				Pre-mitigation			1	Post Mitigation		
No	Risk	Category	Impact - Project not viable	Likelihood	Severity	Risk Score	Mitigation - Initial IGP included geological desktop assessment to confirm	Likelihood	Severity	Risk Score
1	Ground conditions unsuitable for GSHP boreholes	Development	 Development costs spent up to this point are sunk costs 	3	3	1.8	suitability of ground conditions - GSHP design will be based on worst case ground conditions - Revise GSHP design to optimise specification and cost based on Thermal Response Tests from first two boreholes drilled during installation works	3	2	1.2
2	Slow decision making from academy trusts	Financial close	- Failure to meet 31,0021 RHI pre- application deadline - Project ceases to be financially viable - Development costs spent up to this point are sunk costs	4	3	2.4	Trusts agreement to examine GSHP apportunity obtained (Comberton) Met with trust Chief Exec to agree examining projec and engaging with ESFA - Shared programme timelines, including Trust Decision points, emphasising critically of meeting RHI deadline - Initial business cases shared with Trusts at start of IGP development - At start of IGP development request trusts seek Trustee confirmation of their decision criteria - Heaf Supply Agreement terms shared with Trusts at an early stace	2	3	1.2
3	Insufficient Bouygues resource to progress to required timescales	Development	Failure to meet 31/03/21 RHI pre- application deadline Project ceases to be financially viable Development costs spent up to this point are sunk costs	3	5	3	Graduate engineer with experience on Swaffham Prior heat network project brought in to provide project support GSHP engineer, based in Cambridgeshire, brought in to support team Weekly monitoring of delivery v programme Scalation of any délays/ resource concerns within Bouygues	1	5	1
4	Lack of GSHP project development experience	All	Required tasks are not identified in a timely fashion resulting in failure to meet 31/03/21 RHI pre-application deadline - Project ceases to be financially viable - Development costs spent up to this point are sunk costs.	3	5	3	- GSHP project expert, based in Cambridgeshire, brought in to support team - Subcontractor expertise from BA Hydro and Infinitas used for GSHP and borehole design	1	5	1
5	Insufficient EIU resource to progress to required timescales	Development	Failure to meet 31/03/21 RHI pre- application deadline Project ceases to be financially viable Development costs spent up to this point are sunk costs	3	5	3	Re-allocate Stanground project to Delivery Manager/Assistant Project Manager Allocate 1 day per week to managing these projects Prioritise GSHP projects over other school projects	1	5	1
6	Insufficient planning resource to turn around planning decision in standard timescales	Development	Failure to meet 31/03/21 RHI pre- application deadline Project ceases to be financially viable Development costs spent up to this point are sunk costs	5	5	5	- Agreed with planning that, to expedite pre-planning advice and planning determination, our planning consultant will provide their interpretation with rationale referencing national and local planning policy for planners to confirm or correct - Assistant Director Planning regularly reviewing progress - Planners preparing Committee Decision papers on a precautionary basis in case decision not delegated	3	5	3
7	Long term HPA not acceptable to DfE/ESFA	Financial close	 - All GSHP projects cease to be viable - Development costs spent up to this point are sunk costs 	3	5	3	- DIE/ESFA meetings held to discuss draft HPA Necessity for HPAs to enable capital constrained academies to decarbonise heat, in line with BEIS objectives, and benefit to academy of long term certainty over heat pricing emphasised - HPAs updated to reflect DIE/ESFA comments Share final business cases with DIE as soon as available	1	5	1
9	Tariff Guarantee Budget cap reached prior to our Stage 2 pre- application. At of the end of June 2020 Government announeced that the tariff guarantee allocation for GSHPs would be £8m.	Financial close	 Project ceases to be financially viable Development costs spent up to this point are sunk 	4	5	4	 Monitor tariff guarantee allocations Engage with BEIS and Ofgem to try and tease out informal insight into expected and actual uptake of tariff guarantees BEIS successfully lobbled to increase budget to £28m (£9.1m of which prvisionally allocated as of 11/02/21) 	2	5	2
11	Vibration risk to existing building structures during construction	Construction	Challenge/delay to planning application School conflates unconnected building condition issue with borehole works	3	3	1.8	Vibration impact assessment procured to assess risk to include in planning application Consider whether to conduct a dilapidations survey ahead of works Take pre & post drilling photos of building	1	3	0.6
12	Damage to School buildings or infrastructure	Construction	Reputational, remedial costs Programme delays, abortive costs Programme delays, cost overruns	3	3	1.8	Use reputable and trusted subcontractors Obtain pre-construction information from school to understand existing infrastructure Conduct sub-terranean surveys to understand any existing ppework, cabiting et belvio ground Include a provisional cost allowance for remedial works Hisuance to core drainage to existing infrastructure	2	3	1.2
13	Disturbance to community	Construction	Reputational damage Potential delays and over-run	3	2	1.2	- Construction works and deliveries limited to working hours and Saturday morning only - Noise and vibration assessment to BS 5228:2009 will be conducted - On-site noise monitoring during construction	1	2	0.4
14	Damage to trees	Construction	Reputational damage Potential delays and over-run	2	4	1.6	 Arboricultural Method Statement and Tree Protection Plan will be conducted Any trees removed will be replaced two for one Hydrological Impact Assessment and Preliminary Risk Assessment will be conducted to identify and miligate any risks to ground water 	1	4	0.8
15	Groundwater contamination Groundwater contamination	Construction	Reputational damage Potential delays and over-run Reputational damage Financial penalties	2	4	1.6	Borehole drilling and ground loop installation programme will follow Environment Agency best practice guidance Hydrological Impact Assessment and Preliminary Risk Assessment be conducted to identify and mitigate any risks to ground water SHP will be closed loop with no discharge to ground water in normal operation Ground loop working fluid will use food grade anti-freeze	1	3	0.8
17	Construction accident	Construction	 Injury or death Financial penalties Delays Reputational Damage 	2	5	2	Ensure effective H&S controls, policies and procedures are in place on site. Adopt BYES Safe Systems of Work, commit appropriate H&S personnel to project. Ensure CDM Principal Designer and Principal Contractor, Designer, Contractor & Worker duties are fully satisfied.	1	5	1
18	Unavailability of heat or hot water during changeover	Construction	- Reputational damage	3	2	1.2	Develop phased connection plans for plant rooms at Comberton Back-up boiler capacity available at Galfrid	2	2	0.8
19	Covid-19	Construction	- Delays	3	3	1.8	 Bouygues and all subcontractors to adhere to CLC Site Operating Procedures Face coverings to be worn on-site by Bouygues and all subcontractors 	1	3	0.6
21	Inadequate supply chain capacity Installation fails to meet required quality	Construction	- Delays - Poor performance in operation - Reputational damage - Rectification costs	2	3	1.8	- Establish available capacity in work package tendering - Quality acceptance tests prior to handower - 21 month defects liability perior - Contractual performance guarantee on energy savings with financial compensation in the event of performance shortfall - Bouypuse will be contracted for first 5 years operation. 8 maintenance to avoid splitting responsibility for performance in	1	3	0.6
22	Commissioning slips beyond 31/03/22 RHI deadline	Construction	- Loss of RHI - Failure to recover Council investment	2	5	2	operation - Construction programme to allow for 1-2 months leeway between handower and deadline - Commissioning can be completed ahead of full handower - If necessary cold commission system for RHI application ahead of full commissioning - If necessary cormission ahead of all borehole and loads being connected	1	5	1
23	Failure of the system	Operation	Loss of heating Reputational damage Penalty payments	2	2	0.8	Multiple GSHP units and thermal buffers to provide redundancy other than at peak Back-up boilers at Galfrid Back to back arrangements in O&M contract to pass financial risks on to contractor	1	1	0.2
24	Under-performance of system	Operation	- Increased energy consumption and cost - Reduced carbon savings	2	3	1.2	- Selection of heat pumps from reputable suppliers with suitable performance varranties Monitoring of operational performance from metered data enabling real time Coefficient of Performance to be reported Contractual performance guarantee on energy savings with financial compensation in the event of performance shortfal Bouyques will be contracted for first 5 years operation. & maintenance to avoid splitting responsibility for performance in operation.	1	2	0.4
25	Early lifecycle failure of equipment	Operation	Reputational damage Replacement costs Penalty payments Failure to recover Council's investment	2	4	1.6	 Select equipment from reputable, financially secure suppliers with suitable warranties Consider taking out extended warranties Put O&M contract in place that ensures manufacturers maintenance schedules are adhered to and transfers penalty risk for downtime 	1	2	0.4
26	Energy price inflation unfavourable relative to business case assumptions			3	3	1.8	Observations Observations Observations Observations Observation O	3	2	1.2
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