



# Introduction to Drone Technology

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# Introducing Drones on Demand

Originally born from an idea that surfaced whilst on a Mountain Rescue callout, Drones on Demand was founded in January 2017, but has been four years in the making.

I've been flying drones as a hobby since 2013, testing the technology and getting much needed flying experience.

I started the journey to becoming a Commercial Drone Operator by completing Ground School in late 2014, the standard flight tests in early 2015 and advanced flight tests in late 2015. The CAA granted our first permission in early 2016 which is now renewed annually.

I'm a successful IT Programme Manager and have worked for FTSE companies over the last fifteen years. Having tried to fly drones part-time, I've made the decision to 'retire' from Corporate IT to focus on drones full time.

I'm also a volunteer member of Calder Valley Search and Rescue Team.



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# Drones and the law

- The UK's Civil Aviation Authority (CAA) is leading the world's response to trying to ensure that drone flight is safe and appropriately regulated
- Specific aviation regulation in the UK is clear and well established:
  - CAP393 – The Air Navigation Order
    - Articles 94, 95 and 241
  - CAP722 – Unmanned Aircraft System Operations in UK Airspace – Guidance
- Permit required from CAA for commercial operation
- Maximum sentence for breaking these laws is 5 years imprisonment or unlimited fine
- Privacy and Data Protection laws must also be taken into consideration



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# The Drone Code

You are responsible for each flight

Legal responsibility lies with **you**  
Failure to fly responsibly could result in **criminal prosecution**

Always keep your drone in sight

This means you can **see** and **avoid** other things while flying





# The Drone Code



Stay below 400ft (120m) to comply with the **dronecode**



400ft (120m)



This reduces the likelihood of a **conflict** with manned aircraft

Keep the right distance from people and property



150m



50m

People and properties – **150ft (50m)**  
Crowds and built up areas – **500ft (150m) and don't overfly**



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# Drone use in the Insurance Sector

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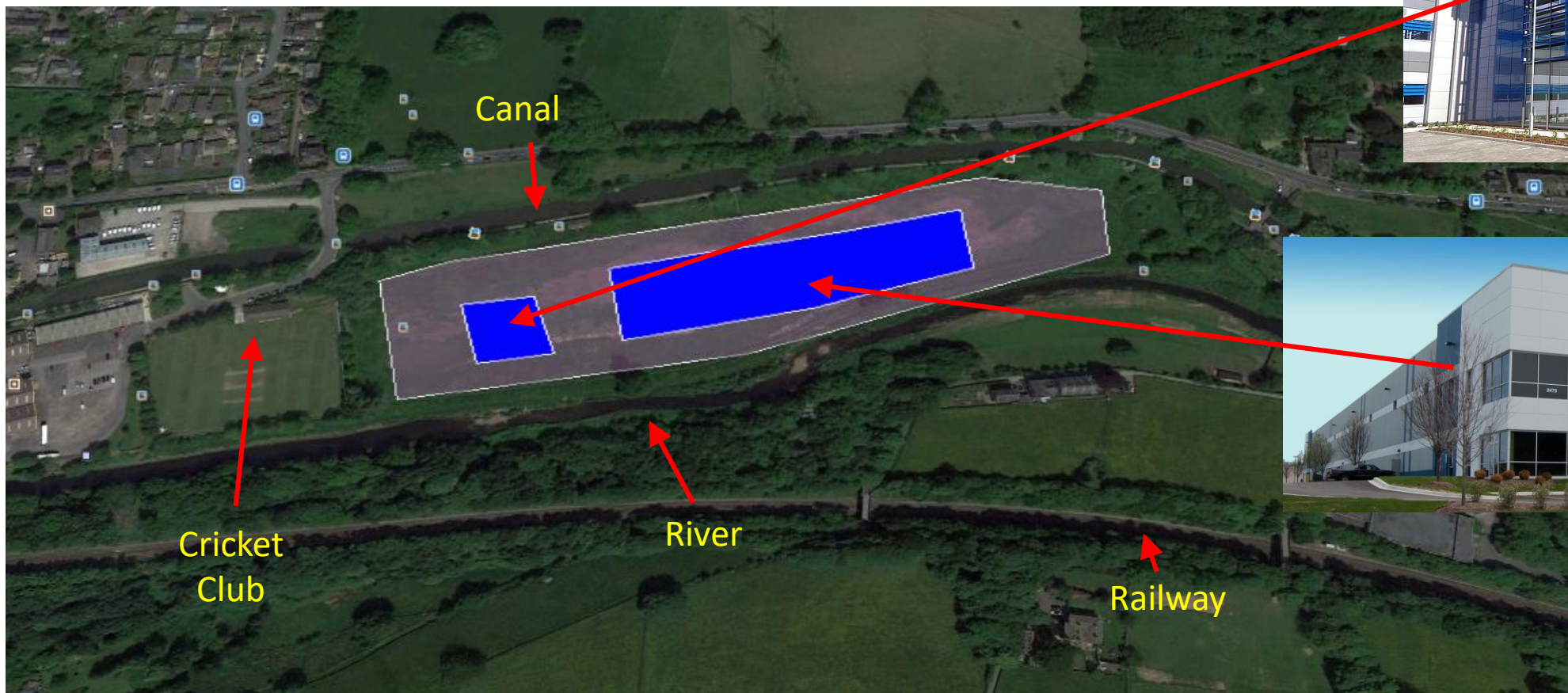
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# Phoenix House & Neptune DC

- Planning permission granted for construction of office block and distribution centre



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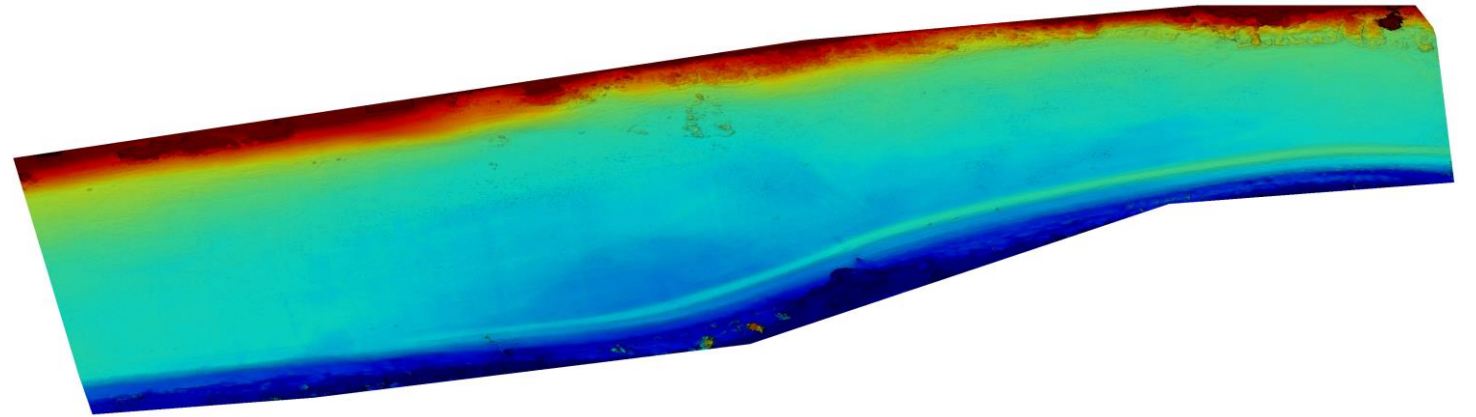


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# Prior to Construction

- Flood risk assessment is undertaken with a detailed elevation map of the site
- A detailed site plan is created to use as a base comparator during construction







# During Construction

- Regular progress monitoring
  - Evidence that certain processes have been followed
  - Evidence that steps were completed by a particular date
  - Early identification of errors
- Erosion monitoring and rectification
- Verification of height of earthworks / flood defences





# Construction Complete / Tenant moves in

- Verification of condition at handover
- Regular monitoring of condition especially roof
- Regular monitoring of flood defences and their condition
- Annual inspection of condition of solar panels or wind turbine
- Regular data collection can be used to identify wear and tear



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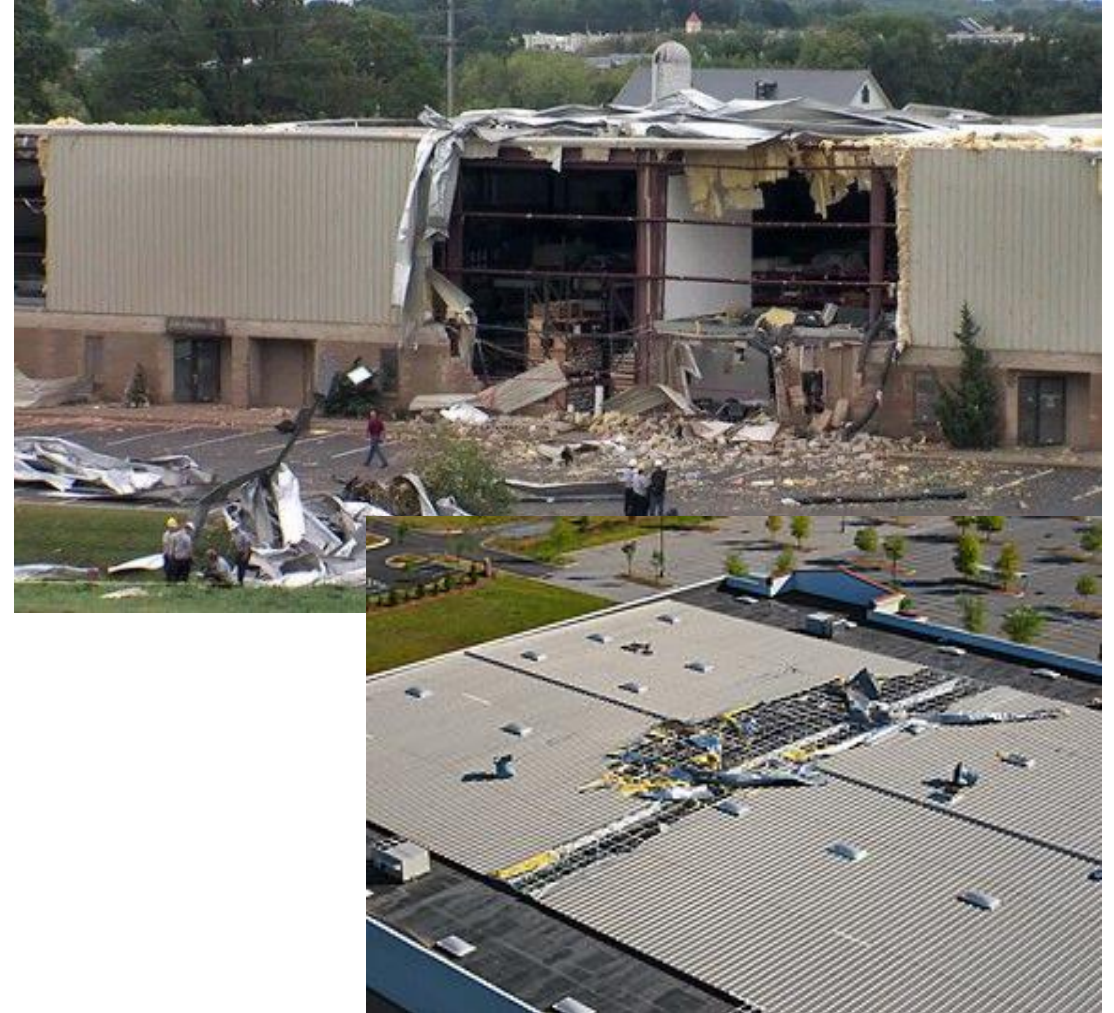
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# Claim: High Winds Damage Neptune!

- Quickly assess extent of damage
  - Quantify area damaged
  - Quantify amount of material to be removed from site
- Easy access – no need for vehicle access to site
- Low risk – no need to commit human assets for initial assessment
- Can be live streamed to multiple locations
- Comparison can be made with last inspection to identify new damage
- Verification of completion and standard of repair



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# Claim: Fire Damages Phoenix!

- Additionally wider survey can be undertaken to potentially identify any external factors
- Potential to assist with apportioning liability
- Quantification of amount of material to be removed







# Disaster: Worst Flooding in Living Memory!

- Rapid assessment of extent of damage
- Wide area survey or targeted survey of your risks
- Proactively initiate / manage claims
- Quickly mobilise the right resources to the right place
- Data can be shared between insurers



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# Other potential uses?

- Monitor erosion
- Verify and quantify extent of damage to crops
- Monitoring earth movement – e.g. landslip
- Forensic Inspection
- Locating objects
- 3D modelling – cost reduction



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Questions?



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