

Design, Access & Heritage Statement

To support an application for Listed Building Consent to install a new external air source heat pump to replace the existing gas boiler

December 2025

Site Address:

17 King Street

Arundel

West Sussex

BN18 9BJ

For & on behalf of:

Mr & Mrs I Graham

17 King Street

Arundel

West Sussex

BN18 9BJ

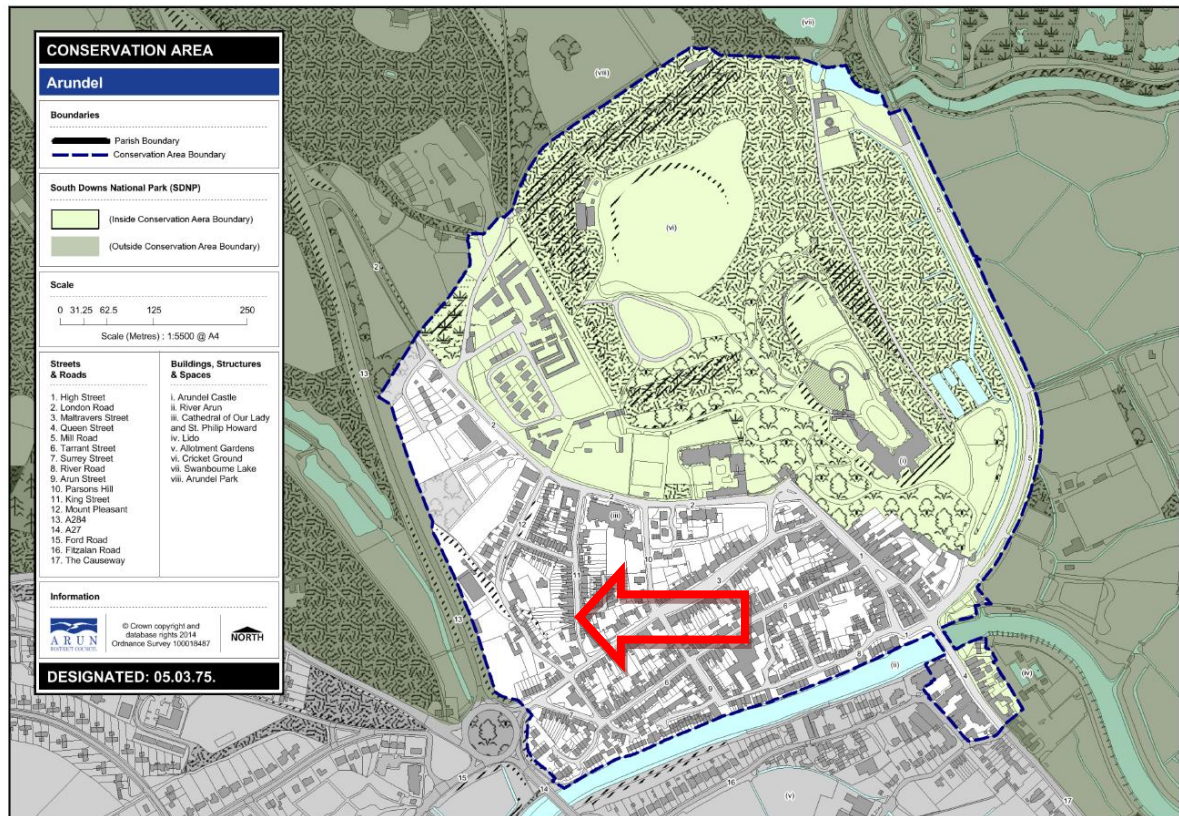
Ref: IG01/DAHS/25

1.0 Introduction

- 1.1 This Design, Access and Heritage Statement (DAHS) supports an application for a listed building consent.
- 1.2 The application comprises of the following documentation:
 - 1.2.1 Drawings IG001, IG002 and IG003
 - 1.2.2 Design, Access & Heritage Statement
 - 1.2.3 Heritage Statement
 - 1.2.4 Schedule of Materials
 - 1.2.5 Schedule of photographs
- 1.3 The building is a domestic dwelling providing a family home across three floors and the proposal is to replace the existing gas boiler with an air source heat pump to serve both hot water and heating. The existing gas boiler is beyond its design life, with obsolete parts, so can no longer be service and maintained.
- 1.4 The proposal does not affect, change or impact the layout of the existing property.
- 1.5 The application building is situated within the Arundel Conversation Area.
- 1.6 The DAHS identifies and sets out the proposal to replace the internally located gas boiler with an air source heat pump that is located externally, taking into account context of the building and reference to the surroundings.
- 1.7 The DAHS follows the standard approach to form and content to support the application.

2.0 The Site and Planning History

- 2.1 The property located at 17 King Street site measures approximately 290m ² (0.029ha).
- 2.2 The property is a terraced building built in the early 19th century and is Grade II listed
- 2.3 The property is located with the Arundel conservation area as shown below:



2.4 The property is a cottage style terrace built using a combination of beach flint, brick dressing's, dentils and flat arches, rendered chimney, pitched slate roofs and painted render masonry walls.

2.5 There have been changes to the property primarily in 2002/2003 under application reference number AB/46/02/L which consisted of an extension and alterations infilling existing side yard, rebuilding the outbuilding, providing 2 new bathrooms, new window to east elevation and new (enlarged) dormer in roof. Consent was provided and works carried out and completed, and more recently in 2024 under application references AB/14/24/L & AB/13/24/HH for the repair of 1 existing bay window and replacement of 4 existing doors located at the rear of the property, consent was provide and works completed.

3.0 The Building

3.1 The building forming 17 King Street is a Grade II listed building, listing entry number 1027911. The formal listing is shown in Appendix A.

3.2 The listing detail states that following:

Early C19. (Reputedly built by French prisoners during Napoleonic Wars). Terraced cottages. Beach flint. Brick dressings and chimneys. (Nos 13 and 25 are white- washed). Pitched slate roofs. 2 storeys. Brick modillion cornice. 1 window range each, except for No 25(The Old Ship Public House) which is double-fronted. Windows segment-headed,

double-hung sashes with glazing bars, except for Nos 17 and 27 which have modern casements. Doorways segment-headed (Nos 31-9 with gables on wooden brackets), except for tics 13-23 (odd), 27 and 29 which have fanlights.

- 3.3 It is formally recorded that for the applicant building No 17 King Street has modern casements and the proposed location of the new air source heat pump is located in close proximity to the extension which was built and signed off as completed by Building Control in 2006, following consent of application AB/46/02/L, so is approximately 19 years old.

4.0 The Use

- 4.1 The property is wholly residential comprising of a single family dwelling house across 3 floors.

5.0 The proposal

Gas boiler and hot water cylinder

- 5.1 The proposal is to replace the existing gas fired boiler which serve provide hot water and heating though a wet system to radiator heat emitters located throughout the property.
- 5.2 The current gas fires boiler is a 'potterton' conventional boiler which is now obsolete and cannot be serviced or maintained as some parts no longer available. The boiler is beyond its formal design life.
- 5.3 The boiler is also very inefficient as conventional boilers waste significant heat through flue gases and store hot water, leading to continuous energy loss, and its uses simple on/off burners, firing at full power regardless of demand, which is less efficient than modern alternative options.
- 5.4 Although the hot water cylinder is more modern and lagged this would need replacing as it is not suitable for the use with an alternative air source heat pump solution.
- 5.5 Both the existing boiler and the cylinder are located in a small plant room which was built as part of the 2006 extension, which is the furthest room away from the original house on the western side at the rear.
- 5.6 The proposed work will remove the existing hot water cylinder, the gas fired boiler, all existing associated controls and sections of the internal pipe work that facilitate the installation of the new air source heat pump system, including all necessary electrical cabling.
- 5.7 The gas supply will be capped off and although the meter will remain in situ the property will no longer require gas to run any installed plant and equipment.

New air source heat pump and water cylinder

- 5.8 The proposal is to install a free standing air source heat pump (ASHP) in a location which is near to the existing plant room to reduce external pipe work runs and to also ensure it is positioned away from the main row of terraced homes in King Street and so visually both next door properties located at number 15 and 19 King Street cannot see the ASHP unit when looking west out of first and second floor windows or at ground level.
- 5.9 Furthermore, the proposed location of the ASHP is adjacent to a high masonry party wall to number 19 King street which is approx. 1.8m high and 230mm thick, providing both a visual barrier and due to its high mass and density, help make it very effective at reducing airborne noise.
- 5.10 The new Fjord I 200L air to water heat pump cylinder will replace the existing hot water cylinder and will be located internally within the plant room, with its exact internal location determined on site subject in relation to the new pipe work amendments, alterations and adaptations.
- 5.11 All the new controls will also be located within the existing plant room.
- 5.12 The proposed new ASHP system is by Adlar Castra and is the Aurora II 10kW dual heat pump system. This dual system separates the heating and hot water completely and enables load balancing across varying temperature demands, optimised seasonal efficiency with reduced cycling and standby loss, enhanced redundancy and scalable output, ideal for more complex heating needs.
- 5.13 The Aurora II unit is a freestanding unit with pipe work and cable will be taken from the unit into the property at the appropriate positions, and in this case, its proposed location minimises the pipe and cable distances as the plant room for which the main connections are required is adjacent and located on the western elevation, as shown in the drawing IG002.
- 5.14 The new proposal does not change or impact the existing heating distribution pipe work and radiator emitter system, and these are left in place, with existing pipe work altered to connect to the system from within the existing plant room.
- 5.15 The new proposed material of the ASHP, given its exposed location are cased in powder coated housing with the system designed for external use. The new system will reduce ongoing maintenance compared to the end of life gas boiler, and will significantly reduce the homes carbon footprint and increase thermal performance efficiency for the living accommodation this system serve.

6.0 Amount

- 6.1 The existing site area is approximately 290m² and no new floor space is being created to the building.

7.0 Layout

- 7.1 The current form and layout is to remain as the existing and is unchanged by the proposal, apart from the free standing ASHP located in the rear garden as set out in the drawing IG002 and the technical information from the manufacturer, with the ASHP unit measures 0.49 m² of floor area.
- 7.2 The Aurora II 10kW dual heat pump complies with (EU) No. 813/2013 norm, regarding outdoor sound levels, measured directly next to the heat pump.
- 7.3 The Adlar Castra sound information for the Aurora II 10KW system is found in Appendix B.
- 7.4 The legal standards apply as follows:
- Sound level at property boundary:
 - Day time (07:00 to 19:00) maximum 45 db(A); and
 - Night time (19:00 to 07:00) maximum 40 db(A).
 - The maximum sound pressure level of the Aurora II (in test conditions):
 - 1 meter distance is 43 dB(A)
 - 2 meter distance is 37 dB(A)

8.0 Scale

- 8.1 The proposal does not alter the scale. The new ASHP and replacement water cylinder respect the nature of the surrounding, with a more sympatric casing design and to match the existing arrangements in terms of the cylindrical style of the water storage facility located within the same existing plant room.

9.0 Landscaping

- 9.1 The site is not located in an area of flood risk.
- 9.2 The new water cylinder is not visible from the outside as it is internally positioned within the existing plant room and the new ASHP is not visible from the public highway, or neighbouring properties.
- 9.3 The primary landscaping remains unchanged and not affected by the proposal and the ASHP will stand on an exiting concrete landscaped area to the rear of the existing plant room on the western elevation of the extension completed in 2006.

10.0 Appearance

- 10.1 The proposal is designed to maintain the traditional features whilst offering improvements to the thermal performance and reduce the homes carbon footprint to the betterment of the homeowners and contribute to the wider policies set by the Government and the Local Authority to achieve its carbon neutral aspirations.
- 10.2 The new ASHP aim to compliment the existing in appearance and the scale and character of the building is not affected by the proposal.
- 10.3 The new ASHP casing is black and limited in style and size which compliment some of the existing building elements such as the existing black guttering and downpipes and the dark grey slate roofs.
- 10.4 The ASHP are located at the rear of the property on the western elevations and cannot be seen from the public highway and does not affect the elevation fronting King Street.

11.0 Access

- 11.1 The current access arrangement is to remain as the existing and is unchanged by the proposal.

12.0 Assessment of Significance

- 12.1 Applying the four English Heritage criteria for understanding historic significance or value, the following can be established;
 - 12.1.1 **Evidential Value** – Built in the early 19th century the cottages have been altered significantly, notably at the rear of the property.
 - 12.1.2 **Historical Value** – The property clearly of historic and architectural interest as this is reflected in its status as a grade II listed building. It forms an integral part of a wider group of buildings and retains some of its historic presence in particular its frontage on King Street. It is a fine example of a building of its type forming part of the historic development of this part of Arundel.
 - 12.1.3 **Aesthetic Value** – The property is very modestly proportioned and has been constructed using vernacular external materials such as beach flint, brick dressing's, dentils and flat arches, rendered chimney, pitched slate roofs and painted render masonry walls. The property sits comfortably within the wider setting. Individually, it makes any special contribution to the character of the conservation area.
 - 12.1.4 **Communal Value** – It is not considered that property has any particular significance to those who have lived in the building and it is considered most unlikely that the proposals would have any adverse effect on its communal value.
- 12.2 Given the above, the proposal has no adverse affect on the property and its listing.

13.0 Justification

13.1 The design proposals forming the listed building and planning application would not cause substantial harm to the host building nor the Conservation Area within which the site is located due to the proposed design which would be entirely in keeping with the architectural style and appearance of the property. The design is of a high standard and will use high quality external materials.

13.2 There may be elements of the proposal that would result in harm to the significance of the listed building. However, this harm would be very much '*less than substantial harm*' in accordance with the terminology of the NPPF, and would be at the bottom end of the scale.

13.3 The ASHP is free standing and the install pipes and cable apertures within the existing building are formed in the extension completed in 2006, so this does not impact the main listing elements of the historic property. Paragraph 202 of the NPPF states that any less than substantial harm to the significance of a designated heritage asset should be weighed against the public benefits of the proposal. It is considered that in this case, the '*less than substantial*' harm resulting from the proposals would be outweighed by the public and heritage benefits of enabling the building to be used for its optimum-viable use and would have the benefit of preserving the listed building and retain the appropriate levels of heating, which would in turn help to secure the building's long-term conservation and contribute to reducing condensation and mould in conjunction with the existing passive and active ventilation found within the property. The proposals are considered in accordance with Historic England guidance; *Making Changes to Heritage Assets* (2016). An entirely sympathetic and appropriate design approach has been taken with the planning and listed building application for the alterations at 17 King Street.

13.4 The proposals would be of an appropriate scale, bulk and appearance, would comply with relevant planning policies, would not be unneighbourly, and would not damage the wider setting.

14.0 Summary

14.1 Due to the situation in relation to the existing gas fired boiler, which can no longer be maintained and is beyond its design life, and considering the homeowners 'fabric first' approach also demonstrated by the previous application AB/14/24/L this proposal enables the property to continue to be heated and take into a carbon zero approach improving energy efficiency, removing the reliance on gas and to ensure hot water is available for use as part of the solution.

14.2 The proposal does not detract from the historic character of the building or surrounding area and will match the existing in scale, design and appearance.

14.3 The proposal will improve and enhance the living environment for the homeowners and the replacement unit will comply with the current Building Regulations.

14.4 This DAHS should be read in conjunction with the Schedule of Materials and the Schedule of Photographs documents.

Appendix A – Official list entry for 13-43 King Street, Arundel

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13-43, KING STREET, Arundel - 1027911 | Historic England

13-43, KING STREET

Official list entry

Heritage Category: Listed Building

Grade: II

List Entry Number: 1027911

Date first listed: 07-Oct-1974

List Entry Name: 13-43, KING STREET

Statutory Address 1: 13-43, KING STREET

This List entry helps identify the building designated at this address for its special architectural or historic interest.

Unless the List entry states otherwise, it includes both the structure itself and any object or structure fixed to it (whether inside or outside) as well as any object or structure within the curtilage of the building.

For these purposes, to be included within the curtilage of the building, the object or structure must have formed part of the land since before 1st July 1948.

[Understanding list entries](https://historicengland.org.uk/listing/the-list/understanding-list-entries/) (<https://historicengland.org.uk/listing/the-list/understanding-list-entries/>)

[Corrections and minor amendments](https://historicengland.org.uk/listing/the-list/minor-amendments/) (<https://historicengland.org.uk/listing/the-list/minor-amendments/>)

Location

Statutory Address: 13-43, KING STREET

The building or site itself may lie within the boundary of more than one authority.

County: West Sussex

District: Arun (District Authority)

Parish: Arundel

<https://historicengland.org.uk/listing/the-list/list-entry/1027911?section=official-list-entry>

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13-43, KING STREET, Arundel - 1027911 | Historic England

National Grid Reference: TQ 01473 07072

Details

1. 5401 KING STREET (West Side) ----- Nos 13 to 43 (odd) TQ 0107 1/78A

II GV

2. Early C19. (Reputedly built by French prisoners during Napoleonic Wars). Terraced cottages. Beach flint. Brick dressings and chimneys. (Nos 13 and 25 are white-washed). Pitched slate roofs. 2 storeys. Brick modillion cornice. 1 window range each, except for No 25 (The Old Ship Public House) which is double-fronted. Windows segment-headed, double-hung sashes with glazing bars, except for Nos 17 and 27 which have modern casements. Doorways segment-headed (Nos 31-9 with gables on wooden brackets), except for Nos 13-23 (odd), 27 and 29 which have fanlights.

Nos 13 to 43 (odd) form a group.

Listing NGR: TQ0147107074

Legacy

The contents of this record have been generated from a legacy data system.

Legacy System number: 297201

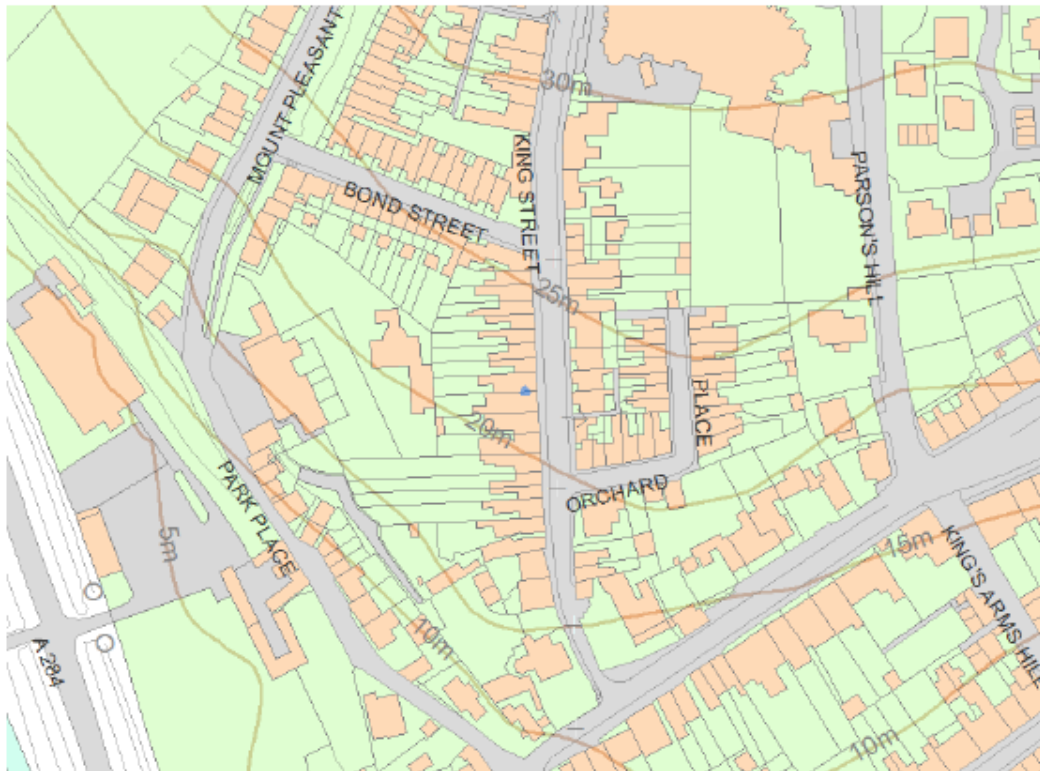
Legacy System: LBS

Legal

This building is listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 as amended for its special architectural or historic interest.

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13-43, KING STREET, Arundel - 1027911 | Historic England



Map

This map is for quick reference purposes only and may not be to scale.
This copy shows the entry on 02-Aug-2023 at 17:31:49.

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End of official list entry



<https://historicengland.org.uk/listing/the-list/list-entry/1027911?section=official-list-entry>

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Appendix B – Manufacturers literature: Understanding Sound Pressure Levels - Aurora II

