its reserve land as the Department of Conservation does on conservation land.</p> <p>We also recommend that any changes to the consent rule should exclude filming and photography. If mapping or taking imagery of a property then consent should be required. This may be more achievable if commercial vs recreational flights are separated.</p>

<p>4. Should we change the requirement to gain consent to fly above people by:</p> <p>a. Using 'safe distances' as an alternative?</p> <p>b. Relaxing the requirement in another way?</p> <p>c. Removing the requirement completely?</p>	<p>We support the use of 'safe distances' as an alternative to the requirement to gain consent to fly over people.</p> <p>Again, however, consideration needs to be given to places and/or events with large concentrations of people, and perhaps also nature of events/gatherings. From a safety perspective, consideration should also be given to the different level of risk for people outside (and exposed) underneath a flight path and those people inside buildings/vehicles.</p> <p>We recommend drone operators flying above crowds/at events should be Part 102 qualified.</p>
<p>5. If we use 'safe distances' as an appropriate alternative to the consent provision, what distance(s) would you consider is appropriate?</p> <p>a. 10 metres</p> <p>b. 30 metres</p> <p>c. 50 metres</p> <p>d. Other.</p>	<p>If safe distances are to be considered, we think 50m would be an appropriate height for flying over property and people.</p> <p>It is unclear how the safe distance would work in built up urban environments, for example drones flying above a transport corridor that has high-rise buildings on each side (i.e. reducing the open airspace around the drone) and the implications of this.</p> <p>Additionally, should safe distances for different sized drones be imposed? For example question 4 discusses the requirement for drones over 250 grams to be registered, a drone of that size could be ok flying 50 metres above property, but flying 50m above with a larger drone of 25kg, for example, could seem extremely low.</p>
<p>6. Are there any other major Rules changes we should consider?</p>	<p>Rules for take-off and landing, and setting down of things, not just the operation of the flight. The Council would like to work with the Ministry and CAA to fully understand the implications of take-off and landing on Council-owned property and how to mitigate the risks and other hazards, especially if the landowner permission rule is relaxed or removed.</p> <p>Councils can introduce bylaws to manage nuisance, for examples our Parks and Reserves Bylaw clause related to aircraft landing, taking off and setting down of anything. However, bylaws made under the Local Government Act 2002 do not have provision for issuing infringements.</p> <p>We recommend that the Director of Civil Aviation consider authorising the ability to issue infringements to authorised Council staff. This would have an impact on resourcing of Council staff, but we are open to discussion with the Ministry and CAA.</p>

Wildlife: The existing Department of Conservation guidelines should apply to other wildlife areas also – including “fly no closer than 50 m in any direction to shorebirds or seabirds” and “abandon contact at the first sign of any bird being disturbed”. Geo-fencing and other innovative solutions would be useful for this purpose and CCC encourages their development and installation.

The Wildlife Act makes it unlawful to disturb the nesting of protected native birdlife, but it doesn’t specifically make it unlawful to disturb birdlife at other seasons of the year – except in the specific instance of birdlife occurring within reserves, refuges and sanctuaries where disturbance and displacement is unlawful. A gap therefore exists around protection of non-breeding protected bird species from disturbance by drones outside of the breeding season. This is problematic as it doesn’t protect birds at key parts of their annual cycle – such as, during the moulting season for waterfowl; the shorebird pre migration/migration period; when birds are concentrated at roosts or high density feeding grounds, etc.

Drones have the potential to cause disturbance to birds, most particularly wetland birds, shorebirds and coastal birds. Often, drone operators and observers are unaware of negative impacts on birdlife. The physical intrusion of a drone (and to a lesser extent, the impacts of noise) can cause anxiety amongst flocks of feeding, roosting and breeding birds. Sometimes they are simply confused and cautious or unsettled, while at other times they may perceive the drone as an approaching avian predator (i.e.; they mistake the drone for a hawk or gull, etc.).

Disturbance involves a cascading of effects from activity cessation (e.g. birds stop feeding) to vigilance behaviour, to movement away over ground/water; to flying away (flight initiation; to temporary displacement; temporary or permanent abandonment of nests or young; permanent displacement from a site or part of a site, etc. Physiological effects include raised stress levels, loss of condition through reduced feeding or burning up energy by taking flight to escape, disruption to roosting, feeding and breeding behaviours, etc.).

We recognise the useful value of utilising drones as a tool (including for wildlife-supporting activities such as bird and habitat surveys) and the wider commercial and recreational potential. The key consideration from a wildlife conservation perspective is to ensure that drone activity does not cause detriment to native bird populations. The discussion document recognises DoC-administered conservation land but it should also recognise and provide for drone controls on conservation land

	<p>administered by other agencies (regional and territorial authorities for example) and for areas where important wildlife populations occur (such as over estuaries and wetlands, on the shores of lakes and lagoons, along rivers and their margins, on beaches and sand spits, on coastal cliffs, rock stacks, reefs and islets).</p> <p>Part 102 – currently Part 102 process is long and costly and requires a lot of work to generate the exposition. The approvals process is also extremely long taking around 6 months. Consideration should be given to splitting part 102 into two parts, for example:</p> <ul style="list-style-type: none"> - 102 Practical – this would be for companies who generally abide by Part 101 (particularly if persons and properties are relaxed) but could sit the 102 Practical and take an online airspace course (much the same as now) but not complete the exposition and other requirements. Most agency’s see the 102 certificate as a competency, and not a consideration as to what rules you have an exemption to. - 102 Full – this would be the same as it is now, and still cover complex drone operations where rules such as flying at night, BVLOS are going to be breached as part of standard operations. <p>This would increase the number of people/companies operating under 102. Many see the application as to onerous and fly outside of the rules anyway.</p>
Minor changes to the Rules	
7. Are there any minor changes to the Rules that would make them easier to understand?	No.
8. What do you think of the proposed minor Rules changes?	<p>We support the high-level changes to clarify the rules.</p> <p>However, the introduction of ‘tethered drones’ under the rules raises some concerns with us. Consideration should be given to the risks associated at ground level, for instance other users of the public space not realising a drone is being used/tethered when they walk nearby, additional risks of cables, etc. flying near power lines and trees. How will the rule incorporate these sorts of risks to ensure the drone is flown safely (not only in airspace)?</p> <p>We agree with clarifying the spotter/observer requirements for First-Person View, and that relaxing this rule should only be for closed condition flights.</p>
9. Are there any other changes we should consider?	No.

Basic Pilot Qualification

Question	Council comment
<p>1. Should we introduce basic pilot qualification for Part 101 drone pilots?</p>	<p>Yes. Requiring pilots to have a basic qualification would increase awareness to drone operators that there are rules to follow and the purpose of those rules. The education campaigns and initiatives should also continue as a mechanism to raise awareness about safety, security and privacy issues.</p>
<p>2. What impact would a basic pilot qualification likely have on you?</p>	<p>More confidence of reduced risk / risk management related to drone operation on/over road corridors and other public places. A simple process will also enable many drone operators to do business in Christchurch without the delays currently faced by pilots needing Part 102 for what would be covered under Part 101 if the proposed changes are made.</p> <p>It is not clear, however, how compliance be encouraged/monitored/enforced? How will overseas tourists to New Zealand be made aware of this requirement?</p>
<p>3. What format should this test take?</p> <ul style="list-style-type: none"> a. Electronic/online theory test b. Paper based written theory test (at a provider) c. A practical examination of skill and a paper based written theory test (at a provider) d. Other 	<p>We would support an electronic/online theory test, on the basis that it would achieve the greatest level of uptake and support New Zealand's efforts to reduce its carbon footprint. If the registration requirement can be built into the basic qualification test it would greatly improve compliance</p> <p>To use a drone requires understanding of technology, a paper-based written theory test does not align with this (even at a provider, access to a computer should be available or the theory test to be completed separately online).</p> <p>While a practical skills examination would give greater confidence in terms of risk reduction and management, this requirement would be more of an imposition on drone users such that uptake is likely to be low. The process should be as simple as possible to reduce delays in processing.</p> <p>As the technology develops and different uses for drones (e.g. delivery, transport) increases over time, operators of drones for commercial purposes should be required to undertake a test. This will give councils more confidence of the drone operator's abilities to fly a drone safely, as the purpose of the flight (i.e. commercial activity) requires permissions under their bylaws.</p>

4. Should there be a minimum age for basic pilot qualification?	<p>If it is intended that pilots flying drones without the qualification will be infringed, then the age should be consistent with the drone registration requirement (i.e. 14) and the reasons provided for that rationale. Anyone younger should be supervised by someone over 14, regardless of drone ownership.</p> <p>The basic qualification could be optional for younger users to encourage further understanding of the drone rules.</p>
5. Do you agree with the proposed special authorisations given to Part 141 and Part 101.202 approved training organisations?	Yes.
6. Is there any other special authorisations you would like to see? Why?	<p>We recommend that the Director of Civil Aviation consider authorising the ability to issue infringements to authorised Council staff. This would have an impact on resourcing of Council staff, but we are open to discussion with the Ministry and CAA.</p> <p>If drones are taking off or landing in council-owned public space, council bylaws and policies made under the Local Government Act 2002 do not give councils the ability to issue infringements (fines on conviction only).</p>

Drone Registration

Question	Council comment
1. Should we introduce the proposed drone registration system? Why?	Yes. Requiring drones to be registered will increase the public perception about drones, and once drone transmitting information is required, it will improve safety as well.
2. What impact would drone registration likely have on you?	Requiring drones to be registered will reduce some of the administration for the Council when receiving requests for permission to use its public spaces, as the data will be generated from a centralised register and the operator will simply be able to provide their registration confirmation.

	<p>We also receive complaints from the public about drone use, therefore once the drone transmitting information is integrated as well, the ability to link the drone to a person will help with enforcement and referral of complaints to the CAA. Often complaints are received after the fact, so identifying the drone and its operator is impossible.</p> <p>We recommend a target date of 2025 is set for all registered drones to have zero exhaust emissions. This would align with both the Government's and Christchurch City Council's greenhouse gas emission reduction goals.</p>
<p>3. What do you think of the proposed system design (e.g. digital platform) and requirements (e.g. identity authentication)?</p>	<p>We agree with the proposed digital platform design and inclusion of appropriate identity authentication measures (e.g. Real Me). As mentioned in our response to the Basic Qualification question above, underlying systems such as Real Me need to be kept up to date and made very easy to use to encourage high use. If this is too difficult (or too many steps) compliance may drop. If the registration can be built into the test when needed it would greatly improve compliance</p> <p>We agree that the drone requirements for registration should be distinguished from other aircraft. It would also be beneficial to separate registration of commercial and recreational users e.g. identification number beginning with C for commercial and R for recreation.</p> <p>How will people be made aware of this requirement, and how will compliance be encouraged/monitored/enforced? How will international visitors be made aware of this requirement?</p>
<p>4. Should there be a minimum weight threshold for registering a drone? If so, is 250 grams appropriate? If not, what would be an appropriate weight threshold and why?</p>	<p>The 250g threshold is appropriate for now but, as technology develops and more light weight, fully-equipped drones enter the market, there needs to be provision to review this threshold.</p>
<p>5. Should certain drones not need to be registered (such as drones flown solely indoors or within specific designated areas (e.g. Model Flying New Zealand sites) from registration? What other drones should not need to be registered and why?</p>	<p>All drones should be registered (above the weight threshold discussed in the previous question).</p> <p>The only exclusions should be drones which are prototypes, custom builds, etc. and when it may not be practical to register as they could be changing often. These types of drones would not fit a standard drone selection such as a DJI Phantom 4.</p>

	Unregistered drones should only fly in designated areas such as danger zones. Universities such as Canterbury also test drones on similar sites, and have one at Birdlings Flat, and these would be custom drones and often changing.
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Remote ID

Question	Council comment
1. Should we consider introducing Remote ID? Why?	Yes. Remote ID would assist monitoring and enforcement, leading to improved compliance of qualification and registration requirements.
2. What impact would Remote ID likely have on you?	<p>More confidence of reduced risk / risk management related to drone operation on/over road corridors and other public places.</p> <p>We recommend consideration be given to the Remote ID measure incorporating a mechanism to distinguish whether the flight is for recreational or commercial purposes. This would greatly assist councils (and other owners of public land) to have a better understanding of the purpose of drone flights over public space, and assist in the enforcement of breaches of its bylaws (e.g. permission for commercial use on council land, or the setting down of anything from an aircraft on public land, such as deliveries).</p> <p>How will people be made aware of this requirement, and which drones will be required to have mandatory remote ID? How will compliance be encouraged/monitored/enforced?</p>

Geo-awareness

Question	Council comment
1. Should we consider introducing geo-awareness? Why?	Yes. Geo-awareness would improve aviation safety and increase compliance with the rules by drone operators.

<p>2. What impact would geo-awareness likely have on you?</p>	<p>The Council would like to work with the Ministry and CAA to incorporate sites across the city and Banks Peninsula where it is not appropriate for drone flights. Geo-awareness should extend beyond the airspace to also incorporate what is happening at ground level in public spaces. Drone flights are usually at a lower altitude and can create hazards for other activities and infrastructure on the ground, particularly during take-off and landing.</p> <p>Many drone operators are not aware that there are currently locations in council areas where they cannot fly, even if they are following all the other aviation rules. We have a list of sensitive sites already listed in our policy, such as heritage parks, cemeteries, playgrounds, the legal road corridor along the coast, wetlands, Te Waihora (Lake Ellesmere). Geo-awareness technology would also allow the Council to consider exclusion zones of higher-risk transport property and assets (e.g. arterial roads, key transport junctions and hubs, concentrated pedestrian areas) and particularly busy parks (e.g. the Groynes which generates more complaints from the public about drone use).</p> <p>There should also be the possibility to include seasonal times where drone flights are restricted to protect bird nesting seasons.</p>
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