8. FULL APPLICATION – TWO NEW HYDRO ELECTRIC STATIONS ON THE RIVER DERWENT AT CHATSWORTH; ONE ON THE UPPER AND ONE ON THE LOWER WEIRS AT CHATSWORTH HOUSE, (NP/DDD/0515/0432, P6181, 426029/370173, 11/05/2015/ALN)

APPLICANT: MR BEN GARSTANG, CHATSWORTH SETTLEMENT TRUST

Site and Surroundings

Chatsworth Estate is situated approximately 4 km north east of Bakewell in the south eastern region of the National Park. The house is a grand stately home that sits in a slightly elevated position on a raised terrace on the eastern side of the park, overlooking the River Derwent to the west. The River Derwent, which runs north-south, forms the centrepiece of the parkland to the front of the house and is a key element in the design of the landscaped park.

The park and gardens are included on the Historic England Register of Park and Gardens of Special Interest at Grade 1, which makes them of international importance. The area within the vicinity of the river contains nine listed buildings. The principal listed structures are Chatsworth House and James Paine's Three Arched Bridge, both listed grade 1. Queen Mary's Bower is grade II* listed as is One arch bridge at the southern end of the Park and 520m to the south of the lower weir. One arch bridge is also a Scheduled Monument. The West Garden Terraces, Paine's Mill, Beeley Lodge and a 19th century water trough are grade II listed. Just beyond the park boundary to the south lies the grade II listed Bridge House.

The application site consist of two areas of land on the eastern bank of the River Derwent adjacent to two weirs known as the 'Upper' and 'Lower' weirs. The upper weir is located approximately 450m to the south of the House and the lower weir, is further south, approximately 180m to the north of the remains of Paine's Mill.

The two weirs were built as part of Lancelot Brown's modifications to the river and were constructed in order to provide still bodies of water behind them; at the upper weir with the intention of giving the water a 'lake-like broad water' appearance below the House; and at the lower weir to provide a reflective surface for Paine's Mill as well as a head of water for the mill race. There are a number of public rights of way on the western bank of the river close to the weirs.

The application site at the lower weir falls within the western reaches of the Chatsworth Old Park SSSI, which is cited for its mature and over-mature oak trees and the invertebrate and lichen populations which they support. Both sites fall within the Environment Agency's Flood Zone 3, which is land assessed, as having a 1% or greater annual probability of fluvial flooding.

Proposals

This application is for the construction of two hydroelectric stations with Archimedes screws and associated sluice gates. One hydroelectric station would be sited at the upper weir, the other at the lower weir.

At the upper weir, the stepped stone weir is 58m wide, with a drop of 1.5m across it. A channel would be excavated to the east of the weir in order to accommodate the turbine and fish pass. An inflow channel would be created approximately 20m upstream of the weir crest and this channel would extend some 15m downstream of the weir toe. A strip of silted land within the river measuring 6m x 25m would be removed to provide a flow path to the hydroelectric station. The scheme would utilise an Archimedes screw which is aligned at 22º to the horizontal with a helix 3.4m long.

At the lower weir, the stepped stone weir is 38m across with a drop of 2.1m across the weir, followed by a rocky section of river which falls a further 1m over the next 60m. The scheme at

the lower weir seeks to take advantage of the maximum 3.1m fall by excavating a channel on the east side of the weir with an inflow approximately 15m upstream of the weir crest and the channel extending to 25m beyond the toe of the weir. An extended tail race would be created for 60m downstream of the weir, which would be a maximum of 6m wide and would be constructed in an area currently occupied by a silt bank. The Archimedes screw would have a 6.75m long helix.

The housing and principal components of both hydroelectric stations would be set into the east bank of the River Derwent with upstanding walls clad in natural stone blocks with dark graphite coloured grills to the sluice gate, fish gates and turbine housing. The housing structures would take the form of elongated, stone structures with a curved 'bullnose' feature at the head of each screw and the upstanding walls would have flat stone copings.

Each new station would have twin fish passes running along the river facing elevations of the new structures. This would provide for upstream passage of resident species of fish from both the turbine outfall and from the toe of the weir. At the off-take point from the river a screen would be installed to prevent large items of debris from entering the turbines. Each screen would be 7.5m long by 2.5m deep and would be mostly submerged below the upstream water level.

The height of the stone housing structures above the adjoining bankside ground level would be a maximum of 2m on the Upper Weir and 2.3m on the Lower Weir. The sluice gates would appear at 3.2m above bankside ground level when in the open position.

A tail race is required on the lower weir to transfer the lower downstream water level back up to the turbine outfall, so that the turbine can 'see' the full available head of 3.1m. The tail race would be 6m wide and would require excavation of the river bed within it to a depth of 1m. As such it would be necessary to install a low wall to provide a barrier between the main watercourse and the tailrace channel. The tail race wall would be approximately 600mm above river bed level and would be constructed with small boulders and local stone of the type found along this stretch of the river.

On the upper weir, the Archimedes screw would consume a flow of 3500 litres/sec which would generate a peak electrical output of 30kw. On the lower weir the screw would consume 5000 litres/sec, generating a peak electrical output of approximately 90kw. At the upper weir, one oak tree, a standing stump and some alder scrub within the application site would need to be removed and at the lower weir three alder trees and scrub would be removed.

As part of the proposals, underground cabling would be required to route the power back to a transformer in the main house. The cable route from the lower weir would be largely alongside the private roadway through the Old Park SSSI to a point where it leaves the roadway to enter the surrounds of Chatsworth House. According to the submitted Design and Access Statement, the cable from the upper weir will follow the route of ground previously disturbed by the installation of sewers.

Finally, it is proposed to locate the transformer remote from the lower weir in order to reduce the size of the enclosure on the riverside structures. The proposals are to mount the transformer on a pole within the trees to the east of the lower weir.

RECOMMENDATION

That the application be APPROVED subject to the following conditions:

1. Statutory 3 year time limit

2. Adopt submitted and additional plans.

3. Programme of archaeological work including a Written Scheme of Investigation to be submitted to and approved by the Authority in writing before development commences.

4. No development until a detailed method statement for the management / control of signal crayfish on the site during the development and a plan detailing the protection of white clawed crayfish shall be submitted to and approved in writing.

5. Before works commence on the works to the upper weir, details shall be submitted and agreed in writing by the National Park Authority with regard to the timing and method of undertaking destruction of the identified bat roost, and a plan showing sites for and type of new bat boxes.

6. Working method statement to be submitted and agreed in writing detailing how harm to water voles and sand martin nest will be avoided during construction, and regarding works to the veteran tree. Statement shall also address construction traffic accessing the site.

7. Details to be submitted and agreed for sites for/details of replacement habitat for the removed silt beds.

8. No parts of the retaining walls other than those shaded red on plan no. PL-008-Rev A shall be removed unless otherwise agreed in writing by the National Park Authority.

9. Sample panel of new walling, including pointing, to be agreed.

10. Details of coping stones to be submitted and agreed.

11. Plantation to west of upper weir (shown to be retained on Figure 02-SH Proposed Tree Planting Plan) to be retained. Proposed tree planting as shown on Figure 02-SH to be carried out in the first planting season following completion of the development, or the turbine being brought into operation, whichever is sooner.

12. Minor Design Details

Key Issues

1. Whether the proposals would cause harm to the significance of the heritage assets in the vicinity of the sites including listed buildings, Scheduled Monuments and the Registered Park and Garden.

2. Whether the public benefits of the scheme outweigh any harm identified.

3. Ecological Issues

4. Noise and Impact on Amenity

History

There is detailed and extensive planning history for development on the Estate but there is no planning history related to the two specific application sites other than extensive pre-application discussions on these specific proposals.

Consultations

External Consultees

County Council - Highway Authority - No objections subject to applicant submitting a Construction Management Plan to address construction traffic accessing the site.

Parish Meeting – no response

Historic England – Historic England consider the landscape park at Chatsworth comprises a fine Picturesque composition of landscape elements along, and including, the river corridor considered herein; there is a designed relationship between the re-aligned river channel, the weirs, Chatsworth House and gardens and the two bridges - Three Arch Bridge to the north and One Arch Bridge to the south. Lancelot *'Capability'* Brown and James Paine, both eminent designers, composed views between each of these elements in a variety of combinations and many of these are set out in the River Management Plan, 2014. When these landscape elements were introduced by Brown and Paine many of the older, working, elements of the estate - including the medieval mill and riverside planting - were removed to de-clutter the centre ground in these Picturesque scenes and they remain largely unaltered today, albeit in need of some further management works to remove extraneous vegetation

Historic England understand that following initial consultations with stakeholders in January 2015, including Historic England, the designs of the proposed Archimedes screws and their housings were revised and that the scale and massing now proposed is consequently the smallest structure that it is possible to engineer for this site whilst making the scheme financially viable. Notwithstanding the efforts that have been made to reduce the impact of the proposed structures, Historic England believe that there would be harm caused by the development to the significance of the Grade I Registered Park and Garden, through the introduction of industrial infrastructure. The new structures will change, and to some extent, unbalance Brown and Paine's careful compositions and the relationship between each heritage asset. Consequently, the development would cause harm to the setting of each of the designated and undesignated assets

Historic England have concerns regarding the scale and mass of the proposed structures in these sensitive locations, which are both key designed elements of the landscape park; these proposals will introduce industrial structures and materials, like the black metal gauze, that are over two metres in height above the riverbank level to a landscape scheme designed to be simple and free of such structures. With the completion of the proposed works in the River Management Plan, which include the removal of extraneous vegetation, the river corridor should play a more significant role within the landscape, as intended by Brown, and so the visual harm would increase; any harm arising from noise might also increase with less planting around the development, detracting from the tranquillity associated with the Picturesque. The intended primary role of the river corridor in a number of designed views from circulation routes, such as the entrance drive from Edensor demonstrates how critical it is to be able to read these compositions in the round rather than from simply fixed locations - making the relationship and spaces between the assets as important as the assets themselves.

The benefits of the development are set out in the Design and Access Statement provided with this application, though there is no assessment of the impact of the development on the significance of the heritage assets. It is understood that the turbines will, using the design proposed, provide 23.6% of the house and visitor attraction's combined current energy consumption, however, it is not clear to Historic England whether other sustainable energy solutions have been considered and discounted in an informed way before exploring hydropower in this location, as part of an estate wide review of energy needs. Historic England remain unconvinced that adequate justification has been made for the proposed development, in terms of public benefit, given the degree of harm involved where there are potentially alternative sites and energy sources available. Subsequently, Historic England consider this Authority will want to be satisfied that all other options have been explored before being confident that there is

adequate information to make a proper assessment of the justification currently provided for the development.

The proposed development will also result in harm to the evidential significance of the existing weir structures. The applications clearly set out that considerable fabric would need to be removed to build the two screws and that this would be reused as part of the tail chase south of each screw. As previously set out, the existing revetments and by-pass culverts are clearly both practical and ornamental in design and so part removal will have a detrimental impact on the character and significance of the structures themselves, which are undesignated heritage assets, and the wider registered parkland. This fabric forms an element of the Picturesque long views designed by Brown and should be considered holistically as part of the landscape rather than isolated unlisted structures.

Historic England go on to say the National Planning Policy Framework states that the significance of heritage assets can be harmed or lost through development within its setting and that any harm should require clear and convincing justification (para 132). It is not the case that less than substantial harm equates to acceptable harm, and this has been clearly established through a number of recent appeal decisions. Paragraph 134 of the NPPF goes on to state that where a development would lead to less than substantial harm to the significance the harm should be weighed against the public benefits of the proposal. Paragraph 007 of the Planning Guidance on Renewable and Low Carbon Energy states that great care should be taken to ensure heritage assets are conserved in a manner appropriate to their significance, including the impact of proposals on views important to their setting. In this case, the harm is to the Grade I designated Registered Park and Garden and its structures, both listed and unlisted. Grade I Registered Parks and Gardens make up less than 9% of the designed landscapes on the register and Chatsworth is one of the great treasure houses of England so its significance should be given the greatest possible weight when assessing planning applications - as advised by para 132 of the NPPF.

Therefore, Historic England recommend that the Authority weighs the harm to the heritage assets caused by the current proposal against the proposed public benefits for the scheme. The Authority must be satisfied that there is clear and convincing justification for the harm to the significance of the Grade I Registered Park and Garden and both the listed and unlisted structures within it. Where that justification is not clear Historic England recommend that the Authority request further evidence of the benefits set out by the applicants so an informed decision can be made. Critically, the Authority should be satisfied that all alternative energy generation methods and locations across the estate have been fully assessed, including sites outside of the Registered Parks and Garden, where there would potentially be far less harm whilst delivering equal to or greater public benefit.

Natural England - Given the nature and scale of this proposal, a direct impact on the notified features of this Chatsworth Old Park SSSI is not likely, and Natural England is therefore satisfied that there is not likely to be any direct adverse effect on this particular site as a result of the proposal being carried out in strict accordance with the details of the application as submitted.

Natural England consider that there should be a more thorough analytical assessment of the impact that the proposals will have on views within, into and out of the Park using the PMP as a baseline. In addition, given the location of the proposal within the National Park boundary, Natural England advise this Authority to seek the views of landscape specialists within the National Park Authority. Their knowledge of the location and wider landscape setting of the development should help to confirm whether or not it would impact significantly on the purposes of the National Park designation. They will also be able to advise whether the development accords with the aims and policies set out in the National Park management plan.

With regard to protected species, Natural England refer to standing advice but also say this application may provide opportunities to incorporate features into the design which are beneficial

to wildlife, such as the incorporation of roosting opportunities for bats or the installation of bird nest boxes. Natural England, consider The Authority should consider securing measures to enhance the biodiversity of the site from the applicant, if it is minded to grant permission for this application

Environment Agency – No objections subject to conditions with regard to the submission and agreement of a method statement for the management and control of signal crayfish and a condition regarding the submission of a plan detailing the protection of white clawed crayfish and water voles and their associated habitats during construction works and in the operational phase. Also encourage the biodiversity enhancements as set out in the Chatsworth Park River Management Plan to be undertaken.

County Council - Flood Risk Management Team – No objections

District Council - Environmental Health – No objections in principle. Notes however, that there is no information provided on predicted noise levels. Given the distances involved suspects that there may be no issues, however, it would still be prudent to ensure this and therefore asks that the applicant provides details on likely noise levels from the generators.

Internal Consultees

Authority's Landscape Architect - Chatsworth Parkland is a designed landscape that has been altered over the years by various owners, although there will be some visual impact, considers that the two turbine housings are just a stage in the history of the Parkland. They are just a modern interpretation of the old mill leat and waterwheel in the old water mill and therefore no landscape objections to the proposals.

Authority's Built Environment Team – The design is as good as we can get in terms of materials and reducing the over-ground bulk of the new enclosures. Much will depend however on the detailing (relating it to such things as the copings and block/coursing size etc on the existing walls) and how well built they are. Recommend conditions with regard to the submission of details of the copings; a sample panel to show the block/coursing size to the stone walls, finish to the stonework and pointing; details of any of the riverside walls/features that will need to be adjusted or dismantled and rebuilt on a like-for-like basis, before any works take place.

Authority's Ecologist – A small bat roost was found in a standing tree stump adjacent to the upper weir, which is to be removed as part of the proposals. Further information is needed on timing, and method of undertaking the destruction of the bat roost. A suitable tree was identified for installation of bat boxes, a plan should be provided showing the location of the tree. Recommends a condition requiring the submission of a method statement covering: the felled material from the oak tree to be removed, to be taken down in as large a sections as possible and retained as deadwood habitat adjacent to the existing large hulk; with regard to sand martins to prevent works within the bird breeding season and with regard to the loss of silt island habitats, details of how alternative habitat will be provided at the site/along the Derwent. It is recommended that this is based on providing dead wood habitat at intervals along the watercourse.

Authority's Archaeologist – Expresses deep concerns about these schemes, based on the loss of historic fabric of water management features, the 'industrial' appearance of the proposed turbines, and the possible physical impact on the weirs during the construction of the turbines.

Amongst other things, the Authority's archaeologist is concerned about the significant loss of, and disturbance to, historic fabric which is related to both upper and lower weirs. The engineering works, and significant excavations, involved in the construction of these structures will have a high impact on the surviving river bank revetment walling, associated culvert features and any other below ground archaeological features which might survive in these areas of the

park.

The Authority's archaeologist notes that the footprint of the excavations for both schemes will be extensive and the depth of excavations between 2.5 – 3 m, thus the archaeological impact of the developments will be substantial. The Jessop Consultancy Heritage Assessment recognises that, in addition to loss of the fabric of the retaining walls, *the impact of works will largely relate to the excavation of foundations and the removal of sections of the existing sub-surface by-pass culverts. The condition and extent of these is currently unknown (page 1).* Subsequently, however, there has been no archaeological field evaluation, i.e. trial trenching or geophysical survey, to attempt to assess the survival of below ground remains in these areas.

In the absence of an understanding of the nature and survival of these below ground remains, the Authority's archaeologist considers it is not appropriate to assess at this stage that simply monitoring the excavations for the development is an appropriate level of archaeological input as mitigation. The Authority's archaeologist also argues that, in the absence of field evaluation, an assessment that 'preservation by record' of below ground features and historic fabric is not an appropriate approach in this context. The Historic England landscape adviser echoes these concerns regarding harm to the evidential significance of the existing weir structures.

The Authority's archaeologist also advises that the river bank excavations involved with these proposals are substantial and no structural engineer's assessment of the physical impact of the works on the weirs has been submitted. Not only do these structures have intrinsic historic significance, but they are also crucial to the maintenance of the reflective sheets of water which were created to enhance views of Chatsworth House and Paine's Mill. Their failure would impact on the delivery of the restoration of the Brownian parkland design features which are intended outcomes of the, Natural England lead, Parkland Management Plan, process.

The Authority's archaeologist also remains concerned that the amended plan, which depicts the historic fabric in the retaining walls which is to be left untouched, has the caveat 'Existing riverbank wall to be retained - some elements will need to be adjusted to allow inlet gate to be installed and Hydro Plant to be constructed'. The Authority's archaeologist suggests that this approach is unacceptably open-ended, and that all the historic fabric which is likely to be affected by these developments should be depicted here.

The Authority's archaeologist also notes that the HLM ltd Heritage statement makes much of the fact that the two turbines use local materials in their construction, and suggests that this is a mitigating factor in reducing landscape impact. However, on the basis of the most recent visualisations, both the new structures are still strongly physically at odds with existing landscape components in the immediate area – e.g. the running water, and the 'soft' edges and weathered stone of the old weirs and their revetments.

In the Heritage statement, most of the suggested mitigation for the visual impact of the new developments relates to protecting longer views to the turbine locations. This is by means of tree planting and management, however it is recognised that the views that will be most affected are those enjoyed close to the river. One of the most popular paths at Chatsworth is that along the river from the garden centre car park to the House. The Authority's archaeologist suggests that the new developments would have a negative impact on the current amenity value of this part of the parkland.

The Authority's archaeologist goes on to say in section 3.3.2 of the Heritage statement is stated that 'The River Derwent, as changed and modified by Lancelot Brown for the 4th Duke, forms the centrepiece of the valley and is a key element in the design of the landscape park', yet the Heritage Statement generally concludes that introduction of these two modern structures to this key element will largely have a 'less than substantial impact'. The Authority's archaeologist argues that the Heritage Statement does not convincingly justify the developments in the light of the observation made by the Historic England Landscape Architect that *'The new structures will*

change, and to some extent, unbalance Brown and Paine's careful compositions and the relationship between each heritage asset'.

In conclusion, the Authority's archaeologist says the upper and lower weirs on the Derwent, whilst being non-designated heritage assets, are a key component of the historic landscape of Chatsworth Park, having been built to maintain reflective sheets of water which were created to enhance views of Chatsworth House and Paine's Mill. The physical impact of the current proposals on these historic water management features will be substantial. In comparison to the scale of ground disturbance which will be involved in these schemes there has not been adequate pre- application archaeological assessment, or any assessment of the structural impact of the development of adjacent land on the surviving weirs. Significant concerns about the impact on the historic landscape of these proposals have been raised by the regional Historic England Landscape adviser (19 June 2015), Natural England (10 June 2015) and in-house PDNPA specialists.

Taking the above into account, the Authority's archaeologist would recommend refusal of this application as the proposals are not in line with Peak District National Park Local Development Core strategy policy L3 (Cultural Heritage).

Representations

One letter of support has been received and stating that it is important the proposals maintain Chatsworth Park's appearance and that local, sympathetic materials are used.

Main Policies

Relevant Core Strategy policies include: GSP1, GSP2, GSP3, DS1, L1, L2, L3, CC2 & RT3.

Relevant Local Plan policies include: LC4, LC6, LC16, LC17, LC20 & LU4.

In the National Park, the development plan comprises the Authority's Core Strategy 2011 and saved policies in the Peak District National Park Local Plan 2001. It is considered that in this case, the above policies in the Development Plan provide a clear starting point consistent with the National Park's statutory purposes for the determination of this application. It is also considered that in this case there is no significant conflict between prevailing policies in the Development Plan and more recent Government guidance in the Framework with regard to the key issues in the determination of the current application.

In terms of the principle of the proposed development because, policy CC2 of the Core Strategy and saved Local Plan policy LU4 encourage low carbon and renewable energy development provided that they can be accommodated without adversely affecting landscape character, cultural heritage assets, other valued characteristics, or other established uses of the area. Paragraph 98 of the Framework states that Local Authorities should approve applications for renewable energy schemes if the impacts are (or can be made) acceptable but the associated Planning Practice Guidance makes it clear that the desirability of promoting and encouraging renewable energy development does not in itself outweigh or offset the overriding principles of sustainable development as set out in policy GSP1 of the Core Strategy and throughout the Framework when taken as a whole.

In these respects, the key issues in the determination of the current application include the impacts of the proposed turbines on the fabric and setting of a range of designated and non-designated heritage assets. Paragraph 115 of the Framework states that great weight should be given to conserving landscape and scenic beauty in National Parks along with the conservation of wildlife and cultural heritage, which is consistent with the aims and objectives of policies GSP1, GSP2, L1 and L3 of the Core Strategy.

Paragraphs 132 and 134 of the Framework are also highly relevant and state that when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use. This approach is consistent with the aims and objectives of policies GSP1, GSP2, GSP3 and L3 of the Core Strategy and LC6, LC16 and LC17 of the Local Plan.

Planning Policies and Legislation

Section 16 (2) of the Planning (Listed Building and Conservation Areas) Act 1990 provides that in considering whether to grant listed building consent the local planning authority 'shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses'.

Section 66 (1) of the Planning (Listed Building and Conservation Areas) Act 1990 states the local planning authority 'shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses' in the exercise of the Council's planning functions and in considering whether or not to grant planning permission for development that affects a listed building or its setting. It is important to note that section 66 does not allow a local planning authority to treat this duty as a mere material consideration; it is a statutory duty to which special regard must be had and considerable importance and weight should be given to the desirability of preserving a listed building or its setting when balancing a proposal against other material considerations.

Assessment

Principle

In principle, the proposals for two new hydroelectric stations at Chatsworth are supported by the Authority's policies and national planning policies in the Framework which seek to reduce carbon emissions by encouraging low carbon and renewable energy development. However, policy CC2 of the Core Strategy and policies in the Framework and associated Planning Practice Guidance make it clear that such development should not compromise National Park purposes or cause unacceptable harm to landscape character, cultural heritage assets, or any other valued characteristic of the National Park.

The application sites are located within the Chatsworth Parkland which is a highly sensitive landscape in that it is a grade 1 Registered Park and Garden and there are nine listed buildings and a Scheduled Monument within the vicinity of the sites. In addition, Chatsworth is an extremely popular tourist destination with the park and gardens holding a central place in the history of English landscape design. Therefore considerations with regard to the impact of the proposals on the significance of the identified cultural heritage assets is crucial in the determination of this application, particularly in the light of Core Strategy policies GSP1, GSP2, L1 and L3 and Local Plan policies LC6, LC16 and LC17, which seek to conserve and enhance landscape character and heritage assets.

Issue 1: Whether the proposals would cause harm to the significance of the heritage assets in the vicinity of the sites including listed buildings, Scheduled Monuments and the Registered Park and Garden.

As described above there are nine listed buildings along the river corridor within the vicinity of the application sites, including grade 1, grade II* and grade II listed buildings. There is also a Scheduled Monument at One Arch Bridge. The park and gardens in which the application sites sit are included on the Historic England Register of Parks and Gardens at Grade 1. The upper

weir as a 'non designated heritage asset' and the lower weir is curtilage listed in association with Paine's Mill.

The weirs make a positive contribution to the character and appearance of the parkland setting and surrounding heritage assets, and will be physically altered by these development proposals. Therefore, in the determination of this application, the highest regard must be paid to the potential impacts of the proposals on a range of designated and non-designated heritage assets with reference with to both the impacts on their setting and impacts on their fabric.

Impact on Setting

Given the nature of the proposals and the proposed siting of the new hydro stations within the Historic Parkland and in vicinity of listed buildings, the impact on setting is a consideration that will carry significant weight. Historic England's 'Good Practice Advice in Planning – The Setting of Heritage Assets' states that decisions should be based on the nature, extent and level of a heritage asset's significance and recommends a broad approach to assessment in the form a series of five steps. This report aims to broadly follow this approach for each of the heritage assets.

In the original submission, a Heritage Appraisal of the upper and lower weirs was submitted with the application but following comments from Historic England, a more comprehensive Heritage Statement has been submitted by a firm of Historic Landscape Consultants, which takes into account Historic England's Guidance and looks across all of the heritage assets that could be affected by the proposals. A detailed landscape analysis carried out in support of the River Management Plan (by the same consultants) has also been submitted.

The Historic England guidance explains that the setting of a heritage asset is the surroundings in which a heritage asset is experienced. The contribution of setting to the significance of a heritage asset is often expressed by reference to views, including a variety of views of, across, or including that asset and views of the surroundings from or through the asset, and may intersect with, and incorporate the setting of numerous heritage assets. Extensive heritage assets, such as a parkland, can include many heritage assets and their nested and overlapping settings as well as having a setting of their own.

Steps 1 and 2 - decision makers should identify which heritage assets are affected and assess whether, how and to what degree these settings make a contribution to the significance of the heritage asset:

Of the nine listed buildings in the vicinity, it is clear from the Heritage Statement that the setting of 5 would be unaffected by the proposals, namely One Arch Bridge and Queen Mary's Bower and Bridge House, Beeley Lodge and the Water Trough primarily because of the intervening distance between these assets and the application sites. The settings of the other four listed buildings do have potential to be affected and so these as discussed in more detail, along with the two weirs themselves.

Chatsworth House – (Grade 1) - Chatsworth House, by its very nature is closely associated with all the other heritage assets identified, to a greater or lesser extent. The lower weir hydro would not be visible from the house and the upper weir hydro would only be glimpsed at considerable distance against the backdrop of trees on the west bank.

West Garden Terrace – (Grade II) – The west terraces are the private garden areas as Chatsworth. The setting of the West Terrace contributes to it significance in that it forms a link between the House and the open parkland, there are strong visual links between the west terrace and Three Arch Bridge and the key views from the House are intended to also be enjoyed from the upper west terrace. The weirs are not seen from this point but the intention was to enjoy the still water of the widened river created by the upper weir.

One Arch Bridge – (Grade ll* and Scheduled Monument) – This is a road bridge at the southern end of the Park 520m to the south of the lower weir. It is of exceptional significance being part of Paine's architectural work and being a major focal point in this part of the parkland. The setting of the bridge comprises the historic parkland to the north and open pastureland to the south, linked by the river which flows from one to the other beneath the bridge. The setting contributes to its significance in that, amongst other things, the original design intention survives, offering views from the bridge towards Pain's Mill. There is also similarity of style and material between Paine's Mill and the bridge giving the two structures a strong relationship. The bridge itself can be seen from parts of the south park and from Paine's Mill.

Paine's Mill – (Grade ll listed) – this building is situated on the west bank of the river, 188m from the lower weir. Designed by James Paine as a flour mill, it now survives as a ruin. The Mill was positioned to be visible from the gardens to Chatsworth House and is associated with and connected visually to One Arch Bridge. The setting of the bridge contributes to its character in that, amongst other things, the location of the mill, close to the river provides a link to its historic use and the physical connections between the mill and the river are part of its historic integrity, creating links with the weirs as originally intended.

Upper Weir – (undesignated heritage asset) – The setting of the upper weir comprises open parkland with a number of riverside trees on to the east and a larger plantation on the steeply rising ground on the west bank. The setting contributes to the weir's character in that the weir forms an ornamental element in the designed landscape in which it sits. The weir creates contrasting sounds and movement both on the weir and below it, making a focal point in the landscape.

Lower Weir – (curtilage listed to Paine's Mill) – The setting of the lower weir comprises open parkland with a small number of trees on the west and east bank. It sits within views of Paine's Mill, to which it is also physically linked. The setting contributes to its significance in that the weir was intended to form a head of water to power Paine's Mill and the physical relationship between the upstream water; the culverts and the mill are all part of the setting. As with the upper weir, the lower weir forms an ornamental element in the landscape and creates contrasting sound and movement in the water.

Registered Park and Garden. – (Grade 1) - The essential importance of this lies in the continuity of the landscape and its continuous evolution over time. Historic England, in their response, emphasise the importance of the composition of landscape elements along, and including the river corridor; there is a designed relationship between the re-aligned river channel, the weirs, the House, and gardens and the two bridges. The submitted Heritage Statement highlights that views across the parkland are a significant part of the landscape design.

Step 3 - the decision maker should assess the effects of the proposed development, whether beneficial or harmful on that significance:

GSP1 and GSP2 of the Core Strategy, policy L3 and Local Plan policy LC6 requires that development must conserve and where appropriate enhance or reveal the significance of archaeological, architectural, artistic or historic assets and their settings and say development will not be permitted where it is likely to cause harm to the significance of a listed building

With regard to Chatsworth House, whilst one of the key views from the House is a panoramic one, taking in the Three Arch Bridge, the parklands and the river, it is not considered that at the proposals would detract from the main focus of these views. The appraisal therefore concludes, and officers concur, that the proposals would have a negligible impact on the setting of the house. With regard to the West Terraces, the development may be glimpsed at considerable distance within the panorama from the terrace but the overall impact is judged to be low.

The main impacts are therefore considered to be with regard to One Arch Bridge, Paine's Mill, the weirs and the Registered Park and Garden as a whole. Taking One Arch Bridge first, currently bankside trees between the bridge and lower weir would serve to largely screen the hydro in views from the bridge towards the weir and Paine's Mill. However in the winter months the proposed hydro would be visible in these views, at some considerable distance. The Heritage Statement concludes that this would result in a 'slight impact' as long as tree management is carefully controlled.

With regard to Paine's Mill, at 188m away, the lower weir turbine would be closer to this asset than any of the other heritage assets and is considered to be within the curtilage of Paine's Mill. The proposed development would be a permanent structure and it would be clearly visible from the public right of way that runs close to Paine's Mill and the weir. The proposed turbine would therefore have an impact on the setting of the mill due to its form and appearance and on the association between the mill and the lower weir. Whilst the function of the two weirs would be unaffected there would be an impact in that the turbines would alter the relationship between the weirs and their surroundings and thus the character and experience created by the setting would be affected.

Finally, with regard to the Historic Park and Garden, there would be some impact upon certain views across the parkland. In particular the turbines would be visible from the private South Drive on the east band of the river, in glimpse between trees. The turbines would also be visible from parts of the footpath on the west bank, most notably in close proximity to the turbine stations.

Step 4 - exploring ways to maximise enhancement and avoid or minimise harm

The main way in the which the applicant is seeking to mitigate the harm identified above is by means of the retention of existing tree planting in certain areas and, as informed by the Heritage Statement, providing some new tree cover in discreet locations.

With regard to the upper weir, the details submitted show that an existing early 20th century plantation on the west bank adjacent to the upper weir would be retained. The trees were originally planted to screen a circular sewage tank that is still in place within the trees. Officers identified that the retention of this area of woodland would be at odds with proposals in the River Management Plan, which sought the removal of the plantation in order to open up historic views of the house.

The applicant has now submitted further information to explain that they have decided to retain the woodland and although they realise this is not the optimal approach for the historic landscape, the plantation is an existing feature of some age and its retention will retain shading of the river which is of ecological benefit, as well as screening the hydro power stations. Additional planting is also proposed on the west bank to the north of the weir and this is in line with the recommendations of the River Management Plan. Finally five new oaks would be planted in a group adjacent to the turbine on the east bank. This pattern of planting would reflect the historical positioning of a clump of trees in this area.

With regard to the lower weir, new parkland planting would be carried out on the west bank, within the existing parkland trees and already forms part of the Parkland Management Plan. A group of three oaks would be planted on the east bank, based on historic tree positions.

Officers had some concerns in that the Parkland Management Plan indicates that self-set alders along the river banks between the lower weir and One Arch Bridge would be removed to open up views between Paine's Mill and the bridge. This would result in the hydro stations becoming more prominent in views from the bridge. Further information has been received to confirm that the number of trees to be removed in this area has reduced significantly, mainly for ecological reasons outside of this application and in consultation with the Authority's ecologists.

Step 5: Making and documenting the decision and monitoring outcomes:

From this assessment, it is considered that the proposed development would have a significant visual impact on the two weirs and their parkland setting; this impact would result in some harm but not cause substantial harm to the setting of both the weirs and the range of designated heritage assets. These preliminary conclusions are partly based on the proposed mitigation, which would serve to minimise the visual impact of the proposals on the wider Estate and surrounding landscape. It is also considered that the turbines would reflect the historic use of the River Derwent to power the nearby Paine's Mill and would be a contemporary addition to the Estate that would represent a sensitive and well-designed evolution in the way in which the Derwent has been used to provide power for the Estate.

Notwithstanding these conclusions, it is acknowledged that the proposals will have a relatively substantial form and massing and change the character and appearance of the parkland within a visually prominent location that is appreciated by a large number of visitors for its scenic beauty and its historic interest. Equally, strong concerns have been raised about the direct impacts of the proposals on the two weirs as well as the impacts of the development proposals on their setting.

Impact on Fabric

With regard to the direct impacts of the proposals on the fabric of heritage assets, this relates purely to the upper and lower weirs. Officers consider that the lower weir is 'curtilage listed' in association with Paine's Mill in that it is clearly functionally associated with it. Although the upper weir is not individually listed it is considered to be a 'non designated heritage asset'.

Core Strategy policy L3 (and Local Plan policy LC6, LC16 and LC17) require that development must conserve and where appropriate enhance or reveal the significance or heritage assets. Other than in exceptional circumstances development will not be permitted where it is likely to cause harm to such assets. These policies are consistent with core principles in the Framework, which require heritage assets to be conserved and enhanced for future generation.

A heritage appraisal, which examines the impact of the proposals on the structure and archaeology of the weirs, has been submitted from a firm of archaeologists. This appraisal clarifies that the principal elements of the weirs, i.e. the stepped structures, would not be affected by the proposals, as would the walling and culverts along the west bank of the river. However the proposals do involve, at each weir, the removal of parts of the retaining walls along their east sides. On both weirs, a 5m wide section of wall would be removed to make way for the inlet channels. The wall would be replaced by an inlet gate with a small section of wall rebuilt above the head of the gate.

On the upper weir an 11m stretch of wall would be removed below the weir, although this would be re-built further back to form the new bank wall to the hydro station. On the lower weir, a larger 20m stretch of wall would be removed, but again this would be re-built as a new wall to the development. The submitted report states that this can be considered as having a high impact upon the extant historic fabric of the weirs, although careful dismantling would allow the stone to be re-instated on the new walls.

The report also states that with regard to impact on subsurface remains, the construction of the turbines would require the excavation of a large hole on each of the adjacent sections of riverbank to a depth of approximately 3m below existing ground level, to allow for foundations. This excavation would remove any subsurface features within the footprint of the new structures, the impact of which can be regarded as high. However the report states that no known pre-18th century features would be affected by the works.

The report recommends that an archaeological watching brief is undertaken during excavations to record the construction of the weirs and associated culverts. A key consideration however is that the response from the Authority's Archaeologist disagrees with these recommendations. This response expresses deep concerns about the impact of the proposals on the revetment walling, associated culvert features and any other archaeological features that might survive and instead recommends field evaluation prior to determination, rather than 'preservation by record'.

On balance, given that the main bodies of the two weirs will be unaffected, and the majority of the retaining walls to be demolished would be re-built in a different position, planning officers consider that there would not be significant harm to the above ground fabric of the weirs. With regard to subsurface remains, a condition requiring a Written Scheme of Investigation is considered, on balance, to be a reasonable approach in this case. Subject to such a condition it is considered that the scheme can be seen to be compliant with policies in the Development Plan and the Framework, which seek to conserve and enhance the two weirs.

The Authority's Archaeologist has also commented that no engineer's assessment of the physical impact of the works on the weirs has been submitted and expresses concerns that the failure of the weirs would impact on the delivery of the restoration of the historic parkland design. The applicant has responded by stating that all site works would be overseen by a qualified engineer.

Heritage Impact Assessment

In conclusion, the submitted Heritage Statement acknowledges that there would be harm to the existing settings of Paine's Mill and the weirs themselves in particular, some adverse impacts on views within the Park and Garden and to a lesser extent to the setting of One Arch Bridge. This harm arises primarily from the massing and design of the proposed hydro-stations and the physical changes to the weirs. The proposed planting would mitigate that harm to some extent but would not eliminate it.

Following detailed pre-application discussion with officers and the Authority's Historic Buildings Architect, the design of the turbine structures has been pared down to the minimum size required operationally, but the structures would remain as sizeable features in the landscape and they would have a significant visual presence especially when viewed from closer quarters. With regard to impact on fabric, subject to conditions it is considered that the harm would not be substantial. Moreover, the proposed development can also be seen as a well-designed contemporary feature in the landscape that represents the evolving way in which the Estate harnesses power from the River Derwent.

Therefore, whilst harm has been identified, officers are satisfied that on the basis of the information submitted and with reference to the Framework, it would not be 'substantial'. It should be noted that Historic England's response also did not identify the harm as being substantial but notes that "less than substantial harm" does not equate to acceptable harm and recommends that the Authority must be satisfied that the public benefits of the scheme outweigh identified harm before granting planning permission for the current application.

Issue 2 - Whether the public benefits of the scheme outweigh any harm identified.

The Framework states that where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal. The Historic England response also urges the Authority to adopt this approach in this particular case. In these respects Historic England requested evidence of the benefits of the scheme be submitted and recommends that the Authority needs to be satisfied that alternative energy generation methods and locations across the estate have been fully assessed.

Following these comments the applicant has submitted a statement with regard to the benefits of the scheme. It explains that Chatsworth has a history of utilising power from the moors that lie directly to the east above it and which power an existing head turbine and provide the natural head to play the water features in the gardens. However, despite the existing turbine, the House and its tourist attractions have, at peak times, an additional load of 550kw, all of which comes from fossil fuelled power stations.

The proposed hydro-electric stations would produce 445,000 kwh of renewable electricity saving the equivalent of 350T of carbon emissions and in doing so would offset 23.6% of the House's electrical consumption. The document explains that the savings generated would allow the Trust to re-invest in sustaining the House, Gardens and Park. The generation of jobs from plant construction and ongoing maintenance are also highlighted. With regard to social benefits, the report states that the hydro-electric scheme would promote public awareness of the benefits of renewable energy supply and would demonstrate that renewable energy generation is possible in even the most challenging environment, encouraging others with less challenging environments to consider how they could implement such projects.

A full investigation of other sites and other energy generation methods has not been provided. However the applicants have emphasised that the proposed sites are the only feasible and viable sites for a hydro scheme as the head of water provided by the weirs is required to power the turbines effectively. Also the stations must be in relatively close proximity to the House to avoid losses in transmission. The submitted information also highlights that to produce an equivalent amount of power by wind energy, would require two 24-37m high turbines with 24m blade diameters and the equivalent solar pv scheme would cover an area of approximately one hectare of the parkland.

In conclusion, the considerations with regard to conservation of the historic environment are finely balanced in the absence of viable alternatives to the current proposals and the desirability of promoting and encouraging sustainable developments that would help to maintain the viability and vitality of the Chatsworth Estate. In this case, harm to significance has been identified, which could bring the proposals into conflict with Core Strategy policies CC2 and L3 and Local Plan policies LC6 and LC9, but the harm is less than substantial and would be mitigated by the proposed tree planting to some extent.

As noted above, officers also consider that the proposed hydro stations are generally well designed. Their elongated, curved shape would give a distinctive appearance which would not be entirely at odds with their surroundings and despite their size, the use of local, natural materials would help to anchor them into the surrounding landscape. Equally, as also noted above, officers consider that the development of these schemes would mark another stage in the production of energy from the weirs, which, in the case of the lower weir has been used historically in relation to the working of Paine's Mill. This conclusion is reached also in the light of the fact that the Authority's Landscape Architect has raised no objections to the proposals (in that the scheme is a modern interpretation of the old mill leat and waterwheel at Paine's Mill) and the Authority's Historic Buildings Architect, also raised no concerns in principle.

If Members are minded to approve the current applications, they should do so only on the basis of the advice in paragraphs 134 and 140 of the National Planning Policy Framework, which state that *"Where a proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use"*. Significant weight must be given to the Authority's statutory duties under sections 16 and 66 of Planning (Listed Building and Conservation Areas) Act 1990 to have special regard to the listed building. Recent case law makes it clear that the statutory duty cannot be outweighed by other matters, such as the need for renewable energy.

The fact that there are no other suitable sites, that other renewable technologies are likely to be

harmful and the public benefits achieved in that the electricity produced would provide a significant amount of renewable energy for the Estate, is a factor to take into account but it cannot outweigh any harm to the heritage asset. As set out above, officers consider that the scheme is acceptable in its own right, although it would clearly have an impact on and would change the historic landscape setting

Therefore, it would be appropriate to recommend the development proposals for approval subject to there being no other material considerations that indicate otherwise. In this case, the remaining issues to be addressed in the determination of this application include the impact of the development proposals on ecology and noise impacts.

Issue 3 – Ecology

Core Strategy policy L2 and Local Plan policy LC17 require that development must conserve and enhance sites, features of species of biodiversity importance and where appropriate their setting. Other than in exceptional circumstances, development will not be permitted where it is likely to have an adverse impact on such sites, features or species. These policies are consistent with national planning policies in the Framework that seek to safeguard nature conservation interests and promote and encourage biodiversity.

In the first instance, it is highly relevant that the Environment Agency has already granted licences to extract water at both sites and these licences are extant. As part of the licensing process the Environment Agency has considered issues such as the effect on river flow rates; sediment movement or deposition; impact on protected species; passage of fish; and any changes to invertebrate habitats, in deciding whether to grant a licence.

It is also highly relevant that part of the application site at the lower weir falls within the Chatsworth Old Park SSSI but Natural England are satisfied that as the SSSI is cited for it mature and over mature oak trees and these are located well away from the application site, that there is not likely to any direct adverse effect.

An impact assessment on the potential environment impacts of the scheme was submitted with the application. The report recommended the incorporation of fish passes and this was also an Environment Agency requirement. These are shown on the submitted plans at both sites.

Further surveys of water voles and otters, birds (specifically sand martin king fisher and dipper), terrestrial invertebrates (specifically mining bee) and bats were carried out during the course application at the request of the Authority's ecologist. The initial impact assessment and later surveys found no signs of water vole or otter and therefore it can be concluded that the proposed scheme would be unlikely to affect these species.

With regards to birds the surveys conclude that there is negligible potential for the proposed scheme to affect any of the cited species within the application sites. However, at the upper weir the survey founds a nesting colony of sand martin adjacent to the survey area. Nest sites were discovered approx. 35m south of the site of the proposed works. In order to ensure the protection of these nest sites that Authority's ecologist has recommended a condition to ensure that the construction works take place outside the bird breeding season and to ensure that the habitat is not affected by the works.

The submitted surveys confirm that there is negligible potential for the proposed scheme to affect any BAP, LBAP or other designated terrestrial invertebrate species, including any mining bee species and therefore it can be concluded that the proposed scheme would be unlikely to affect these species.

The surveys did find a bat roost within a dead tree stump adjacent to the upper weir, which is located within the footprint of the proposed hydro station and which would be removed as part of

the scheme. The Authority's ecologist has since visited the site and has recommended a condition regarding the timing of the destruction of the roost and the provision of bat boxes on a nearby alternative tree. A condition to requests details is considered to be reasonable and necessary. A Natural England European Protected Species Licence will be necessary before removal of the tree.

The Authority's Tree Conservation Officer has visited the site with regard to the loss of the mature oak tree next to upper weir. He has confirmed that the tree is diseased (Sulphur Polypore or Chicken of the Woods) and therefore has a maximum life expectancy of 15 years. As such he has no objections to its removal. Natural England, in its response, encourages the Authority to secure measures to enhance the biodiversity of the site. As such the Authority' Ecologist has recommended that the deadwood from the felled standing stump be retained as deadwood habitat adjacent to the site and recommends that a method statement to address this is sought by condition. This condition is considered to be reasonable and necessary in accordance with policies L2 and LC17.

The Environment Agency and the Authority's ecologist have also requested a condition requiring the submission of a method statement to ensure that management and control of the invasive species signal crayfish and a condition regarding the submission of a plan detailing the protection of white clawed crayfish and their associated habitats during construction works and in the operational phase. A white clawed crayfish protection plan is also required. These measures are considered to be necessary because the River Derwent in this location is known to contain large populations of Signal Crayfish and the Estate is known to hold populations of white clawed crayfish. The submitted information will help to prevent invasion of signal crayfish/ crayfish plague into the habitat of white clawed crayfish.

Finally, the Authority's ecologist has requested that the habitat that is currently provided by the silt beds (and which would be removed as part of the proposals) is mitigated by the provision of alternative habitat in the form of new dead wood habitat provided at intervals along the watercourse. The applicant feels strongly that such a requirement is unnecessary given that no species of interest were found within the silt beds and considers that character of the designed open river would be compromised if interrupted by piles of deadwood. Whilst officers take this view on board, they see no reason why, in the interest of enhancement as advocated both by adopted policies and by Natural England, that a compromise could not be reached in finding a suitable site for such replacement habitat. As such a condition requiring the submission and agreement of a plan detailing such provision is considered to be reasonable and necessary in accordance with policies GSP2 (Enhancing the National Park) and L2.

In conclusion, subject to the conditions outlined above, the proposals would conserve and in some areas enhance site, features and species of biodiversity importance in accordance with adopted policies in the Development Plan and national planning policies in the Framework. In these respects, it is considered by officers that the proposals would not cause unacceptable harm to the surrounding landscape, the cultural heritage of the local area, or harm wildlife interests. Therefore, the proposed development would be consistent with the conservation purpose of the National Park's statutory designation.

Issue 4 – Noise and Impact on Amenity.

In terms of the recreation purpose of the National Park's statutory designation, Policy RT3 of the Core Strategy states that development must not prejudice, or disadvantage people's enjoyment of other existing and appropriate recreation activities, including the informal quiet enjoyment of the National park. Consideration of the impact of noise is important in that the footpaths and picnic areas along the banks of the river are used heavily by members of the public and thus it is relevant to consider whether the peaceful enjoyment that they currently experience would be harmed by the proposals. The Environmental Health Officer raised no objections taking into account that the nearest residential property is over 500m away from the lower weir, but did ask

for noise levels from the generator.

As a result, a noise impact statement (completed by the company responsible for the design and installation of the hydro equipment) has now been submitted. This explains that as with a waterwheel, an Archimedes Screw is a slow-rotating hydraulic machine and therefore is not noiseless. However the statement suggests that the turbine arrangements would not have a significant potential to cause noise disturbance because a) both schemes are located adjacent to stepped weirs which emit a substantial, constant background hydraulic noise, and would continue to do so when the turbines operate, b) the gearbox and generator at the top of the screw are completely enclosed by the surrounding stone structures, so the noise from these items (a maximum of 85dB at 1m, which equates to a telephone dial tone) is fully contained and would not be heard beyond a few metres away and c) the screws will be installed between high concrete wing-walls, so containing the majority of any rotating noise and preventing any lateral projection.

The primary hydraulic noise remaining will be the rhythmic splashing at the outlet of the screw. This noise would be projected downstream from the exit of the turbine. The report states that because both screws would be aligned almost parallel to the riverbank, this noise would not be projected across the river but down the length of the watercourse and that the splashing sound would have to travel over 100m before reaching any publicly accessible parts of the far riverbank i.e. footpath or picnic area.

Officers have no reason to contest these statements and therefore it is considered highly unlikely that the proposals would have any detrimental impact on residential amenity and it is unlikely that the quiet enjoyment of those using the river bank would be prejudiced. Therefore, officers consider the proposals would not conflict with Core Strategy policy RT3, or conflict with the recreation purpose of the National Park's statutory designation.

Safeguarding amenity is otherwise a core planning principle in the Framework and Core Strategy policy GSP3 and Local Plan policy LC4 require that the impact on living conditions and the amenity of neighbouring properties are considered. In this case, officers are satisfied by virtue of its location, the proposed development would not detract from the residential amenities of the nearest neighbouring residential properties including Chatsworth House itself.

Other Planning Considerations

Flood Risk

Core Strategy policy CC5 states that development proposals that would unacceptably increase flood risk will not normally be permitted. In this case both applications site falls within the Environment Agency's Flood Risk Zone 3, which is land assessed, as having a 1% or greater annual probability of fluvial flooding. There is further guidance on managing development in Flood Risk Zones in the Framework and associated Planning Practice Guidance

A flood risk assessment has not been submitted in this case. However, neither the Environment Agency nor the lead local flood authority (Derbyshire County Council) have raised objections to the current application, noting flood risk issues have been considered thoroughly as part of the Abstraction License procedure. As such it is considered unlikely that the proposals would increase flood risk and the proposals are therefore compliant with CC5 and relevant national planning policies.

Traffic Impacts

No details have been submitted with regard to the levels of construction traffic expected and the routes such vehicles might take. The Highway Authority (Derbyshire County Council) have recommended a condition requiring the submission of a Construction Management Plan.

Officers consider that such a condition is necessary in the interests of highway safety and to prevent any damage to habitats or heritage assets taking into account the sensitive location of the proposed development.

Proposed Transformer

It is proposed to locate the transformer remote from the hydro stations in order to reduce the bulk of the hydro stations. The transformer would be positioned on a 4m high pole and would be located within the trees on the east bank, near the lower weir. Whilst this would be an unattractive piece of equipment, its relatively discreet location amongst the trees means that it would not be particularly prominent from either One Arch Bridge or the public footpaths on the west bank of the river and subject to both the pole and the transformer having a dark finish, it is considered that its appearance would not be harmful to the landscape character of the area.

Conclusion

It is therefore concluded that the proposed development is compatible with the relevant Development Plan policies and policies in the National Planning Policy Framework taken as a whole, and there are no other material considerations that weigh heavily against granting planning permission for the application subject to the conditions set out above. Significant weight must be given to the Authority's statutory duties under sections 16 and 66 of Planning (Listed Building and Conservation Areas) Act 1990 to have special regard to the listed building, referred to above.

Although the issues are finely balanced in this case, a recommendation of conditional approval rests primarily on a conclusion that the identified harm to heritage assets would be less than substantial and would be outweighed by the benefits of the scheme, which would produce a source of renewable energy that would significantly reduce Chatsworth House's reliance on fossil fuels. Furthermore, the applicant has adequately demonstrated that there are no other suitable sites and that other equivalent renewable energy technologies are unlikely to be less harmful. The scheme would also conserve and in some areas enhance sites, features and species of biodiversity importance and there would be no detrimental impact on amenity or quiet enjoyment.

Accordingly, the current application is recommended for conditional approval.

Human Rights

Any human rights issues have been considered and addressed in the preparation of this report.