

**Application Number**

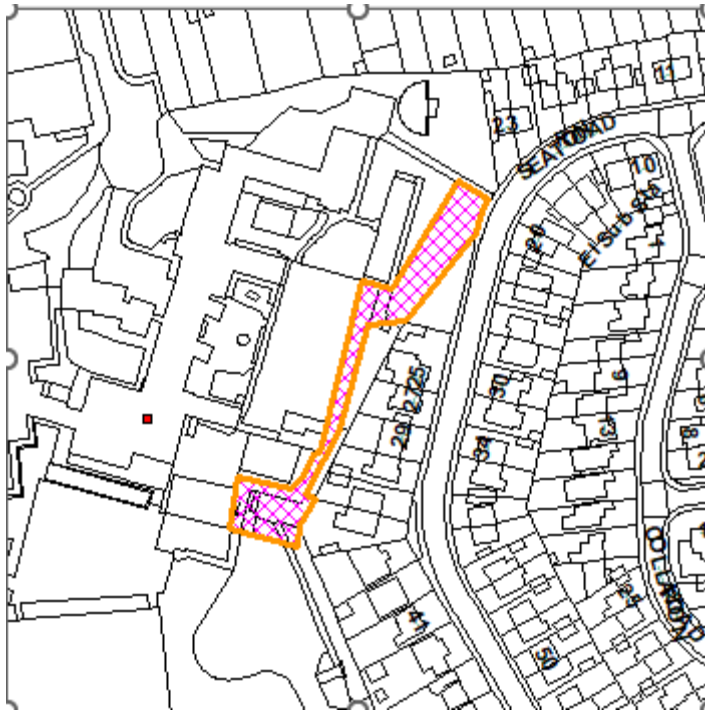
**Address**

**Report Items**

a. **22/00392/FUL**

Wigston Academy  
Station Road  
Wigston  
Leicestershire  
LE18 2DT

<b>a.</b>	<b>22/00392/FUL</b>	Wigston Academy Station Road Wigston Leicestershire LE18 2DT
	<b>5 October 2022</b>	Installation of Air Source Heat Pump
	<b>Case Officer</b>	Andrew Waskett-Burt



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Members will be aware that this application was deferred at December 2022 Committee in order for the agent to provide a viability study on the location of the proposed heat pump. Further details on this are set out at the end of this report.

## **Site and Location**

The site is within the grounds of Wigston Academy secondary school. The site itself is a small area of unused hard standing to the rear of a mobile classroom on the eastern side of the school. The majority of the school buildings are to the west and north of the site. There are a group of trees to the south of the site, and beyond this are the school playing fields.

To the east of the site are the rear boundaries of bungalows along Seaton Road. The typical rear boundary treatment for these properties is close boarded fencing/hedging.

## **Description of proposal**

The proposal is for the installation of an Air Source Heat Pump (ASHP) to heat the school and provide hot water. The school's existing gas fired boiler plant is to be decommissioned and the school are looking to provide a more energy efficient alternative to reduce carbon emissions. The project is being funded through the Governments (CIF) Condition Improvement Fund.

The ASHP would be 3.8m long, 2.251m wide, and approximately 2.5m high. The ASHP has fans and compressors that will generate noise, and a noise report has been submitted with the application. The unit would have a sound power of 84dB at source when the unit is running at full speed/power. Notwithstanding this, the unit is fitted with a voltage limiting device that limits its speed/power to 80% of duty (in order to match the school heating loads including intermittent power, save energy and to reduce overall noise).

The noise report is based on a 'worst case' scenario (depths of winter), however the ASHP is multi-staged (fans and compressors speed up and slow down to match the heating load) and will usually run around 50% of duty for most of the year at a much lower noise level. At night-time the units 'tick over' at a lower duty, with noise levels during night-time periods of less than 68dB at source.

The ASHP will incorporate dampeners to reduce initial airborne noise, and the unit would be surrounded by 2.85m high timber acoustic fencing with no gaps down to ground level. The fencing would be approximately 5.6m long, and 4.4m wide, with a sealable double door for access/maintenance. The top of the fencing has a chamfered edge to improve acoustic performance, with a seal along the change in angle. The enclosure would provide at least 15dB attenuation directly outside the enclosure. The top of the enclosure is open. Fully enclosing the timber structure is not viable as air movement is necessary direct to the atmosphere.

The initial statutory determination period for this application expired on the 30 November 2022, and extensions of time have been agreed to facilitate the application being heard at Development Control Committee. It is intended to issue a decision as soon as practicably possible after the committee meeting.

## **Relevant Planning History**

None Relevant

## Consultations

OWBC Environmental Health – The JSR noise report (the report) concludes that some mitigation will be necessary to ensure there is no adverse noise impact to neighbours from the air source heat pump. The conclusions and methodology used in the report are acceptable and demonstrate the development can take place without causing any disturbance to the local area provided noise attenuation measures are included. I propose, therefore, that permission, if granted, is subject to the installation of a suitable condition which requires a noise barrier and acoustic enclosure to be provided around the air source heat pump to ensure any noise generated does not impact on any residential receptor.

Sport England - Sport England has no issue with [the proposed] location.

## Representations

Neighbours have been informed and two notices placed (one at the entrance to the school, and another down Seaton Road). 7 letters of representation have been received from 7 properties at the time of writing this report. The date for the receipt of comments expired on the 9 November 2022.

The reasons for objection can be summarised as follows: -

- \* Air Source Heat Pumps are very noisy and emit a continual humming sound
- \* Should not be near to houses/residential areas
- \* Nothing in the application to show why this site was selected over alternative locations
- \* ASHP should be moved to another part of the school grounds away from neighbouring properties
- \* Bungalows on Seaton Road have bedrooms to the rear that would be adjacent to ASHP
- \* Bungalows are primarily occupied by elderly residents
- \* ASHP would be noisier in winter when trees have shed their leaves
- \* Disputing figures in the submitted noise report (distances away from properties)
- \* ASHP would need to start earlier than 8am as stated in the noise report/operating times unrealistic
- \* Is the predicted noise level of 84Db per fan/compressor or the whole installation?
- \* Is the noise type generated that of "sucking air" similar to a hairdryer noise?
- \* Technical documentation difficult to understand/further engagement needed
- \* Does the noise report take into account onsite conditions/wind etc.?
- \* Is the operation of the ASHP at 80% of the potential level (to manage noise) viable?
- \* Sustained noise is damaging to health/Background noise will not eliminate noise from ASHP

Some of the objections state that the principle of installing a heat pump on the school site is not objected to, but rather the location.

Councillor Bentley has also passed on representations on the application on behalf of residents. Their comments can be summarised as follows: - The main concern here from nearby residents is the lack of information and evidence as to the noise production by the unit and the possible ramifications on the amenity and quality of life for the residents that will be affected. Whilst no one is really objecting to the actual provision of the unit it is considered that it is being put in the wrong place and is too near to neighbouring residential properties. Councillor Bentley has requested that the application be heard by the Development Control Committee should the Officer's recommendation be for approval.

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## Relevant Planning Policies

### National Planning Policy Framework

### Oadby and Wigston Local Plan

Policy 1 – Presumption in Favour of Sustainable Development  
Policy 6 – High Quality Design and Materials  
Policy 9 – Open Space, Sport and Recreation Facilities  
Policy 38 – Climate Change, Flood Risk and Renewable Low Carbon Energy  
Policy 44 – Landscape and Character

## Planning Considerations

The main issues to consider in the determination of this application are as follows:

- \* The principle of development
- \* The impact of the proposal on neighbouring residential properties.

### The principle of development

Wigston Academy are seeking to reduce their carbon footprint to meet energy targets. The proposal is a result of this and would be a cost-effective method of reducing the carbon footprint of the site. Policy 38 of the Local Plan supports renewable or low-carbon energy schemes, subject to consideration of impacts upon the landscape, the environmental, economic, and social benefits, impact on biodiversity, and the impact of amenity of residents (visual/noise/smell).

The proposal would not be visible from the highway or other public viewpoints. It is smaller in scale than the surrounding school buildings and would not appear as an incongruous feature within the landscape. The ASHP itself would not be visible due to the surrounding timber enclosure. The top of the enclosure may be visible from the rear of some of the nearby properties, but due to the distance away it would not be visually overbearing or incongruous, especially as it would be viewed in context with the much larger school buildings.

The ASHP would be sited on existing hard standing and would not adversely affect the nearby trees (which are already fenced off from the application site). Additionally, it would not be sited on any area classed as playing field, and Sport England have advised they have no objection to its location.

The provision of an ASHP replacing the existing gas boiler would have a significant difference in the school's carbon footprint, as they're capable of providing 3 times the amount of energy per KWhr compared to gas/oil/direct electric heating. Additionally, there are no air pollution issues with an ASHP.

In terms of noise and impact on residential amenity, this is considered below.

### The impact of the proposal on neighbouring residential properties.

The noise report submitted with the application has been undertaken in accordance with the following:

- \* British Standard 4142 (*Methods for rating and assessing industrial and commercial sound*)
- \* British Standard 8233 (*Guidance on sound insulation and noise reduction for buildings*)

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\* Building Bulletin 93 (*acoustic design of schools – performance standards*).

The noise report states that the location of the ASHP on the school has been sited to prevent noise nuisance to both teaching areas and surrounding residential properties.

#### *Noise for closest dwelling*

The closest dwelling to the proposed ASHP is approximately 26m away (no. 35 Seaton Road). At this distance the noise report states that distance attenuation would equate to 47dB (during peak winter running times, and usually only between 8am-9am to get the school up to temperature), which reduces to 32dB when taking into account the 15dB attenuation from the timber enclosure. For context and examples, a soft whisper is on average 30dB, a refrigerator hum is approximately 40dB, and normal conversation is around 60dB.

An open window provides a further 15dB attenuation, which reduces the noise down again to 17dB. These figures are based on the worst-case scenario, during peak winter running times, and usually only between 8am-9am to get the school up to temperature. During this time in the morning traffic/people movement for drop-offs increases background noise levels.

#### *Noise for closest boundary*

The closest residential boundary (no. 35 Seaton Road) is 16m away from the proposed unit, and this would equate to 51dB. Again, the timber enclosure would reduce this down by 15dB = 36dB during 8am-9am peak winter running. Background noise levels are generally above 36dB and therefore plant noise is not likely to be audible at the boundary.

#### *Night-time plant noise*

At night the ASHP runs at a reduced duty compared to the 'worst case' winter running. Background night noise can be around 32dB (approximately 8dB lower than daytime levels). Running at no more than 70% of duty at night time would equate to 68dB at source. Taking into account the timber enclosure and distance attenuation, this would equate to 17dB at the rear elevation of the closest dwelling, which is well below background levels.

#### *Noise for school/classroom*

Ideally internal classroom noise should be less than 38dB to comply with BB93 guidelines. The noise from the ASHP within the nearest classroom would be 31dB.

#### *Objections*

The objections from the local residents along Seaton Road, and those concerns passed on by the Councillor are noted, and have been given due consideration. It is acknowledged that the situation is stressful for residents, and the issues raised have been shared with the school and their acoustician, who have subsequently offered the below comments in response to the objections raised.

- \* Assurance that there is no intention of leaving any neighbours with any noise at all, as this would be counter productive if it resulted in complaints that required the plant needing to be removed.
- \* (*Unit should be moved away from neighbours*) Moving the unit from its proposed location to another location within the school could cost between £40,000 - £120,000 (depending on

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distance) and is unnecessary given the conclusions of the noise report. A viability report has also been provided to show that the proposed location is the most suitable, taking into account the site constraints, sensitive receptors and viability of the project.

- \* (Noise report based on controlled environment) The plant has been measured in operation without the noise barrier, with a negligible difference of 0.5dB, most likely due to local reflections, which would not occur when the enclosure is built.
- \* (*Wind direction increasing noise*) There are no constant prevailing winds with this type of land contour and building layout (the wind would need to come from the school side and cannot as the building is in the way). Even if this weren't the case, the timber barrier would prevent this.
- \* (*In response to energy questions*); When you burn 1kw of gas you get 0.9kW of heat energy. When you use 1kw of electricity for the ASHP you get an average seasonal efficiency of more than 3 times this. At least 3kW of energy for 1kW of power in.
- \* Acknowledgement of a single typing error in the report (distance of 83m from residential windows, when it should be 26m), though correctly stated elsewhere in report.
- \* (*Plant running from 8am unrealistic*) – The plant runs at half speed (essentially ticking over) at night, which is more efficient and means that it only needs to run on high speed at 8am to be up to temperature for 9am.
- \* Trees and foliage have no effect on noise reduction, whether planted close together full of leaves or not.
- \* (*Is the predicted noise level of 84Db per fan/compressor or the whole installation?*); It's the whole unit running flat out, not per compressor, some units have several compressors that all need to run to get to max duty. Please note also noise will be at least 3dB lower due to voltage limiting devices.
- \* (*Is the noise type generated that of "sucking air" similar to a hairdryer noise?*) Not really no. Most of the hair dryer noise is from the fan not the air and is tonal. This is mainly because hairdryer fans are not cased among other things. The ASHP units' noise is mainly air noise as the fan motors are cased and the compressors are in acoustically insulated boxes. This is deduced as the octave band noise data shown in the report has no prominent frequencies therefore no tonal noise.

The submitted noise report concludes that the results of the BS 4142 assessment using a noise barrier and an acoustic enclosure show an assessment level below background/residual noise levels. It also shows that the results with an acoustic enclosure for BS8233 and BB93 for Schools standards are well within guidelines.

Environmental Health have assessed the submitted noise report and found both the methodology and results to be sound. With the noise control measures (set out in the noise report) in place (and secured via condition), there would not be perceptible noise emitted from the ASHP that would be heard above background noise levels from the neighbouring properties.

### *Viability/location*

As part of discussions with the school (and without prejudice to the submitted noise report) Officers have explored whether it would be viable for the unit to be relocated to a different part of the school further away from the neighbouring properties. The applicant's consultants (John Richard Associates) have advised that the location of the units as submitted is '*essential to avoid the massive cost of additional trenching and pipework which would put the project out of the realms of reasonable financial funding.*'

Following Members resolution to defer the application at December committee, a viability report has also been submitted. The report states that the key constraints taken into account when considering the location of the heat pump were:

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- \* No noise impact on neighbouring residential properties
- \* No noise impact on classrooms
- \* Close proximity to the existing plant room and existing gas boilers which are being replaced
- \* No loss of trees or significant vegetation
- \* No loss of playground space
- \* No loss of playing field
- \* No loss of car parking
- \* Not located inside a building

The report includes a series of plans that illustrate these constraints visually (these will be included in the Committee PowerPoint presentation), along with cost implications of alternative locations. The funding for the project (through the Governments (CIF) Condition Improvement Fund) is approximately £35,000. The cost for trenching and pipework in the current market is around £600-£800 per linear metre on similar projects depending on how much is done in the soft grass areas and noting that there are 3 No. services in the ground (power supply/heating pipework and control cabling).

Taking into account the trenching and pipework and ancillary works, the available funding equates to a distance of around 45m from the plant room in order for the project to be viable (the proposed location is this distance away). Another consideration is that the further away the heat pump is, the efficiency of the unit is affected through heat loss from underground pipework and pump pressure.

These constraints resulted in three possible locations within the school grounds. Location 1 within an internal school yard was discounted due to the area being too small, having a stepped level change, and that the route of the pipework back to the plant room would be impractical as it would be through a school building. Location 2 north of the application site was also discounted due to it being too small, as well as being a thoroughfare through the school for students. Location 3 is the application site. It sits outside of all constrained areas and has easy access for pipework to the plant room. It includes an area of existing redundant hardstanding that can be re-utilised, is out of the way of school activities/playgrounds/playing fields and most of the school buildings and creates no noise impact for neighbouring residential properties or the school.

## Conclusion

Notwithstanding the objections received, it is considered that the proposal would not have a detrimental impact upon noise levels for the neighbouring properties along Seaton Road. As such the proposal would be in accordance with the aims and provisions of the National Planning Policy Framework (2021), and Policies 1, 6, 9, 38, 44 of the Oadby & Wigston Local Plan (2019). Subject to the conditions detailed below the proposal can be considered to represent sustainable development and thus it is recommended that planning permission be granted on this occasion.

## Implications Statement

Health	No Significant implications
Environment	No Significant implications
Community Safety	No Significant implications
Human Rights	The rights of the applicant to develop his property has to be balanced against the rights of neighbours.
Equal Opportunities	No Significant implications
Risk Assessment	No Significant implications
Value for Money	No Significant implications

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Equalities	No Significant implications
Legal	No Significant implications

## Recommendation

For the reasons set out in the above report then **Permit** subject to the following conditions:

### RECOMMENDATION: GRANTS

- 1 The development hereby permitted shall be begun before the expiration of three years from the date of this permission.

**Reason:** To conform with Section 91 (1) of the Town and Country Planning Act 1990 as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

- 2 Unless otherwise first approved in writing (by means of a Non-material Amendment/Minor Material Amendment or a new Planning Permission) by the Local Planning Authority the development hereby permitted shall be carried out in accordance with the approved plans and particulars listed in the schedule below:

Application form, received on 05/10/22

Location Plan and Site Block Plan, drawing no. 22071-01-P1, received on 05/10/22

Detail Plan and Elevations, drawing no. 22071-300-P1, received on 05/10/22

AERMEC Model: NRG1100XH°L°°°JC configuration data sheets, received on 05/10/22

Jonathan Richard Associates Noise Assessment: New external ASHP heating plant, project reference 21114, issue date 28.09.2022, received on 05/10/22

**Reason:** For the avoidance of doubt as to what is permitted by this permission and in the interests of proper planning.

- 3 A noise barrier and acoustic enclosure shall be provided around the air source heat pump to ensure any noise generated does not impact on any residential receptor, in accordance with the following submitted details:

Location Plan and Site Block Plan, drawing no. 22071-01-P1, received on 05/10/22

Detail Plan and Elevations, drawing no. 22071-300-P1, received on 05/10/22

AERMEC Model: NRG1100XH°L°°°JC configuration data sheets, received on 05/10/22

Jonathan Richard Associates Noise Assessment: New external ASHP heating plant, project reference 21114, issue date 28.09.2022, received on 05/10/22

The noise barrier and acoustic enclosure shall be installed/erected in full prior to the air source heat pump commencing operations, and thereafter retained and maintained.

**Reason:** In the interests of the amenity of the occupiers of the neighbouring dwellings along Seaton Road, and to ensure that acceptable living and sleeping / resting conditions within the houses are provided in accordance with the aims and objectives of the National Planning Policy Framework, and Policies 6 and 44 of the Oadby and Wigston Local Plan.

### Note(s) to Applicant :

- 1 You are advised that this proposal may require separate consent under the Building Regulations and that no works should be undertaken until all necessary consents have been obtained. Advice on the requirements of the Building Regulations can be obtained from the Building Control Section.

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- 2 You are advised that any amendments to the approved plans will require either a Non-Material amendment application, a Minor Material Amendment application or a new planning application. If this is the case then you should allow at least 8 weeks before the intended start date to gain approval for such amendments. Further advice can be obtained by contacting the Planning Section of the Council on any amendments (internal or external).
- 3 The Application as submitted was, on balance, considered to be acceptable and whilst discussions with the applicant were held to seek a higher quality of development the originally submitted development is not considered to be bad enough to warrant refusal of the application. The Local Planning Authority has therefore acted pro-actively to secure a sustainable form of development in line with the requirements of the National Planning Policy Framework (paragraph 38) and in accordance with the Town and Country Planning (Development Management Procedure) (England) Order 2015.

### **Appeals to the Secretary of State**

If you are aggrieved by the decision of your local planning authority to refuse permission for the proposed development or to grant it subject to conditions, then you can appeal to the Secretary of State under section 78 of the Town and Country Planning Act 1990.

If you want to appeal against your local planning authority's decision then you must do so within 6 months of the date of this notice.

Appeals can be made online at: <https://www.gov.uk/appeal-planning-decision>. If you are unable to access the online appeal form, please contact the Planning Inspectorate to obtain a paper copy of the appeal form on tel: 0303 444 5000.

The Secretary of State can allow a longer period for giving notice of an appeal but will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal.

The Secretary of State need not consider an appeal if it seems to the Secretary of State that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.

If you intend to submit an appeal that you would like examined by inquiry then you must notify the Local Planning Authority and Planning Inspectorate ([inquiryappeals@planninginspectorate.gov.uk](mailto:inquiryappeals@planninginspectorate.gov.uk)) at least 10 days before submitting the appeal. Further details are on GOV.UK.

### **Purchase Notices**

If either the local planning authority or the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that he can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.

In these circumstances, the owner may serve a purchase notice on the Council (District Council, London Borough Council or Common Council of the City of London) in whose area the land is

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situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990.

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**BACKGROUND PAPERS**

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