Project Name	Ellingham Home Farm
EPR	EPR/BP3323UV/P001
Type (New Permit/Variation)	New

If your pre-mitigation risk score (column D) is 5 or higher, you must complete columns E to H.

	A	B	C	D	E	F	G
Potential changing climate variable	**Impact**	**Likelihood**	**Severity**	**Risk (B x C)**	**Mitigation (what will you do to mitigate this risk)**	**Likelihood (after mitigation)**	**Severity (after mitigation)**
1. Summer daily maximum temperature may be around 6°C higher compared to average summer temperatures now.	Ventilation system unable to maintain optimum temperature within livestock housing. Livestock may experience heat stress.	3	3	9	• Keep a log of any hot days which occur each year. • Consider installing additional cooling, such as a misting system. • Upgrade insulation. • Consider reducing the stocking density before the summer month. • With adequate notice from weather forecasters, adjusting the lighting so that livestock are fed when it is cooler (consulting with your veterinarian before you implement this measure • Consult with your veterinarian on management strategies to prevent heat stress	3	1
2. Winter daily maximum temperature could be 4°C more than the current average.	There could there be potential benefits such as, less energy used to heat animal housing or/and less risk of water freezing and damaging pipes Or there could be an increased ventilation requirement through increased winter temperatures. Increased risk of pipework freezing leading to water shortage. Increased risk of snow and ice. This could cause travel disruption with delays to deliveries, site access difficulties for staff and heavy snow damaging structures.	3	3	9	Options: • Conduct a review of ventilation requirements • Insulate or provide trace heating for exposed pipework • Have adequate feed storage capacity and stocks on site in winter to mitigate delays in feed deliveries • Make sure roofs and structures are well maintained to withstand heavy snow • Have equipment and materials available to clear snow and ice from the access to the site for delivery and staff vehicles	3	1
3. The biggest rainfall events are up to 20% more intense than current extremes (peak rainfall intensity)*.	No rainfall capture in to dirty water tank Surface water drainage systems may not be able to cope with increased flows. Gutters may not be able to cope or could overflow. Ditches could be overwhelmed Potential for increased site surface water and flooding leading to: • Power failure • Animal welfare issues. • Disease incursion as water ingress can bring diseases into buildings • Infrastructure damage. • Restrictions on site access for staff and emergency services.	3	1	3	Options: • Consider surface falls at design stage. • Manage/maintain drains. • Clear gutters of debris and roofs of moss • Change guttering for larger gutters • Install water storage or rainwater harvesting systems to off-set drier summers • Treat stored water to sufficient quality to use for livestock • Install additional surface water drains • To prevent dilution and overflow of footdips: change foot dips for dips with a cover to keep out rainwater	3	1
4. Average winter rainfall may increase by over 40% on today's averages.	Surface water drainage system overloaded. Potential for increased site surface water and flooding. Land bank being inaccessible due to prolonged periods of heavy rain, leading to fields being at or above field capacity. This could lead to reduced land available for spreading slurry.	3	3	9	As above. Additionally, identify • Additional landbank for spreading • Alternative storage and disposal routes • Alternative waste treatment outlets such as anaerobic digestion	3	1

5. Sea level could be as much as 0.6m higher compared to today's level *	Inland, high ground site. Low impact expected.	2	2	4	Note very low risk area for flooding from surface water or groundwater.		
6. Drier summers, potentially up to 40% less rain than now.	Increased dust – less water to suppress. Stress on groundwater supply, which may become unavailable for use on-farm for drinking water.	3	2	6	• Increase surface water storage capacity (will also help mitigate higher rainfall). i.e. collect and store rainwater in tanks for use in washing out buildings. • Mains water backup means we are not reliant on non-mains source but contingency plans should be in place none the less. • Consider installation of winter storage reservoir and treatment system so water can be used on the farm changing house cleaning technique to use less water, such as dry cleaning	3	1
7. At its peak, the flow in watercourses could be 50% more than now at its peak, and 80% less than now at its lowest	Risk of on-farm flooding if the water level in nearby ditch rises above the discharge pipe, resulting in backflow to the farm.	3	2	6	Possible options: • Raising the level of the discharge pipe to the ditch • Installing a non-return valve in the discharge pipe • Continuing drainage ditch maintenance	3	1
8. Storms could see a change in frequency and intensity. The unique combination of increased wind speeds, increased rainfall, and lightning during these events provides the potential for more extreme storm impacts.	Storms and high winds could damage building structures with increased potential for odour and dust emissions and loss of power.	3	3	9	Possible options: • Reviewing the design of vulnerable structures and buildings • Reviewing wind loading calculations, providing reinforcement if necessary • Maintaining building integrity • Having well maintained emergency backup power • Keeping the site tidy and secure any equipment or objects that could blow around	3	1
9. There could be an increased risk of fire in e.g. biomass feedstock store, straw store and agrochemicals store.	Danger to life (people and livestock) Smoke and dust emissions and firewater production, potentially leading to pollution if overwhelming to slurry/dirty water storage capacity Loss of materials and damage to buildings				No flammable materials stored on installation.		
10. There could there be an increased risk of flies and odour.	Nuisance to nearby sensitive receptors and risk of bioaerosol/ammonia emissions impacting environment	3	3	9	The mitigation for this could include: • Installing additional cooling system • Slurry acidification or slurry separation • Keeping surfaces as clean as possible • Preventing access by flies wherever possible	2	1
11. There is a risk of feed ingredients heating and spoiling.	Wastage of feed and impact on animal health Disposal of spoiled feed Increased odour risk from spoiled feed	3	3	9	The mitigation could include: changing feed bins to ones painted in light colours • Changing galvanised steel feed silos to fibreglass silos • Managing feed deliveries and quantities to help feed move through silos quickly and avoid feed being left in bins for too long	2	1
12. There could be a risk of wildfires.	These could spread into the site and damage buildings, risking staff safety and the livestock.	2	3	6	Arrange a visit from the local fire and rescue service to help identify risk areas as well as familiarise themselves with the access, layout and water points available should they need to attend a fire.	2	2
13. Increases in the occurrence and severity of animal diseases. This could be due to temperature changes which may allow viruses to survive for longer or for new vectors, such as insects, to live in our climate.	This could lead to activities with potential environmental impacts such as carcass and wash water disposal. It could also lead to restrictions on animal movements which has potential to impact on permit compliance if permitted places are exceeded.	3	3	9	The mitigation for this could include: • Keeping up to date with animal disease warnings in the farming press and subscribe to receive animal disease alerts, see APHA animal disease alert subscription service - GOV.UK for further information • Maintaining biosecurity measures, see Disease prevention for livestock and poultry keepers - GOV.UK for further information • Identifying alternative carcass disposal routes in case your usual route is not available or suitable • Develop contingency / action plans in collaboration with marketing group /processor	3	2