Blackford against BESS

Public Meeting

23rd April 2025

Agenda

1. Welcome, apologies and introduce the Chair
2. Overview of sites and planning status
3. Fire risk
4. Acoustics (Noise)
5. Hydrology (Water)
6. Infrastructure
7. Impact on the Landscape
8. Action Plan
9. Any questions?

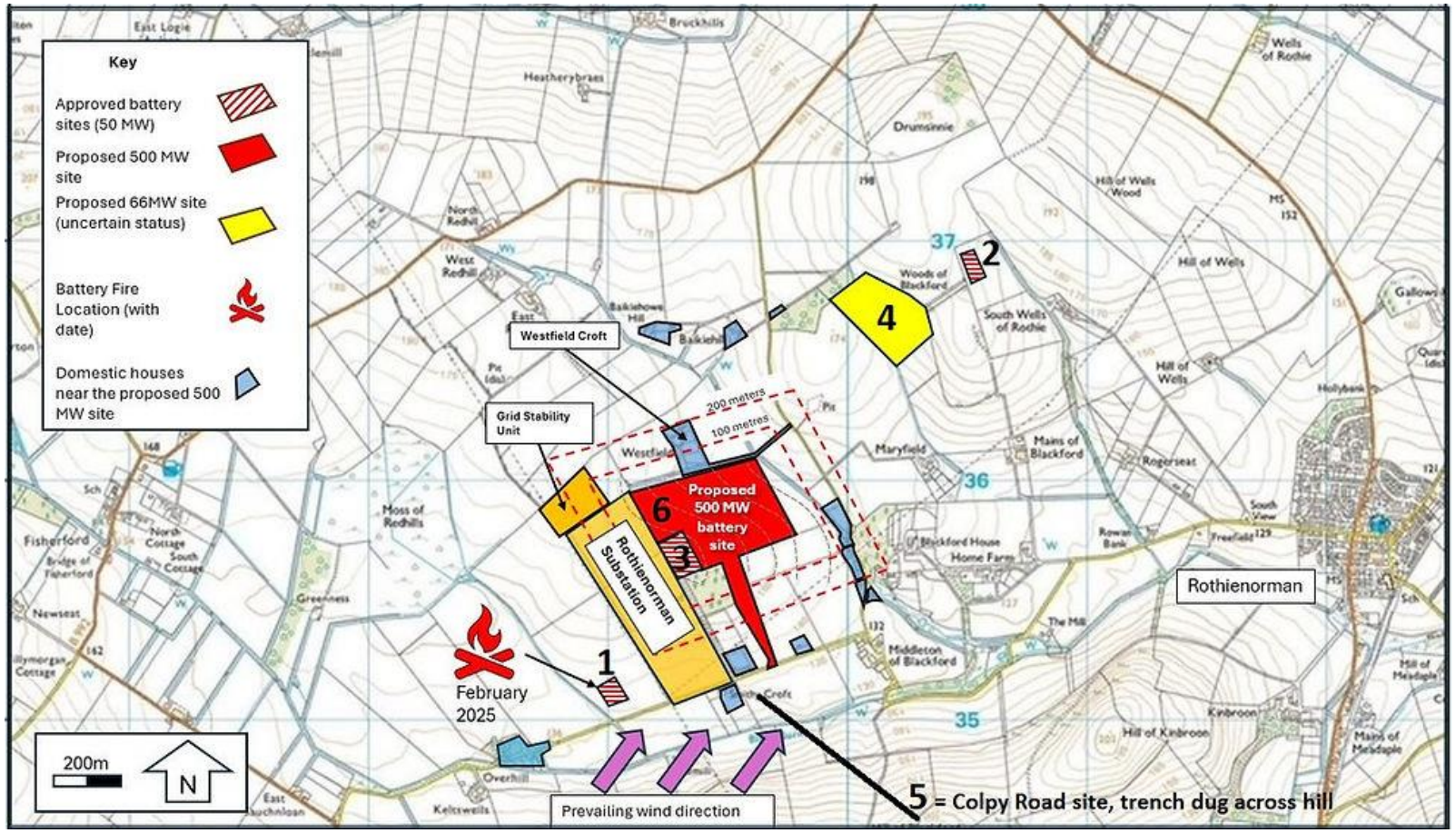
Overview of the sites

Helen Timperley

What are BESS?

- Battery Energy Storage Systems
  - Store electricity
  - Capital projects by 3rd party companies (not SSEN or Government)
    - Buy electricity when cheap
    - Sell when expensive
  - None of the projects are ‘green’ and none can guarantee they are storing renewably generated electricity – just bought from the grid
  - All using Lithium Ion battery technology = highly unstable
  - Renting land from farmers and giving them £££ /MW – most either 25 or 40 year leases – supposed to return land to normal at the end.

Overview of the sites



Overview of the sites

Site 1 = Overhill 49.9MW
Already approved + in construction
Labelled 49.9MW site - but in reality is 110MW
9 acres = 6 football fields
Fire on 21st February 2025

Site 2 = Mains of Blackford 49.9MW
Already approved + in construction
Labelled 49.9MW site - but in reality is 100.416MWh
Applied for 17.43 Acres = 11 football fields, but
Battery area only 0.98 Acres = why?

Site 3 = Middleton of Blackford 49.9MW
Already approved once, but…
Resubmitted for local planning at the moment!
Labelled 49.9MW site - but in reality is 208MWh
1.88 Acres = 1.5 football fields

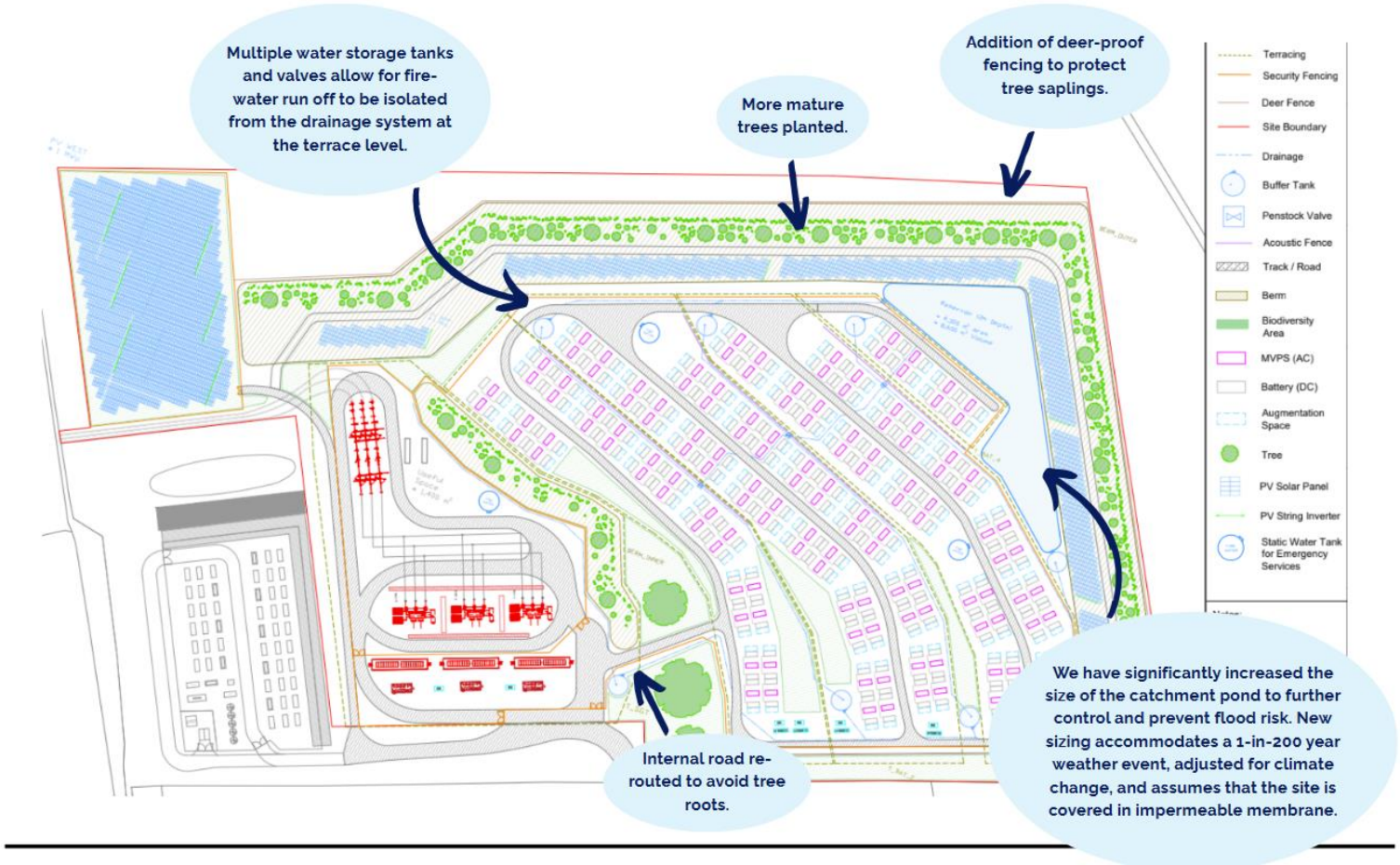
Site 4 = Eastford 66MW
Preapplication complete with ECU
No public consultation and no details.
Same company (Anesco) as Site 2
Using same track.

Site 5 = Fairfield 49.9MW
Preapplication in progress with local planning
3rd public consultation on Monday 28th April 2025 from 3pm-6pm at Meikle Wartle Village Hall
Separate application required for trench works.

Site 6 = Blackford Energy Park 500MW
Preapplication complete with ECU
Public consultation completed
Same company (Noriker Power) as Site 3
Using same track.
Physical Size = 32.8 acres = 21 football fields
Labelled 500MW site - but in reality is 1000MWh
This would be one of the largest in the UK
Also incl. 4500 solar panels that will not export

500MW Site

Site design changes since last consultation



BESS 500MW site
Fire Risk

Frank Richards

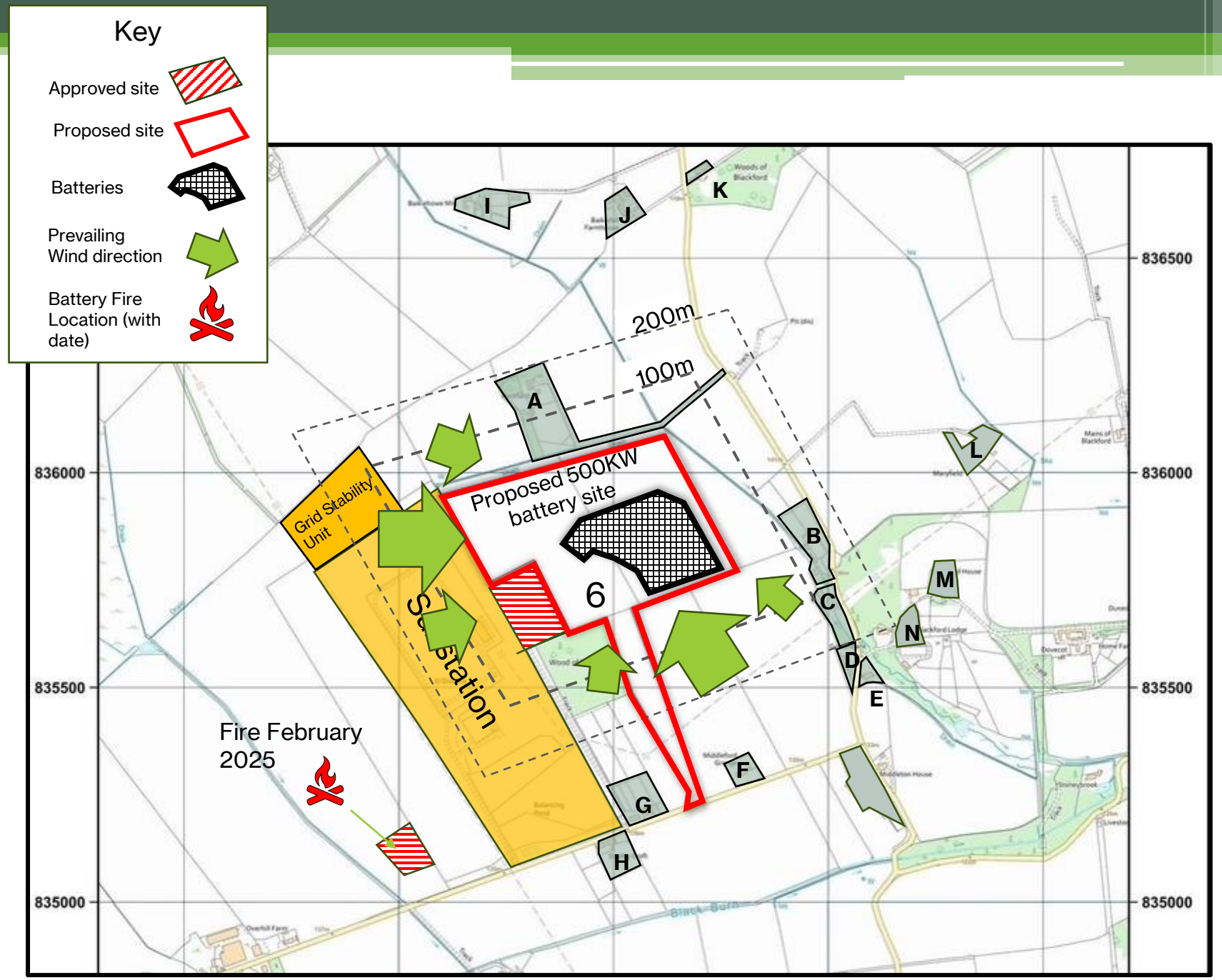
Some Key Facts

- A fire at a BESS site can rapidly release an enormous amount of energy.
- 500 MW site is equivalent to 1,720 tons of TNT (enough energy to send a rocket into space 5 times)
- Safer designs and containment have improved considerably – this makes the risk of fire much less likely, but the risk of a major fire has *not* gone away.
- All BESS owners insure against fire.
- Impossible to put out a BESS fire.
- BESS owners insure against fire.
- Fires can propagate very quickly.
- Produce dense, toxic smoke (Hydrogen cyanide, Hydrogen chloride, Hydrogen fluoride)
- BESS Technology is still rapidly evolving – these batteries and containment systems have not stood the test of time.

https://www.bbc.co.uk/news/av/uk-england-leeds-64877955

People proximity

Property	Distance to Property (m)
A	127
B	110
C	100
D	200
E	220
F	310
G	300
H	400
I	450
J	400
K	450
L	420
M	300
N	210
Rothienorman	2,000



Property	Time Time to reach Property (seconds)
A	18
B	17
C	17
D	29
E	32
F	45
G	43
H	58
I	65
J	58
K	65
L	61
M	43
N	30
Rothienorman	288

Calculated With a breeze of 25 kph (~60 DAYS A YEAR)

Battery Sites Key

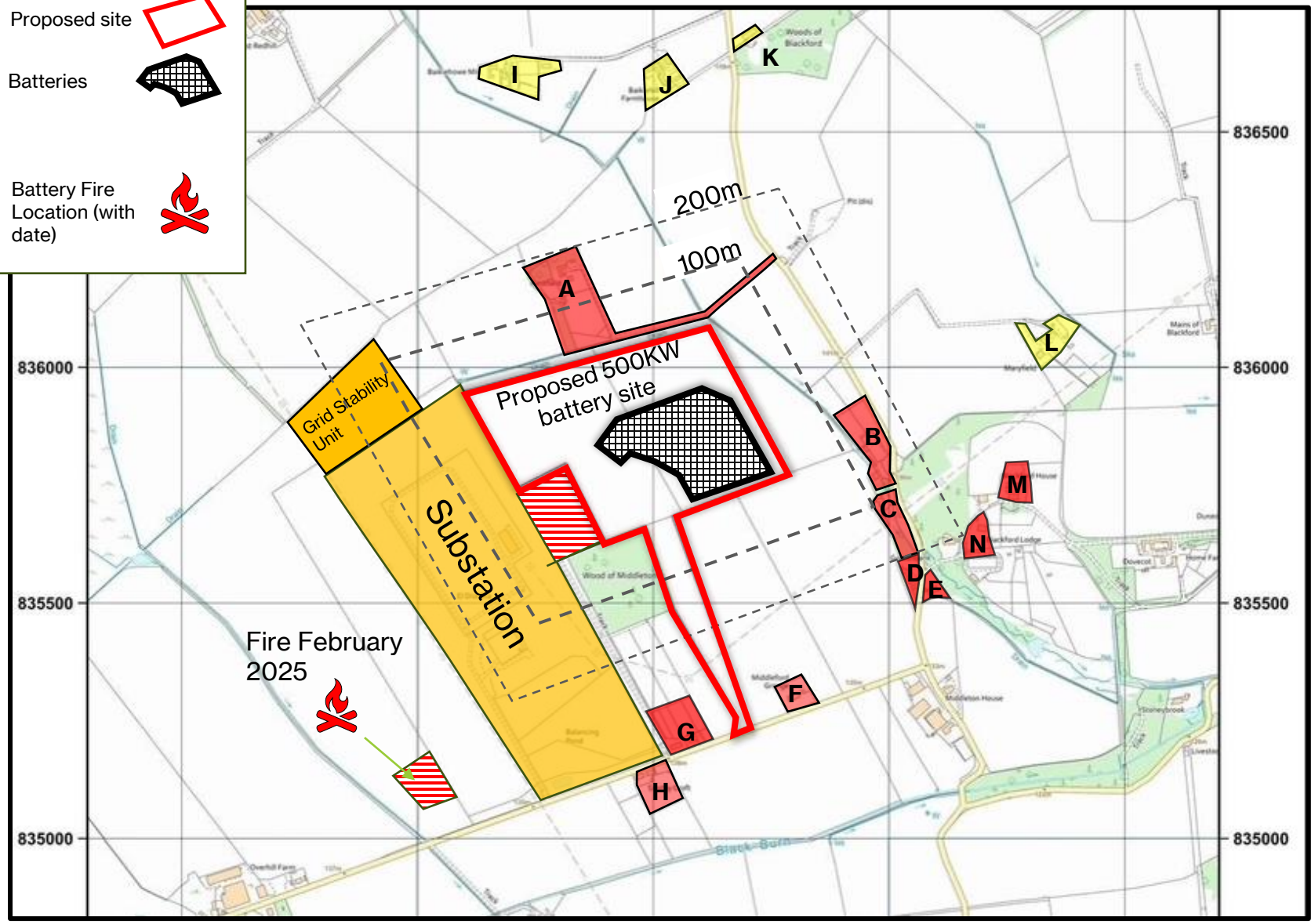
Approved site

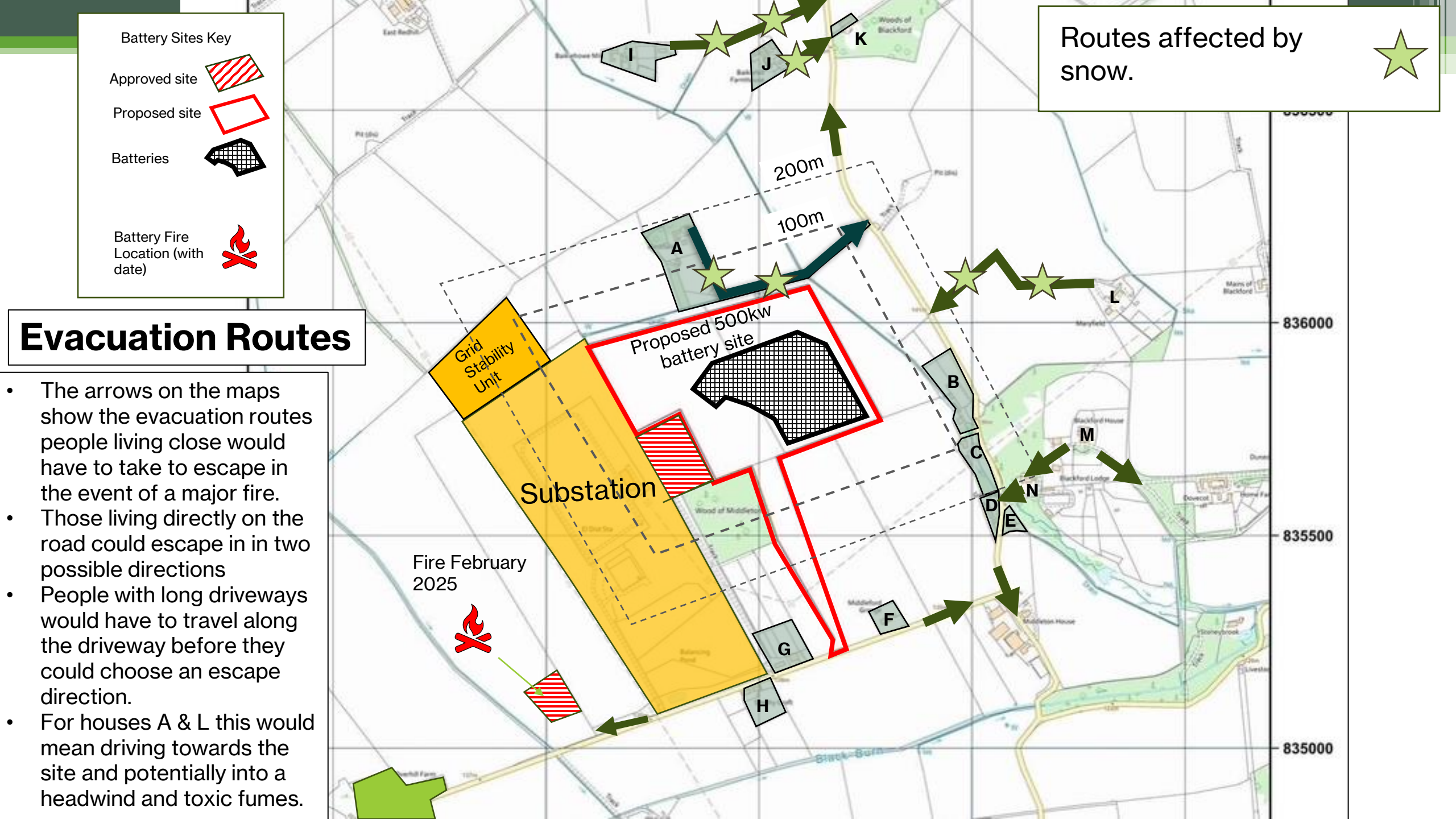
Proposed site

Batteries

Battery Fire Location (with date)

Less than 5 minutes to reach Rothienorman & Fisherford





Evacuation Routes

- The arrows on the maps show the evacuation routes people living close would have to take to escape in the event of a major fire.
- Those living directly on the road could escape in in two possible directions
- People with long driveways would have to travel along the driveway before they could choose an escape direction.
- For houses A & L this would mean driving towards the site and potentially into a headwind and toxic fumes.

Snow filed fire escape route

Winter 2025
2 weeks of drifting snow.

Conclusions

1. *Is the safety of local people a secondary concern to the developers?*
2. *Risk management: too reliant on prevention & containment?*

The potential energy of a 500MW battery site is enormous!

- There are many people living within 500m of the proposed site.
- A significant number of people are living within 200m of the site.
- Escape routes for some residences are in completely wrong direction.
- Some escape routes often become impassable after snow in winter.
- The prevailing wind directions are in the worst possible direction with respect the proximity the closest houses.
- Topography affects smoke; people living in the shallow valley to the east are have an additional risk of dense ponded fumes.

  - *History has shown that unlikely events do occur and not planning for them costs lives.*
  - *Scenarios where, in the event of a fire, residents can't evacuate is poor planning.*

- Having a means of escape is as fundamental to safety as having access to lifeboats on a ship -

Acoustics (Noise)

Athol Duckett

Acoustics

- Separate to the noise of construction = noise during operation
- Battery units all have air conditioning units to keep them cool = “hum”
- Loudest when charging or discharging
  - Discharge at peak times
    - 7am – 9am and 5pm – 7pm
  - Charge at low use times
    - Middle of the night and middle of the day
- 500MW site = 552 containers, with 2 air conditioning units each = 1104 !
  - also requires an additional transformer at the substation = more “hum”

Cumulative noise

- Rural area = generally very quiet
- Each site is doing their own noise report = state under approved levels.
  - Almost no consideration given to existing or other planned sites
- Noise assessments need to be done from pre-sub-station levels, and incl:
  - Sub-station
  - Grid stability facility
  - Buzzing from increased voltage on overhead lines
  - ALL of the proposed BESS sites
  - (plus the 2nd grid stability facility? And the Sub-station expansion?)

Hydrology (Water)

Marguerite Fleming

Hydrology: risk to water courses

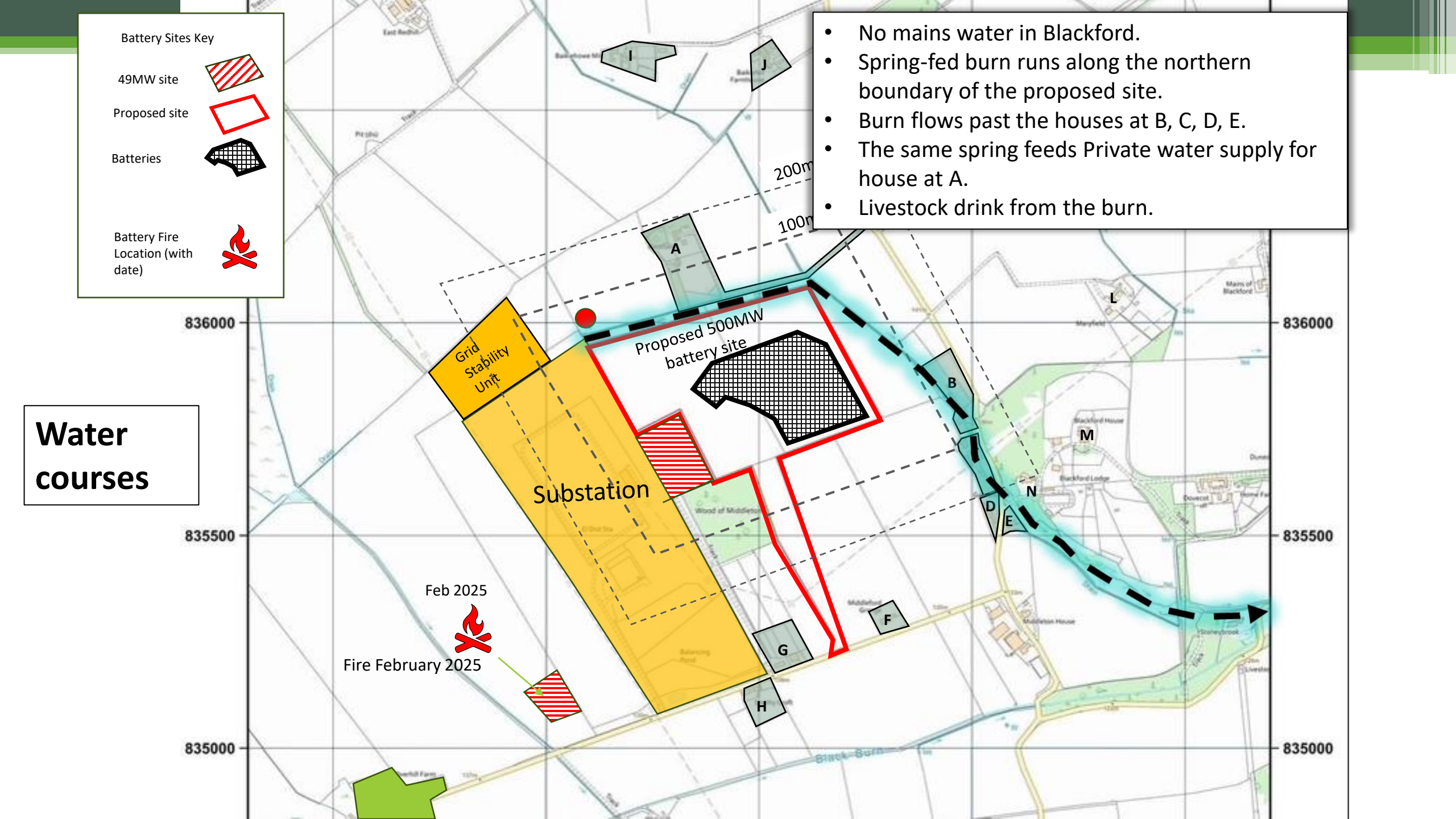
Overview

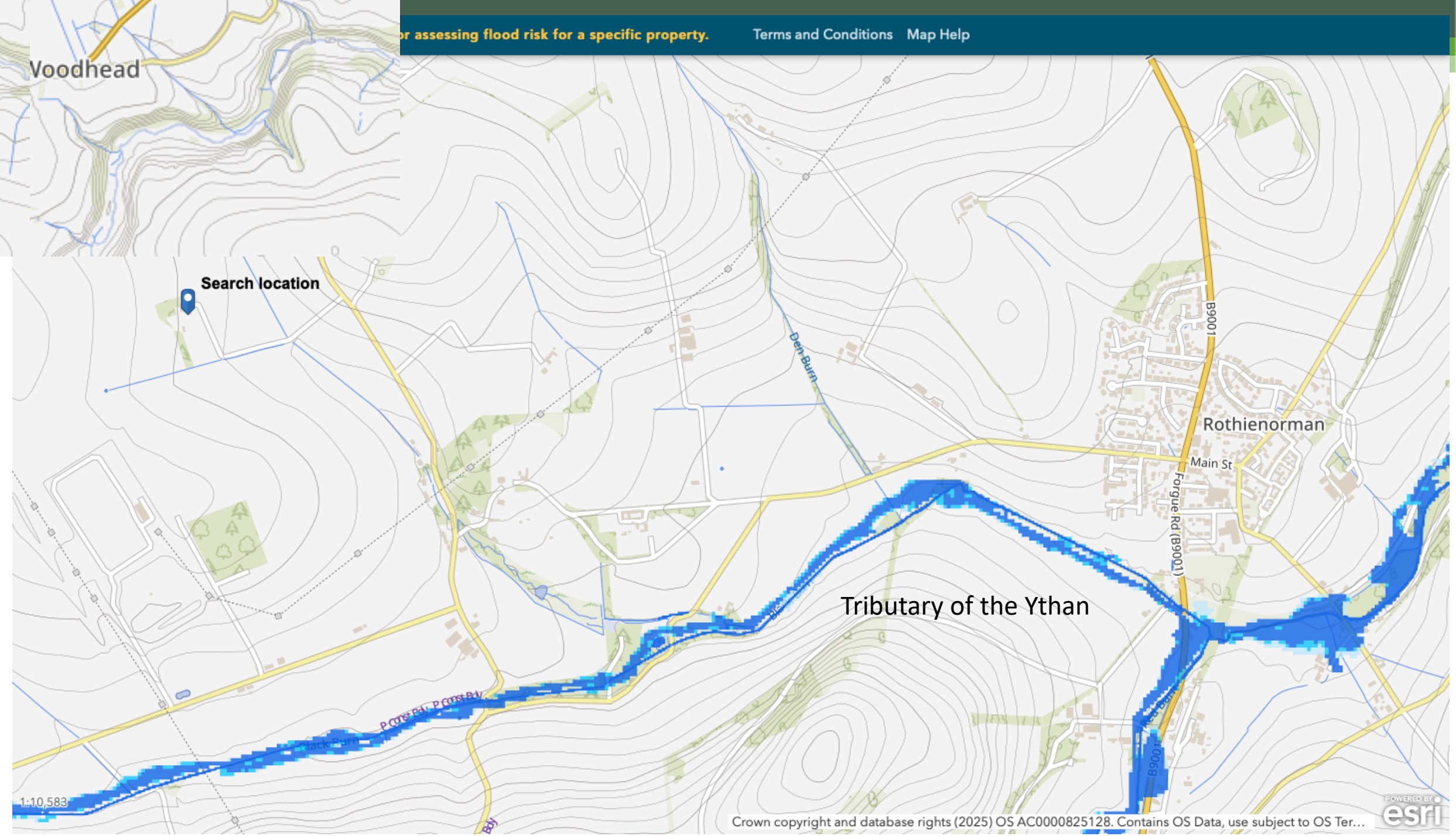
- Summary of Blackford Renewables plans for 500MW site.
- Geography of water courses (local to regional).
- Risk from excessive run-off (rain water).
- Risk from contaminated water run-off.
- SEPA.

Summary of Blackford Renewables plans for 500MW site

- The plans as they stand are available to view on the Blackford Renewables website.
- Full planning has not yet been submitted.
- A full hydrology report has not yet been seen.

- Approximately 1 million litres of water to be stored on site for fire containment.
- This water will be trucked in (not extracted on site) (verbal comment at the latest public consultation).
- A borehole will be sunk for worker's facilities.
- Surface water drains will run along the topographic contours will lead to a large reservoir at the lowest point of the site.
- BR have said their proposal now includes 'an impermeable membrane to contain any contaminated fire water from leaking into the environment'. They also say the reservoir 'is not isolated, and thus, shall allow water to disperse into the surrounding ground'.


Battery Sites Key
49MW site
Proposed site
Batteries
Battery Fire Location (with date)
Water courses
• No mains water in Blackford.
• Spring-fed burn runs along the northern boundary of the proposed site.
• Burn flows past the houses at B, C, D, E.
• The same spring feeds Private water supply for house at A.
• Livestock drink from the burn.
200m
100m
Proposed 500MW battery site
Grid Stability Unit
Substation
Feb 2025
Fire February 2025
836000
835500
835000
A
B
C
D
E
F
G
H
I
J
L
M
N
Black Burn


or assessing flood risk for a specific property.
Terms and Conditions
Map Help
Woodhead
Search location
Den Burn
B9001
Rothienorman
Main St
Forgue Rd (B9001)
Tributary of the Ythan
Black Burn
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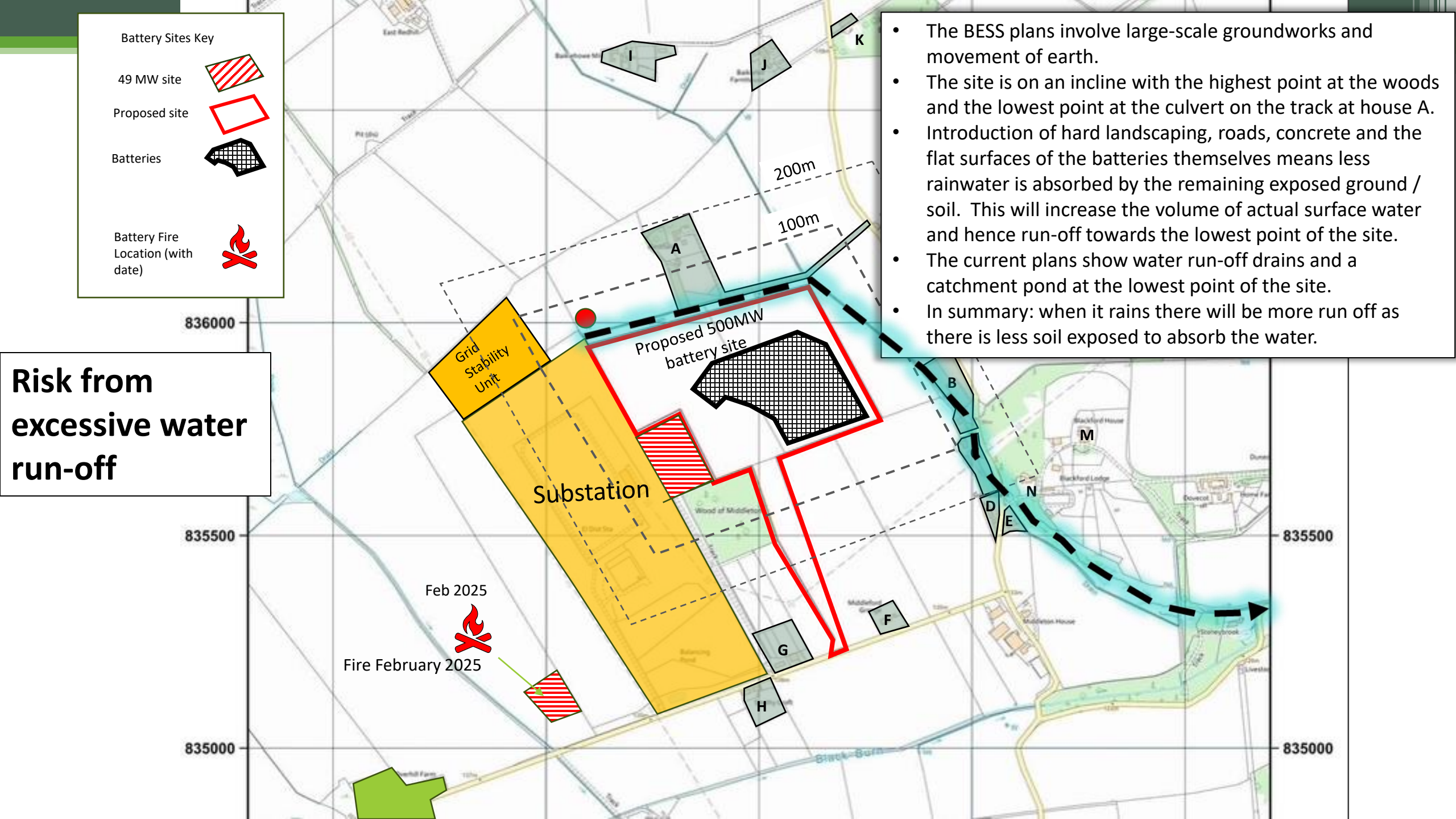
Battery Sites Key
49 MW site
Proposed site
Batteries
Battery Fire Location (with date)
Risk from excessive water run-off
The BESS plans involve large-scale groundworks and movement of earth.
The site is on an incline with the highest point at the woods and the lowest point at the culvert on the track at house A.
Introduction of hard landscaping, roads, concrete and the flat surfaces of the batteries themselves means less rainwater is absorbed by the remaining exposed ground / soil. This will increase the volume of actual surface water and hence run-off towards the lowest point of the site.
The current plans show water run-off drains and a catchment pond at the lowest point of the site.
In summary: when it rains there will be more run off as there is less soil exposed to absorb the water.
200m
100m
Proposed 500MW battery site
Grid Stability Unit
Substation
Feb 2025
Fire February 2025
836000
835500
835000
A
B
D
E
F
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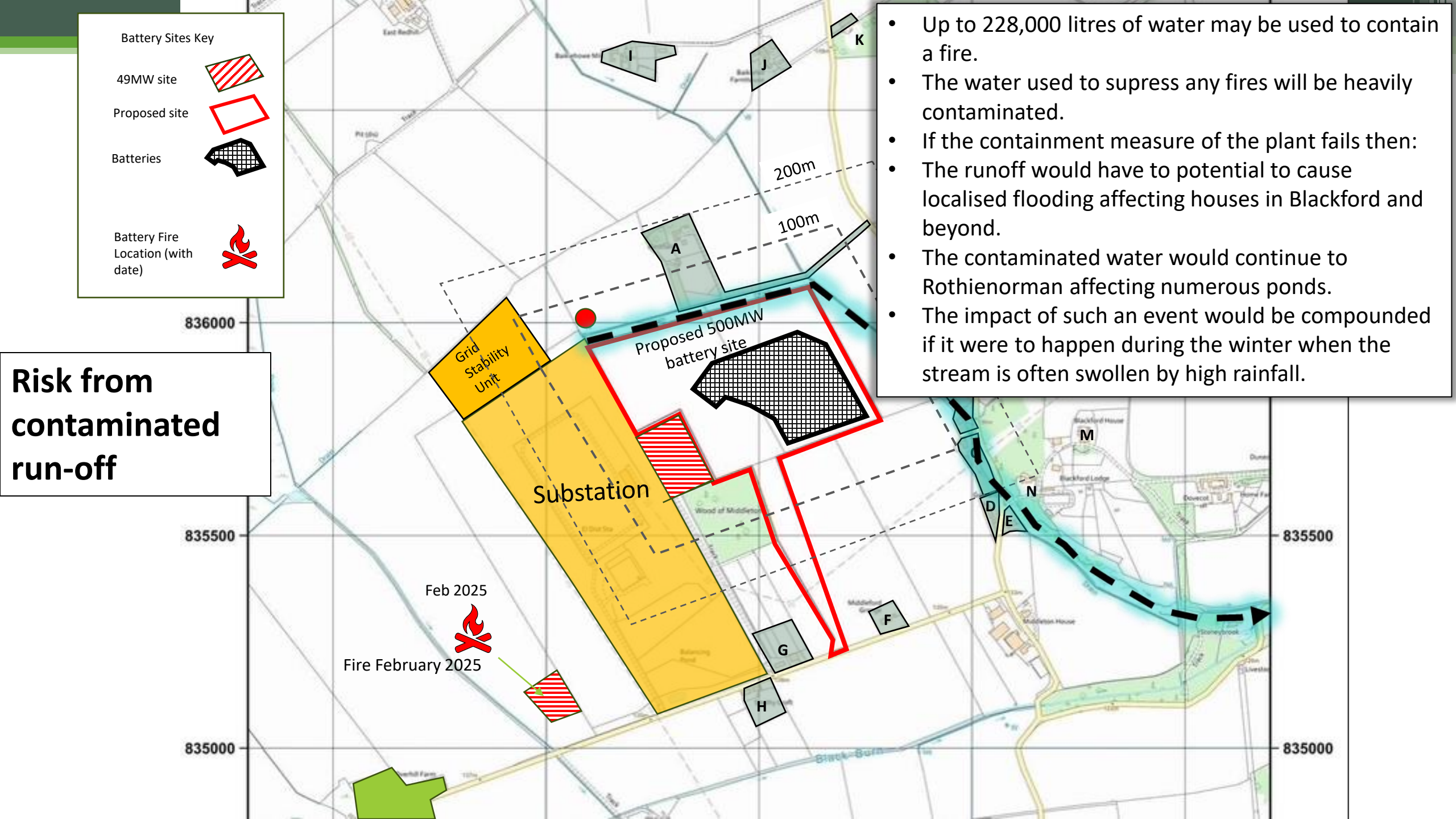
N

Risk from contaminated run-off



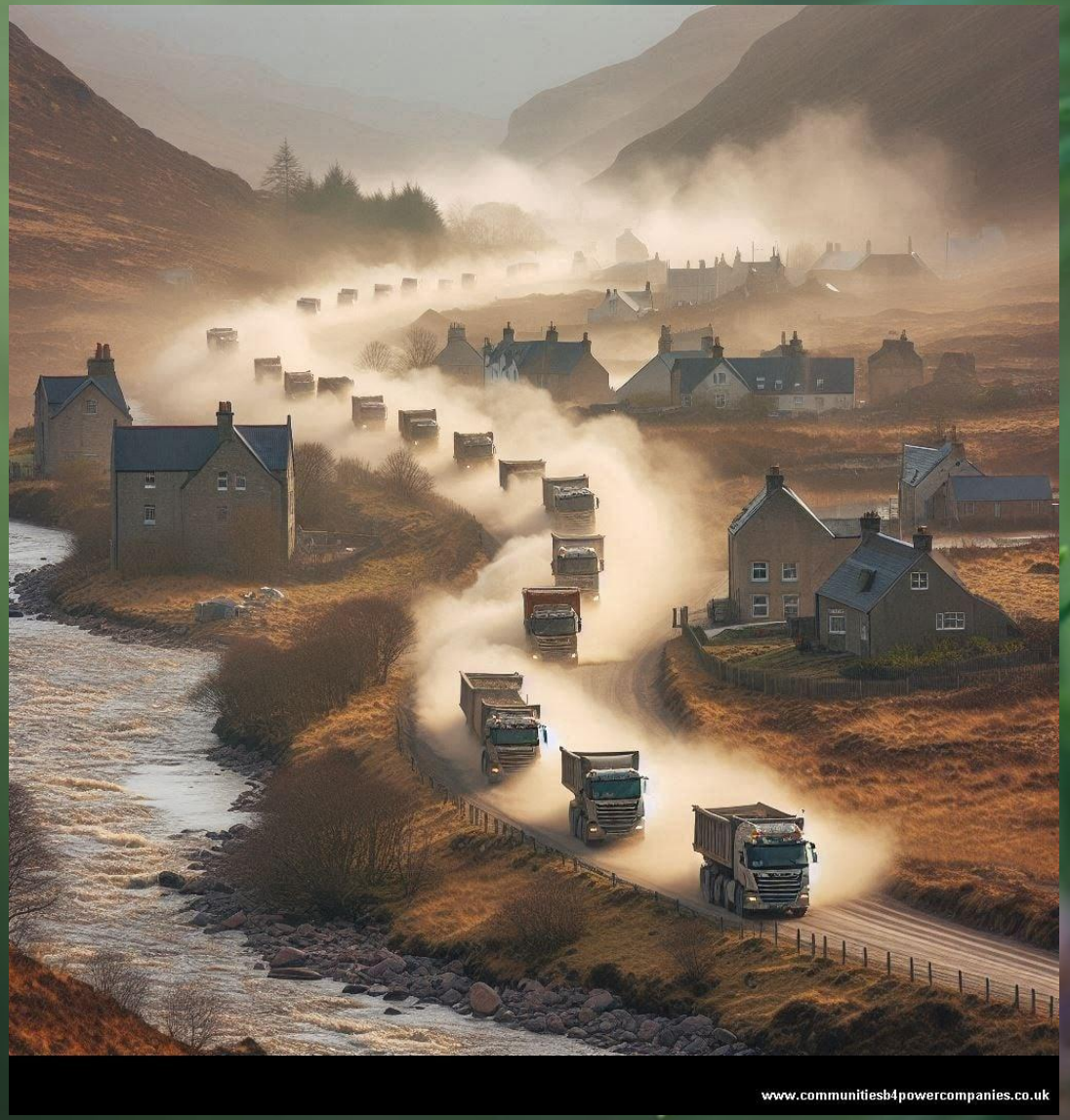
- Up to 228,000 litres of water may be used to contain a fire.
- The water used to supress any fires will be heavily contaminated.
- If the containment measure of the plant fails then:
- The runoff would have to potential to cause localised flooding affecting houses in Blackford and beyond.
- The contaminated water would continue to Rothienorman affecting numerous ponds.
- The impact of such an event would be compounded if it were to happen during the winter when the stream is often swollen by high rainfall.

SEPA

- SEPA is the Scottish Environment Protection Agency
- SEPA may be consulted if an EIA is required for a site
- While Aberdeenshire Council asked for an EIA for the 500MW site, the Energy Consents Unit decided it was not necessary

INFRASTRUCTURE CONCERNS OF 500MW BESS SITE AT MIDDLETON OF BLACKFORD

Vanessa Ryan



CONCERNS TO CONSIDER DURING CONSTRUCTION OF A SITE THIS SIZE

TRAFFIC

WATER & WASTE

POLLUTION

CONTAMINATION

TRAFFIC

- Anticipate more than 20,000 HGV Vehicle Movements during the 24 month construction phase of the project. This equals 40 journeys on our single track lanes per day.
- Approximately 200 construction workers on the site at any given time. Where will they park their cars? Will they park in the village and be bussed to the site? Or will a car park need to be built on a separate site to accommodate these vehicles?
- There will also be daily deliveries being made by vans and trucks, which will add to the vehicle movements on our roads.
- **All of this totals at least 500 journeys per day.**
- Oversize loads will require road closures. Deliveries will include 40ft containers of office blocks; toilet blocks; BESS Battery Units (which are 40ft containers); Cable Drums; Electrical Hardware and more. How often will these road closures impact us?
- Who will be responsible for the damage to the roads?
- How will the very real ‘Danger to Life’ threat of the anticipated high volume of vehicles be addressed? We have people who walk their dogs on those roads, walk their babies in prams; and people who ride their horses. The speed limit on those roads is 60mph.
- How will the village school drop off and pick up times be affected by the huge volume of traffic we anticipate. The junction at Rothie Inn will become a bottle neck and the safety of children who currently walk or ride their bikes to school on their own will come into question.

WATER

- Millions of litres of water will be required on the site during construction.
- Where will this water come from?
- Will they tap into local water supplies and if they do how will that impact the supply of water to local residents?
- We know of sites that are using so much water that it is having a significant impact on the water supply of the area.
- OR will they truck water in which adds to the vehicle movements per day?

WASTE

- General waste removal, how many skips will be needed on site?
- Toilet waste will need to be removed which could mean another 4 lorries to keep the toilets for all the workers usable.
- How will the construction rubbish be removed from site? There will be packaging; food & waste consumed by approx. 200 people on site. What is the recycling plan for this green energy site?
- Faulty parts and consumables will also need removal. More vehicle movements per day?

LIGHT, NOISE & AIR POLLUTION

- Lighting will be required for the security of the site as well as for visibility on site once the days get shorter.
- The light pollution for an area the size of 21 football pitches is going to overflow into the surrounding area for quite some distance.
- Unregulated Noise Pollution on the site would include: reverse warning signals; earth moving activities; the twice daily sandwich truck! When the construction runs behind schedule, shift patterns WILL change and the noise could become constant, 24 hours per day.
- How much dust will the construction of the site kick up? We have residents who are on the immediate perimeter of the site and will be enshrouded by this dust throughout the 24 month construction period.
- Construction workers will be wearing PPE to protect themselves from the dust, how will the local residents be protected? Will the Health & Safety Executive be consulted with regards to our safety?
- Air Pollution will come in the form of dust; there will be diesel fumes from 50+ construction vehicles working on the site at any one time, these could burn 4-5,000 litres of fuel per day, again in the name of Green Energy;
- How will the protected species, like badgers, herons ad curlews, who live near the site cope with the noise, air and light pollution?

CONTAMINATION

- A question raised at one of the Planning Meetings was about how water that had become contaminated by runoff from the BESS Units would be prevented from going into the ground?
- The response they had was an impractical and improbable solution : they plan to cover the entire, terraced site with an IMPERMEABLE LAYER. This layer would be a geomembrane sheet under a layer of soil and as indicated by the planners a layer of concrete would then go on top of this soil. The area would need to be cleared of all stumps, hard clods, coarse gravel and any other projections that may pierce the membrane. This would need to be topped with fine soil to cushion the membrane.
- A sterilant would also be required to stop anything growing underneath the membrane.
- After having consulted a few experts in this field this solution seems cost prohibitive and unworkable.
- If by some magic this does get done, how will they remove it at the end of the project's life and more importantly,
- If the life of the membrane is not the same or greater than the life of the facility, then it is not a viable solution : the overburden, concrete and infrastructure cannot be removed to replace the membrane when it degrades.

IN CONCLUSION

- Here we are talking about a 24 month large scale construction site in the middle of the countryside:
- Light
- Pollution
- Vehicle Movements
- Road Movements
- Threat to Pedestrians
- Damage to wildlife
- Water contamination
- Damage to Mental Health
- Noise
- Waste
- Temporary Infrastructure
- Road Damage
- Village Congestion
- Water Usage
- Ground contamination

- And lastly, don’t think this will create 100’s of local jobs because most of the roles on a project like this are very specialised and will be sourced nationally and internationally, not locally.

Landscaping

Barry Duncan
Resident of Blackford, Rothienorman for 27 Years

Environmental Impact Assessment (EIA)

- EIA not mandatory for a 500MW development
- Aberdeenshire Council **recommended EIA is required**
- Blackford Renewables Limited engaged a firm of Edinburgh planning consultants, who prepared a Screening Letter – **recommended no EIA required**
  - Screening Letter contains **factual errors and un-evidenced assertion**s
- Main reasons cited:
  - Development does not require EIA assessment under current regulations
  - No sensitive environmental site lies within 4km of the site
  - Consistent with other nearby BESS developments and presence of a sub-station
  - Insignificant change in landscape character and mitigated with landscaping
  - Construction traffic will follow same route as sub-station construction
  - No anticipated risk of major accidents and negligible human health issues
  - No significant pollution or nuisance anticipated during the operational phase, no comments about construction, other than access route for vehicles
  - No likely significant effect material assets
  - Consideration that effects of the developments on residents is “insignificant”
- ECU concluded EIA is **not** required

Environmental Impact Assessment (EIA) is a tool used to assess the significant effects of a project or development proposal on the environment.

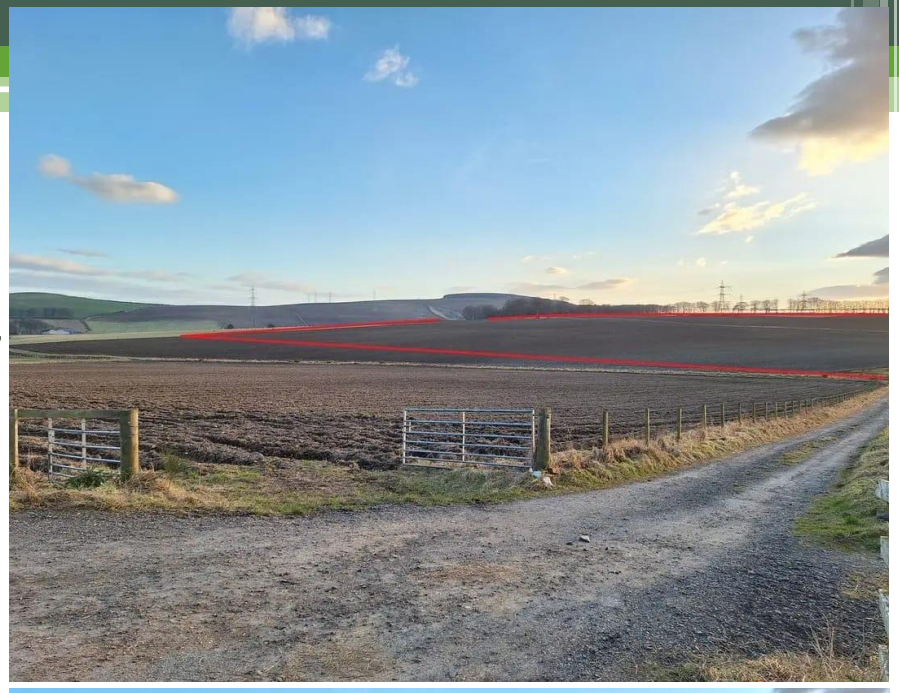
EIAs make sure that project decision makers think about the likely effects on the environment at the earliest possible time and aim to avoid, reduce or offset those effects. This ensures that proposals are understood properly before decisions are made.

Environmental Impact Assessment (EIA)

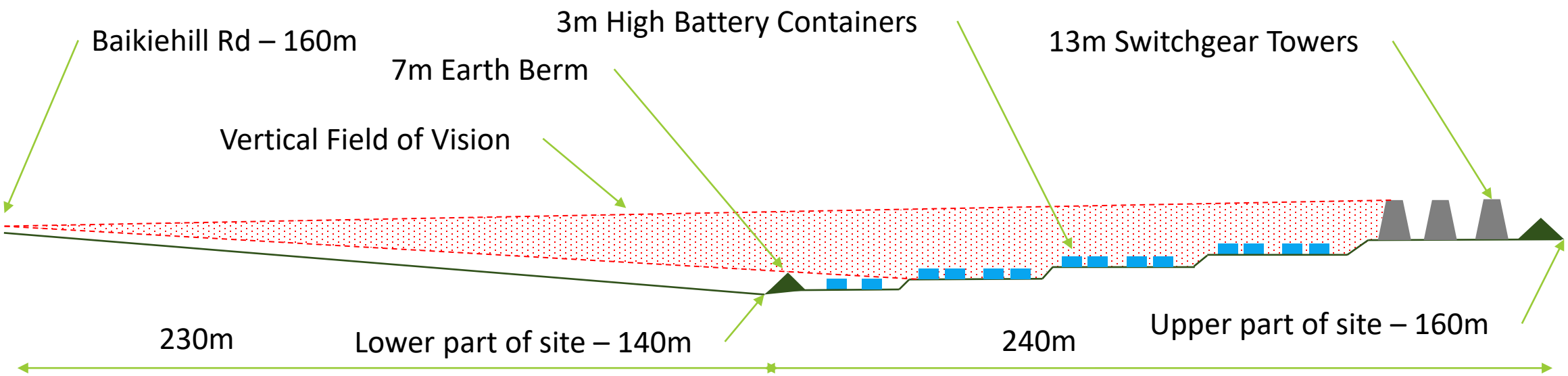
- Why do we believe the decision of the ECU is flawed:
  - Refers to “no” risk, as opposed to “low” (e.g. fire, water contamination risk not 0%)
  - Fails to acknowledge the site’s extensive views – enjoyed not just by immediate residents
  - Defines impact on residents as being “insignificant” - ignores mental health impact
  - Underplays the risk **and ignores the impact of an accident** – fire and smoke impact
  - Ignores fire containment water storage onsite will either become stagnant / chemically treated
  - Ignores on-site fire containment systems requires periodic testing – regular water replenishment
  - Reference to “significant pollution” suggests some pollution acceptable (unacceptable!)
  - Disagree there will no impact on “material assets” (i.e. property prices in the area)
- Lack of EIA fails to properly / independently assess the risks of the development to the environment
  - Screening Letter contains errors and un-evidenced statements
  - A “cut and paste” which questions its overall credibility
  - Critical ground for objection
  - Currently seeking our own environmental advice of the development
- Any expertise on EIAs or environmental assessments, please let us know

Landscaping

- Visual Impact – Developers
  - “..designed landscaping to minimize visual impact from surrounding areas..”
- Selected site of 500MW development is 140-160m above sea level (OS Map)
  - 140m nearest Baikiehill Road, 160m furthest from the road
  - Baikiehill Road also 160 m above sea level
- Batteries around 3 m tall, switchgear 13 m tall
- Site layout (Developer’s drawings):
  - 4 terraces, planned over 20 m of gradient
  - Each terrace ~5 m plus 3 m battery height
  - 13 m switchgear to the rear of the site
  - 7 m earth berms planned for the site
  - Trees planted – 2 scenarios: 2.5 m and 4.5 m



Landscaping



- From Baikiehill Road, majority of site will be visible, only lower end not visible, despite assurances to the contrary from the Developer
- BESS can be located elsewhere and tied back to the sub-station via underground cabling
  - Not impossible, but less convenient and more technically challenging
  - Potentially more commercially attractive, avoids lease rental
  - Involves more landowner permission to install cables
- Site chosen not because it's the best site (it isn't!) but because it has been offered and is close to sub-station

Action Plan

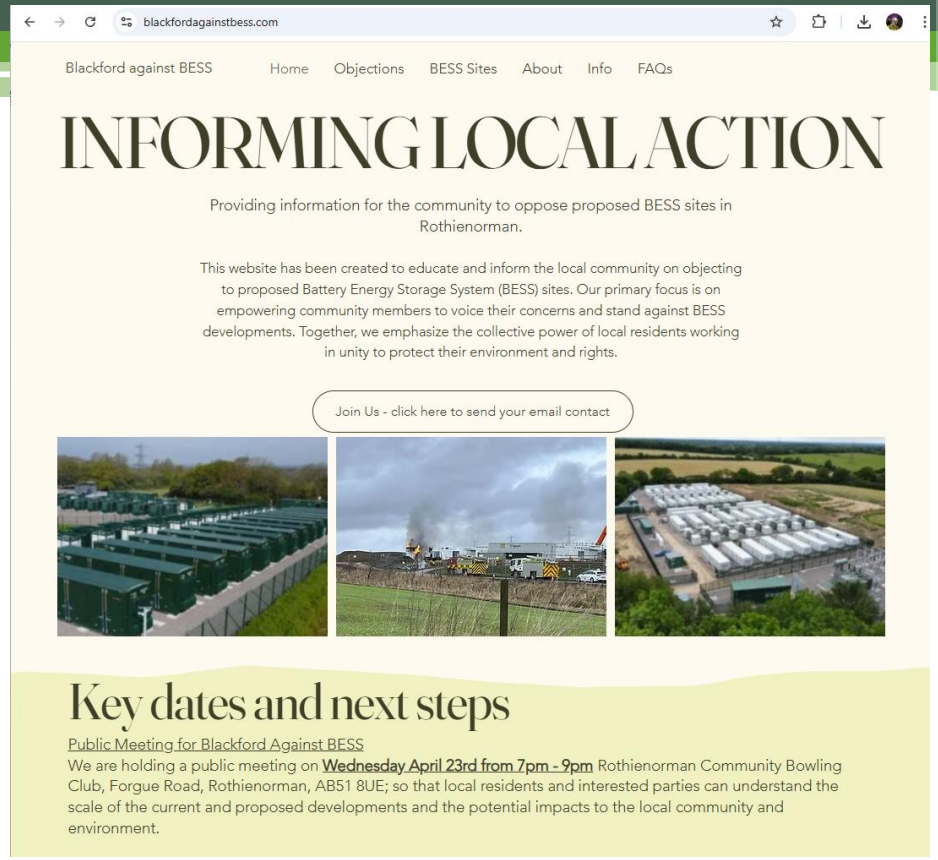
Helen Timperley

Action Plan

- What have we done:
  - Website with latest info

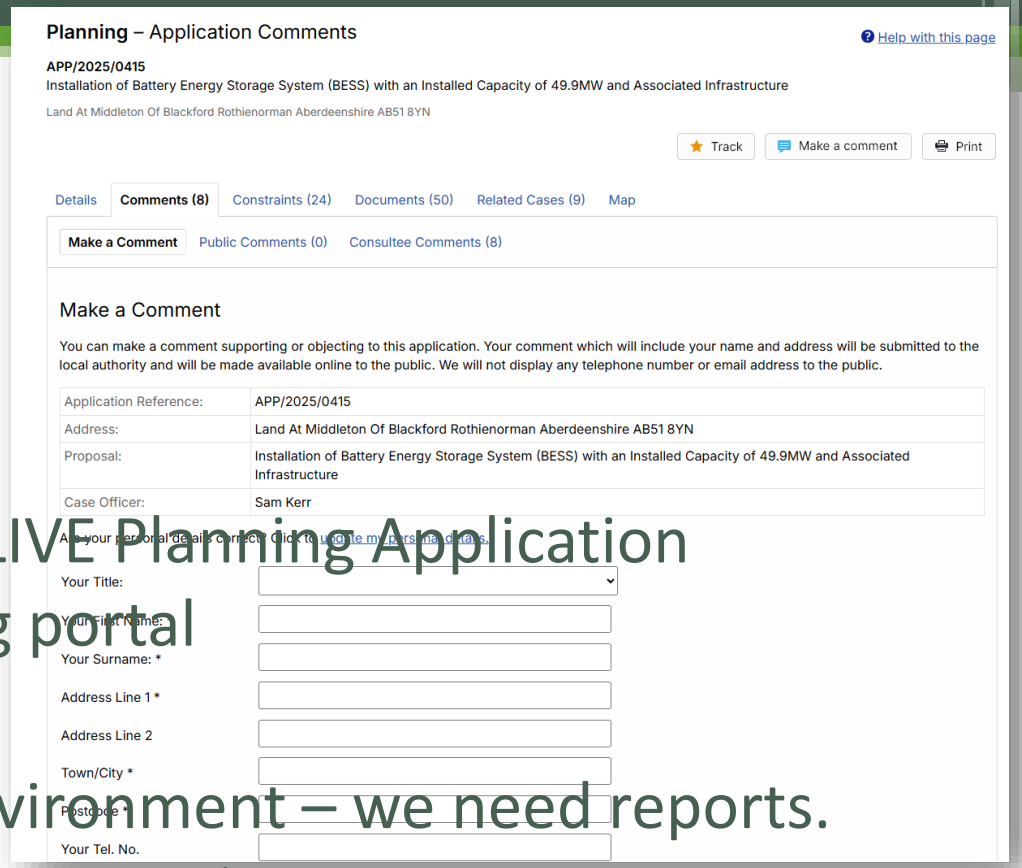
    https://www.blackfordagainstbess.com/
    - Details of each site
    - Template letter
  - Facebook group

    https://www.facebook.com/groups/blackfordagainstbess
  - Attended public consultations and Community Council meetings
  - Submitted objections to the planning applications
  - Contacted local councillors, MP's and MSP's
  - Contacting other organisations who may be able to support us
  - Organised this event!



Action Plan

- What do we do now:
  - Site 3 = Middleton of Blackford 49.9MW – LIVE Planning Application *__**OBJECT NOW**__* on Aberdeenshire planning portal
  - Sign up on our website for email updates.
  - Any professionals/experts on fire, noise, environment – we need reports.
  - Fairfield BESS (Colpy Road) meeting on Monday 28th in Meikle Wartle



- What do we do next:
  - Object to each of Site 4, Site 5 and Site 6 as their applications become live.
    - Numbers count – we need at least 250 objections for each one.
    - Do not need to be a local resident – encourage friends and family!

Any questions?