

5. **FULL APPLICATION – MATERIAL UNLOADING, CONVEYING AND STORAGE FACILITY AND ASSOCIATED IMPORTATION OF SHALE SUBSTITUTE KILNFEED MATERIAL (ARM). THIS WILL ALSO REQUIRE THE REMOVAL OF A FEW ELEMENTS OF MINOR INFRASTRUCTURE AND SOME VEGETATION.**
- (NP/HPK/1020/0929, TE)

APPLICANT: BREEDON CEMENT

Summary

1. This application proposes the importation of up to 450,000 tonnes per annum (tpa) of Alternative Raw Material (ARM) by rail to Hope Cement Works for use as a shale substitute in the kiln feed mix required for the manufacture of cement. The application also seeks approval for the infrastructure required to facilitate this proposes, which in brief, comprises; additional rail siding, unloaded plant and equipment, reception facilities, conveyors and a material storage building.
2. The appellants need for this application has arisen due to a change in the emission criteria specified by the environmental permitting process administered by the Environment Agency (EA). Specifically, the regulations require the operator to reduce the sulphur dioxide (SO_2) emissions from the stack which arise from the cement manufacture process. The Works is currently operating under a derogation licence issued by the Environment Agency while this planning application awaits determination. Elevated SO_2 levels contribute to the formation of acid rain, which is damaging to many habitats and species as well as the wider environment. While emissions from Hope Cement Works currently present a negligible risk of acidification, reducing emissions further would still provide further benefits.
3. The Works has traditionally utilised limestone and shale derived from the associated on-site quarries as the primary and secondary feedstock in the cement manufacture process. Although, in more recent times the on-site shale has been supplemented by the importation of up to 100,000 tpa of dry Pulverised Fuel Ash (PFA) for use in the kiln feed mix. Trials have been undertaken using conditioned (wet) PFA as a kiln feed substitute and have been successful. As such this application seeks the flexibility to use conditioned PFA imported to site by rail, along with other ARM.
4. Cement making chemistry is complex and requires the presence of specific chemical compounds and in the appropriate quantity to ensure a suitable cement clinker is produced for sale to the open market. In order to achieve this, the on-site shale reserves have been won/worked and utilised in the cement manufacture process dependent upon their chemical qualities. The chemical composition of shale varies between different geological strata, meaning the correct balance has to be struck when using it in the kiln feed. As a consequence, the majority of the consented on-site shale reserves that remain in situ possess a medium to high sulphur content.
5. Although the existing consented reserves of natural shale could appear to be sufficient to continue cement production until 2037, much of it is of a sulphur content too high to utilise alone and meet the revised environmental permit requirements. The low sulphur shale that is currently being worked is currently estimated to only provide enough raw material for continued cement production until around 2025 in the absence of ARM substitution. The operator proposes to

blend ARM with the higher sulphur content on site shales in order to stretch the remaining useable reserves.

6. There are numerous material considerations that arise from this proposal including compliance with national and local policy, alignment with the Park's strategic vision, consequences of alternative options and adverse impacts on amenity, all of which are discussed in detail in the assessment section.
7. After considering the scheme and all material considerations as a whole, it is concluded that on balance, the application be recommended for approval subject to the planning conditions stipulated and a Section 106 agreement.
8. The planning conditions proposed allow control, *inter alia*, of; ARM types and quantities, timings of branch line railway movements, branch line improvements, landscape impact, landscape enhancements, biodiversity net gain, noise/vibration effects, road movements and reclamation of the site.
9. The section 106 agreement contains a planning obligation that ensures the permanent cessation of on-site mineral extraction and cement production no later than the 22nd of February 2042. This agreement gives the operator security in relation to the supply of appropriate secondary materials for use in the cement manufacturing process for the next 20 years, but also gives the PDNPA the certainty, as far as reasonably possible at this point in time, that the Works will cease to operate by 22nd of February 2042 at the latest.
10. The permanent cessation of mineral extraction and/or cement production would trigger condition 2 of planning permission ref: NP/CHA/468/2 (1969 consent), which requires the decommission of the Cement Works, removal of all associated plant and infrastructure and the restoration of the site in accordance with a scheme to be agreed with the MPA. The 1969 consent does not specify an end date and the clearance and restoration of the site relies solely on the permanent cessation of mineral extraction at either of the on-site quarries or cessation of cement production.
11. Considerable reserves of both limestone and shale remain on site and although the suitability of the latter for continued cement production is questionable, there are means which could be employed to ensure that the reserve is exploited to its full extent. The operator also benefits from permission ref: NP/HPK/0710/0665 which allows the importation of 100,000 tpa of PFA for use in the kiln feed mix. Should total reserves be fully exploited and combined with the existing importation allowance, cement production would likely continue to around 2042, subject to sufficient limestone reserves.
12. It is possible however, that on-site shale reserves may still be present beyond 2042. While reserves remain and are capable of being worked, even at very low levels, the life of the 1969 consent would continue, and the possibility of subsequent applications seeking to extend the operation of the Works further, would exist. The imposition of the planning obligation to permanently cease operations at the Works by the 22nd of February 2042 by legal agreement gives the PDNPA certainty as to the end of the life of the Hope Cement Works Complex as permitted under the 1969 consent.

13. Should limestone/shale extraction or the production of cement permanently cease prior to the cessation of the importation of ARM, the Park's position under the 1969 position would be preserved, and condition 2 triggered.

Site and Surroundings

14. Hope Cement Works is located in Derbyshire, near the villages of Castleton to the north west, Hope to the north east and Bradwell to the south east. It is in the Peak District National Park (PDNP) and predates the designation of the National Park in 1951. Road access is via Pindale Road and the A6187, with rail access from the works sidings via a private branch line to the Earles sidings on the Hope Valley rail line to the east which crosses the PDNP connecting Sheffield and Manchester.
15. The works first opened in 1929, prior to the formation of the Peak District National Park in 1951. The site has undergone extensive modernisation since cement making began in the 1930s, establishing itself as a key provider to the cement industry in the UK.
16. It was subsequently upgraded in 1970 to a more energy efficient dry process with the introduction of kilns that allowed production to increase and the capacity is now circa 1.5mtpa (million tonnes per annum). It represents £61.2m in GVA (Gross Value Added) which provides 1.8% of total employment in the Peak Park and 7.0% of GVA to the PDNP economy. It is rail linked to 4 nationwide depots and 2 terminals. Approximately 1mt of cement is delivered by rail. The works now comprises 2 rotating kilns and 2 cement mills and currently employs approximately 270 employees.
17. The site contains extensive cement making infrastructure, including 2 kilns and cement mills, cement silos, conveyors, storage facilities, site offices and ancillary structures and equipment.
18. The application site covers an area of 2.7ha within the existing Hope Cement Works (HCW) complex and includes a stretch of the rail branch line and associated sidings located in the south of the complex; a linear channel running from the sidings across the complex in a north easterly direction to the north eastern corner of the complex where the ARMs storage building is proposed.
19. The existing element of the branch line and sidings which are proposed for realignment are located deep within the heart of the complex and screened from views from outside the site by intervening buildings and established vegetation. The proposed ARMs offloading building is located immediately to the north of the sidings and benefits from similar screening. The application site area then continues in a linear fashion in a north easterly direction. The area would be occupied by the conveyor system that would transport the off-loaded ARMs to the storage abuilding. The conveyor would cross above established features such as internal haul roads, established grassland and ancillary structures to the south of the kiln buildings and kilns themselves before ending to the north of the main site offices.
20. The application site broadens out at this point and covers an area within which the ARMs storage building would be located. This area is currently predominantly hardstanding occupied by contractors' offices and containers, but also includes a limited section of the woodland to the east. The Stone Store building is located to

the North, site offices to the South, bag filter building, chimney and the rest of the works complex to the west and a dense wooded area to the east.

21. The HCW complex itself has been established in its current location since 1929, before the National Park was designated, and covers an area of approximately 300 hectares comprising the cement plant and associated plant and buildings, rail sidings and the limestone and shale quarries to the south west and east respectively. The Works' location on the cusp of the white and dark peaks has presented a unique situation where it is in immediate proximity to the primary raw materials (limestone and shale) needed for the manufacture of cement. The site is situated within the Hope Valley landscape character area.
22. On the north side of the Hope valley there are a number of high points including Win Hill at 463m AOD, 3.5km away, Lose Hill at 475m AOD, 3km away and Mam Tor at 517m AOD, 5km away.
23. The Hope valley floor drops to approximately 180m AOD close to the site and the proposed storage building is screened from the settlements on the valley floor by the tree covered ridge behind the site that rises to approximately 209m AOD. This is known as Haywood Hill and is named after Sheila Haywood, a landscape architect and colleague of Sir Geoffrey Jellicoe, who designed the landform to screen the works from the Hope valley.
24. The Cement Works site is defined by a series of stepped platforms with Ordnance Datum levels varying from 191.5mAOD at the most western platform, to 187.5mAOD on the central platform where the conveyor belt crosses and 185.7mAOD on the eastern and lowest platform at the rail track. The proposed development would extend over all three platforms.

Rail Link

25. Hope Cement Works opened in 1929, and was provided from the outset with a rail connection to the Dore & Chinley Line, located some 2 km away, via a private branch line (referred to as the Branch Line) which commences at the head shunt to Earles Sidings, from where all trains to and from the works are received and dispatched and run to the rail terminal within the Works. The Branch Line, like the rest of the operator's private rail system, has been in continuous use since 1929.
26. Cement is exported by road and rail from the works, while coal and ARM (currently consisting solely of PFA) are imported. At present, there are four rail terminals served by the Works, from where cement is distributed by road to customers.

Proposal

27. **Importation of Alternative Raw Materials (ARM):** The proposed development seeks to enable the importation of a range of alternative raw materials (ARM) to Hope Cement Works via the existing rail link at the site. Imports could potentially occur by road, but only for limited periods and in rail outage emergency situations. It is proposed to import up to 450,000 tonnes/annum of ARM (wet) (gross weight). This necessitates the importation of 200,000 tonnes/per annum (100,000 tonnes plus another 100,000 tonnes allowance for moisture content) in addition to the 250,000 tonnes/annum of pulverised fuel ash (PFA) permitted under extant planning permission NP/HPK/0710/0665. Application ref: HPK/0819/0896

currently under consideration by the MPA seeks to vary application ref: NP/HPK/0710/0665 to allow all PFA imported to site to potentially be used as kiln feed in the cement manufacture process.

28. Whilst importing dry PFA is preferable to the operator, consent is sought to import ‘wet’ or ‘conditioned’ PFA which may be dried at the cement works site to allow access to a wider market of kiln feed substitute sources. In addition to the conditioned PFA, consent is sought for access to a wider substitute markets that could include, inter-alia, waste shale, slate or clay. All of these materials would fall under the term ‘ARM’.
29. The applicant’s need for this application is twofold. Firstly, to allow access to a broader market of kiln feed substitutes given the UK government’s policy to move away from coal fired power stations which has limited, and will ultimately remove access to dry domestic PFA. Secondly, the Environment Agency has imposed new requirements on cement manufacturers to cut their sulphur dioxide (SO_2) emission levels, which the operator must comply with. The majority of the remaining on-site shale is of medium to high sulphur content, thus utilising it in the cement manufacturing process in its raw form would result in a breach of the new emission limits imposed by the Environment Agency. The HCW plant is currently operating under an EA permit derogation on the basis that they have are seeking to lower SO_2 emissions through the means of this planning application. It is proposed to blend the high sulphur content shales with imported ARM in order to reach a suitable kiln feed mix that satisfies both the cement manufacture process and the EA imposed SO_2 emission limits.
30. **Material types:** The proposed development seeks to provide for the reception, treatment and storage of all types of potential alternative shale materials (ARM) including other sourced shale, conditioned PFA, fireclay, slate fines and other such materials.
31. Dry PFA which could continue to be imported would be stored in silos 13, 14, 15 and 16 as existing and permitted under extant planning permission ref: NP/HPK/0710/0665. Application ref: NP/HPK/0819/0896 seeks to allow up to 250,000 tpa of PFA to be used as kiln feed substitute, currently only 100,000 tpa is permitted for this purpose. The infrastructure proposed by the application under consideration by this report would allow for the reception, unloading, transfer and storage of the materials that cannot be pneumatically unloaded for storage in the silos.
32. **Importation:** The proposal seeks consent for up to 7 mainline train deliveries of ARM per week, which may in some circumstances result in more than one delivery within any given 24-hour period. However, it is envisaged that 1 mainline delivery is most likely to be received each day. The mainline deliveries will be offloaded at Earles Sidings outside of the application site and brought into the HCW complex by the operator’s locomotives in smaller wagon strings, which would result in up to 56 branch line movements per week. It is proposed that ARM’s may also be delivered to the cement works by road vehicles, but only in the event of rail outage emergencies. This approach would mirror that applied to the importation of PFA granted under permission ref: NP/HPK/0710/0665.
33. **Shale Substitution Infrastructure Development:** It is proposed to reconfigure the Cement Works’ rail yard to allow the unloading of materials with similar properties to site won shale which would include the construction of an additional

railway siding - 'Siding H'. Having been transported into the works by rail, the rail wagons would be emptied at an unloading station using an overhead grab/ gantry crane. At the train unloading station, an enclosed overhead shuttle conveyor would be installed to transfer material to a newly built material storage building. See Drawing 70056391 54-002 A1 issue 02.

34. Drawing 70056391 54-002 A1 issue 02 shows the position and arrangement of the siding, which would not require extension of the sidings area due to the now proposed new siding being envisaged when the then new rail sidings were installed in 2006. The sidings would be used for the storage of rail wagons containing both cement and ARM to allow enough storage capacity to adequately cope with the additional volume of wagon movements.
35. **Proposed unloading station:** – Drawing 70056391 54-004 A1 issue 02 shows the rail off-loading facility with an internal overhead gantry crane structure and extents of movement with a transfer point from the feeder to the transfer conveyor located towards the north end. The crane grab unit would have 3 rail wagons located underneath it, which would be underloaded into the feeder hopper which will then additionally feed the material onto the transfer conveyor. These facilities are proposed to be housed within the building to facilitate dust control. The dimensions of the proposed unloading station building would be approximately 60m in length, 16m wide and 14m to the ridge. The building is proposed to be of a steel frame construction with open sides and a metal clad roof.
36. **Rearrangement and extension of sidings:** Drawing 70056391 54-003 A1 issue 02 shows the position and arrangement of the siding, which would not require extension of the sidings area due to the now proposed new siding being envisaged when the then new rail sidings were installed in 2006. The sidings would be used for the storage of rail wagons both cement and ARM to allow enough storage capacity to adequately cope with the additional volume.
37. It is likely that at least 1 train a day of ARM would be arrive at the site (perhaps up to 7 trains per week depending on payload).
38. **Conveyors (Design):** The proposed enclosed overhead transfer conveyor would deliver the materials to a new purpose-built covered storage building. The overhead conveyors are 2.8m wide with a corridor 1.5m either side for maintenance activities. All conveyor runs would be enclosed. (Drawing 70056391 54-008 A1 issue 01.)
39. **South conveyor:** The south conveyor would be approximately 300 metres in length from the 'C' railway sidings to the transfer tower; it would rise to approximately 29 metres in height from the rail offloading point (178.0m AOD) to its level at the transfer tower (approximately 207.3m AOD) at a roof height of some 16.8 metres above the ground at that point.
40. **South transfer tower:** This would be the tallest structure at approximately 8.3 x 12.0 metres x 18.5 metres high. It would be clad in the same material and finish as the proposed storage building.
41. **East transfer conveyor:** The east conveyor would cross on a slight incline from the transfer tower to the storage building at a roof height of about 13.8 metres, a lower level than the entry into the tower of the south conveyor.

42. **New Internal Access Road to / from the Storage Building:** For use by tipper trailers and other plant to allow raw mix additions to be taken to the building for accurate blending into the system through blending hoppers.
43. **Cut and Fill Engineering Operation:** It would be necessary to create a level plateau in order to construct the ARM storage building. To achieve the required level surface a cut and fill engineering operation is proposed that would regrade the existing topography of the area where the ARM storage building is proposed to be located. This process would be undertaken with various plant and equipment including excavators and bulldozers. The existing topography is undulating with levels varying from approximately 189mAOD to 193m AOD. The cut and fill process would effectively create a level surface at approximately 191.5m AOD.
44. **ARM Storage building:** The proposed material storage building (70056391-54-0017-A1 Issue 2) would be fully enclosed and would also be able to receive material from road going tipper trailers currently used to allow minor raw mix additions to be accurately blended into the system using blending hoppers. However, the majority of ARM would be transferred directly to the building by the proposed conveyor system.
45. The materials would comprise trapezoidal metal wall and roof cladding systems with associated flashings and trims. The direction of lay would be vertical. Guttering would be metal with circular downpipes. The building would have doors and a passive ventilation louvre system. There would be associated support trestles, lifting beams, frame structure, access stairs, and gantry systems all in galvanised steel.
46. The proposed material storage building would have the facility to store material in three distinct bays. From the storage piles in the bays the material would be loaded into the blending hopper using a front-end loader (FEL) all within the material store.
47. The Storage building's dimensions are proposed as follows; 14.5m to the eaves, 16.5m to the ridge, 72.5m long and 37m wide. Two colours were suggested for cladding in the pre-application response from the PDNP (Dark Moss/ Juniper green BS4800/5252 code 12.B.29 or Olive-green BS 4800/ BS 4904/ BS5252 code 12.B.29)
48. **Storage capacity:** It has a proposed capacity of 8,000t split into bays of 4,000t / 2,000t / 2,000t to allow separation and use of multiple materials. On discharge from the train the material would be transferred into the requisite reception bay via the aforementioned conveyor.
49. **Cut and Cover Tunnel and Transfer to Raw Mills:** The proposed material storage building would have the facility to store material in three distinct bays. From the storage piles in the bays the material would be loaded into the blending hopper using a front-end loader (FEL) all within the material store. After the blending hoppers, two conveyors contained within an enclosure, would be installed to convey the material to the dosing vessel. From the dosing vessel material would be discharged onto either of two weigh belts which will feed onto extended 14 or 15 belts which are the existing raw meal conveyors. Dosing onto 14 /15 belt would be controlled by the plant control system in conjunction with the feeds of shale, low silica limestone and high silica limestone which occur further

along 14 / 15 belt.

50. The cut and cover tunnel and linking structure to the raw mill feed conveyors is at the south end of the storage building (70056391 54-0019 A1 issue 02). The cut and cover tunnel would be an extension to an existing tunnel under the existing stone store including extending the existing 14 / 15 conveyors. This option was chosen in preference to an elevated conveyor which would have delivered the material onto 16 / 17 conveyors.
51. The feed system to the conveyors would be a dosing system to allow accurate control of raw meal composition.
52. The system is designed for all types of alternative shale materials including potential materials like other sourced shale, conditioned ash, fireclay, slate fines etc. (It is not for dry ash as this is pneumatically unloaded from rail tankers and stored in the existing silos). All materials would be dried as they pass through the raw mill circuits as with the existing shale use.
53. The mode of operation for loading in the building is for a front-end loader (FEL) (CAT 966 or similar) to take material from any of the 3 sections of the store (or all 3 during a blend) then fill an internal hopper within the store. This would feed the north conveyor that would deliver material to the north conveyor hopper, before being fed onto the extended 14/15 conveyors in the extended cut and cover tunnel. The feeder beneath the north hopper would be controlled by the plant automated mix control programme to optimise the manufactured raw mix.
54. **Facilities for treatment and drying:** All materials would be dried as they pass through the existing raw mill circuits with any shale extracted from the on-site quarry.
55. **Relocation of contractor's compound:** The contractor's compound is proposed to be relocated within the Works site to facilitate the construction of the ARMs storage building. The compound would be relocated to the position shown on plan ref: NT14126/100/Figure 3.2
56. **Operational Times:** The cement works operates on a 24 hour a day, 7 days a week basis, as such consent is sought for 24 hour use of the proposed development. However, it should be noted that rail movements would be restricted to between 0700 – 2300 hours.
57. **Construction Phase:** During this phase construction would take place from 07.00 hours to 18.00 hours Monday to Friday (excluding Bank Holidays), and 07.00 to 14.00 hours on Saturdays.
58. This phase would involve some demolition of structures and hardstanding within the footprint of the proposed development which would be no longer needed. These include footings of a silo to allow construction of the unloading facility, a road weighbridge, an existing storage unit and lengths of rail track. The contractor's cabins on the site would also be removed. Some removal of trees is required to facilitate the erection of the ARM storage building. The construction phase is estimated to take approximately 18 months. Construction traffic associated with the development would not exceed 200 annual average daily traffic (AADT).

RECOMMENDATION:

59. That subject to the completion of a S.106 agreement in substantially the same terms as outlined in the 'S.106 Head of Terms' section of this report, the application be APPROVED subject to conditions covering the following broad areas (Full draft conditions contained in Appendix A):
- 1) Development in accordance with approved plans.
 - 2) Development shall cease no later than the 22nd February 2042.
 - 3) All built development approved under this consent shall be removed within 2 years of the cessation of operations and site restored within a further 2.
 - 4) Maximum importation of ARM shall not exceed a combined total (wet and dry weight) of 450k tonnes p/a wet weight.
 - 5) Maximum importation of ARM shall not exceed a combined total (wet and dry weight) of 361k tonnes p/a dry weight.
 - 6) Monthly and annual records of the types and quantities, dry and wet weights of all ARM shall be kept and supplied to the MPA on an annual basis or on request.
 - 7) A record of the annual amount of ARM imported to site shall be supplied to the MPA at the end of each calendar year and monthly records on request.
 - 8) All ARM will be imported to the site by rail other than in the event of emergencies
 - 9) Undergrounding of overhead power lines prior to use of ARM building.
 - 10) Noise and vibration mitigation
 - 11) Development to be carried out in accordance with Rail Management Handbook.
 - 12) Ecological conditions
 - 13) Lighting conditions
 - 14) Environmental Health Conditions
 - 15) Post approval monitoring of vibration caused by rail movements to ensure no significant divergence from levels stated in application submission.
 - 16) Vibration levels shall not exceed those recorded in submission documents.
 - 17) The site shall be restored in accordance with submitted restoration plan within 2 years of the cessation of development or by 22nd February 2044, whichever is the sooner.
 - 18) The restoration shall be subject to 5 years annual aftercare.
 - 19) Development in accordance with the Dust Management Plan
 - 20) LEMP – replacement screen planting and mitigation of impact on heritage assets.
 - 21) All buildings and conveyors consented under this development shall be finished in Olive-green BS 4800/ BS 4904/ BS5252 code 12.B.29.
 - 22) CEMP – construction vehicle movements/controls
 - 23) No train movements associated with the development (importation of ARM) on the branch line between 2300 – 0700.
 - 24) No existing train movements to be pushed into 2300-0700 time slot as a result of this development.
 - 25) Maximum 7 mainline rail deliveries of ARM per week to Earles Sidings.
 - 26) Welding of track close to residential properties and removal of points prior to commencement of importation of ARM by rail.
 - 27) Training scheme for train drivers.
 - 28) Scheme for branch line vibration monitoring.
 - 29) Rail vibration shall not exceed set limit.

- 30) Review of further rail noise reduction measures.
- 31) There shall be no importation of primary aggregates, industrial aggregates or virgin extracted material of any kind under this consent.
- 32) Set limits for movements on the branch line.
- 33) Acoustic screening at branch line.
- 34) Construction and demolition management plan (control vehicle movements and dust)
- 35) Best reasonable endeavours to reduce the carbon footprint of the Works will be undertaken when opportunities arise.
- 36) Annual records of CO₂ emissions to be provided to the MPA.
- 37) Definition of ‘ARM’
- 38) Rail deliveries of construction materials shall not exceed more than 1 per day and will not push existing deliveries into night time hours.
- 39) Ecological enhancement measures.
- 40) Biodiversity net gain requirement and management.

Key Issues

- 60. This is a major development proposal that poses numerous complex planning issues, all of which are discussed in detail in this report. However, for ease of reference the key issues to be considered when determining the application are outlined below.
- 61. Definition of ARM – Alternative Raw Materials (ARM) is a broad definition that could encompass a wide range of materials, as such it will be important to have a clear understanding of their nature in order to assess the proposal appropriately against the relevant national and local planning policies.
- 62. Potential departure from Policy CC1 – the use of an alternative secondary feedstock in cement manufacture process calls into question compliance with the policy in relation to the embodied carbon within the ARM and as a consequence of its transport to site. The implications of the use of ARM in addition to, or replacing currently consented PFA are considered in isolation and against potential alternatives.
- 63. Principle of replacement of on-site shale with ARM – the replacement of on-site shale with ARM has the potential to extend the life of the on-site shale reserves, which needs to be considered in the context of wider cement works complex, it's extant permissions and the National Park's strategic objectives and fundamental purposes.
- 64. Potential adverse impact arising from additional rail movements – the proposed increase in rail movements, specifically along The Works branch line and associated activities at Earles Sidings have the potential to cause nuisance to local residents by way of noise and vibration.
- 65. Visual impact of proposed development – impact of the proposed buildings and structures on the National Park's landscape and character.
- 66. Impact on cultural heritage – the scheme has the potential to impact upon designated and non-designated heritage assets and must be fully considered against national and local policy.

History

67. Hope Cement Works has been in existence at its current site in some form since 1929, and as such pre-dates both the modern planning system introduced by the Town and Country Planning Act 1947 and the formation of the Peak District National Park in 1951.
68. Production of cement commenced in the 1930s at a rate of 150,000 tonnes per annum (tpa), rising to 500,000 tpa in the 1950s. The site has benefited from a rail link via its own dedicated branch line since The Works were constructed in 1929.
69. The wider site has a complex planning history with various permissions for ancillary development and infrastructure granted over the years. This section of the report does not detail the wider site's entire history, rather it outlines and discusses the consents material to the determination of this application applicable to the planning status of the wider Works site at the present day.
70. 1948 Permission (ref: 1986/9/3) – Formal consent for the Works was first granted under a Ministerial decision on the 21st of December 1948. The application area encompassed the cement works and the associated limestone and shale quarries from which the works drew its feedstock as one single planning unit.
71. The letter confers consent for '*the development of land by the winning and working of limestone and clay for the manufacture of cement, and the erection of buildings at the Hope cement Works*' and makes a number of observations which convey the thoughts of the Minister when making his decision.
72. It states: '*The site of the undertaking is in an area of the Peak District, famous for its natural beauty and recommended as a National Park by the National Parks Committee for England and Wales. The Minister has borne in mind the beauty of the area as a whole and in particular, the importance to the landscape of the undulating countryside surrounding the Hope Valley. On these grounds there must be a strong presumption against any industrial extension which would be out of harmony with the natural beauty of the area. On the other hand, he has had to take account of the urgent national need for increased supplies of cement, and of the fact the undertaking, which has been in existence since 1929, is well situated to supply the demands for cement from the adjacent industrial areas. The Minister is advised that there is only a limited number of sites in the country satisfying economic considerations and at the same time providing in workable quantities the raw materials and services necessary for the production of cement. In this field, therefore, any action which would have the effect of disrupting production from these Works is undesirable.*'
73. All of the matters taken into consideration by the Minister in 1948 remain pertinent to the present day. Although the case for economic need may weigh less heavily given the necessity to rebuild the country after the second world war, that need still remains in the form of the levelling up agenda, the housing shortfall and due to various significant infrastructure projects. The UK's cement production capacity continues run at close to its maximum and relies on a limited number of sites, with the Hope Works contributing to circa 15% of the UK's domestic cement needs. However, it also remains true that the Works is located in an area of particular beauty given the surrounding landscape, which has since been designated a National Park (1951).

74. The letter continues: '*On full review of the circumstances, the Minister has been forced to the conclusions – albeit with reluctance in view of the special nature of the area – that, in the national interest, it would not be right to refuse consent to the proposed expansion of the Hope Cement Works, which have been in operation on the spot for a number of years and represent an important element in the national production of cement. This, however, is on the consideration that all practical steps consistent with the development are taken to minimise injury to amenity.*'
75. It is important to note the conclusion that the permission was granted with reluctance by the Minister in the context of the national need for cement at that time, and to appropriately apportion weight to the competing interests when determining this application. This matter is fully discussed in the assessment section later in this report.
76. The consent also states: '*The Minister has noted with concern the disparity between the working life of the clay and limestone areas. The disparity between the primary and secondary feed stocks has remained throughout the life of the Works, with subsequent applications submitted seeking to align the two for the purposes of continued cement production. This application also seeks to do just that, by way of substitution of on-site shale. The MPA considered the determination of this application as the appropriate opportunity to instigate a strategy that would finally align the reserves.*
77. The consent letter closes stating: *The Minister wishes to make it clear, however, that, while in all the circumstances he has thought it right to consent to the extension of the Hope Cement Works, he would regard any further industrialisation of the area as undesirable.*
78. Clearly there has been further industrialisation of the site, as outlined below, but it is a pertinent closing statement that gives insight into the thoughts of the Minister at that time.
79. 1969 Permission (ref: NP/CHA/468/2) – Consent was granted by the Peak Planning Board on the 2nd of July 1969 to allow the extension of the cement works. This culminated in the extension and significant upgrade of the Works which forms the basis of the on-site infrastructure present on site today and allowed production capacity to reach its current rate of output circa 1.5mtpa.
80. This consent also granted approval for the Works and the associated limestone and shale quarries as a single entity, interrelated and dependent upon each other. The consent went further to define the uses as a single planning unit by its introduction of Condition no. 2 which reads:
81. '*When the works have ceased to operate permanently either for the winning and working of limestone or clay or shale or for the manufacture, storage and delivery of cement, all buildings, plant and machinery, for the manufacture, bagging, and delivery of cement or cement products, including all chimneys and other structures connected therewith, and all plant and machinery for quarrying, and the transporting of limestone, clay or shale whether useable or derelict shall be taken down, and removed entirely from the site, as edged Red on the accompanying Ordnance Survey Map Scale 6" to 1 mile, Edition of 1955 by the company or their successors at their expense entirely, and the Company or their successors shall thereupon restore the site in accordance with a landscaping scheme to be agreed*

between the Peak Park Planning Board and the Company or failing such agreement as may be determined by the Minister of Housing and Local Government.'

82. The reason specified for application of the condition in appendix B of the decision notice states that:
83. *'The Board believes that there is a conflict between the objects of the National Park and the continued existence and operation of the Hope Valley Cement Works and on this account envisages the eventual termination of the existing and proposed development. The Board, however, accepts the exploitation of the limestone resources to the extent already committed, and considers that the life of the buildings, plant and machinery of the Works as extended and reconstructed by the present application matches generally the period still required to extract the remaining reserves of limestone at the rate necessitated for the production of 1.3 million tons of cement per annum. In the opinion of the Board, there is a position in time when the various associated activities of the Works should cease and this will coincide with the exhaustion of the present reserves of limestone, which it is estimated will take place in 30 years from the start of production of the proposed reconstruction works.'*
84. This condition is of particular importance in relation to the determination of the current application, as allowing for the importation of ARM to supplement or substitute on site shale would have the effect of prolonging the life of the shale reserves and as such delay the trigger of the above condition and potentially the restoration of the wider site. The reason for the condition anticipated that the limestone reserves would be exhausted in approximately 30 years from the date of approval. However, this has not occurred, and although the exact figure cannot be disclosed due to commercial confidentiality, the Mineral Planning Authority (MPA) is satisfied that remaining consented limestone reserves are considerable. This matter is discussed in detail in the assessment section of this report.
85. The consent also imposes a condition that relates to vehicle movements by road associated with the exportation of product and reads as follows:
86. *'The company shall undertake not to send out more than 577,500 tonnes of their products by road in any year.'*
87. This condition is important and remains of relevance today as it sets the total tonnage for the export of product produced at the site by road in any year. However, the tonnage specified was in imperial units and equates to 586,777 metric tonnes for monitoring purposes during the present day. It is important to note that this condition relates to the export of product from the site, and does not apply to the import of raw materials by road.
88. Permission NP/HPK/1205/1235 – was granted in 2006 in 2 phases to allow enabling works for new rail infrastructure including: new reception / office/control building/ and new internal HGV access road and development platform for future rail sidings. This permission required removal of buildings at the latest by 22nd February 2044 and restoration and aftercare of the site at the latest by 22nd February 2046.

89. Permission NP/HPK/1108/1031 - was granted in August 2009 for a new rail unloading platform, overhead pipe gantry, 2,500 tonnes silo, compressor houses and delivery pipeline, for the importation, reception, storage internal transfer to existing silos and use of inbound rail fed Pulverised Fuel Ash (PFA) as a cementitious addition to cement products at the cement mills.
90. Conditions 6 and 33 mirrored the end dates in the 2006 permission. Condition 10 restricted the importation of PFA to rail except during emergencies, and reads:
 91. *'Mode of Importation of PFA: The PFA shall be brought into the site by rail only. This condition shall not apply in the event of demonstrable emergency, (such as prolonged railway breakdown or other impediment to rail delivery that exceeds the life of the PFA contingency storage), provided the PFA is only brought into the site by road vehicles in such quantities and in accordance with such arrangements (including details of load capacity, numbers, frequency and routeing of vehicles) and temporary period as may be agreed or modified in writing by the MPA beforehand.'*
 92. *'For the avoidance of doubt, the Mineral Planning Authority will not be bound by this condition to agree to alternative arrangements for the movement of PFA into the site other than by rail, and in considering any request for this purpose will have regard to the extent to which the following criteria has been satisfied:*
 - *The supply of PFA essential for the day to day production of CEM II product(s) at Hope Cement Works cannot be brought to the site by rail due to demonstrable exceptional circumstances outside the control of the operator; and*
 - *There is insufficient PFA stock within the CEM II and other PFA silos or other contingency storage to assure the continuity of CEM II production throughout the anticipated duration of the emergency event; and*
 - *The circumstances of the emergency and requirements for transportation have been notified to the Mineral Planning Authority in writing.'*
 93. Condition 11 restricted the export of cement (but specifically CEMII) to rail except in emergencies and for the then CEMII Portland Phoenix, which could also be exported by road. The use of company trade names for cement products in planning permissions rather than technical specifications presents difficulties in regards potential enforcement, should it ever be required, but the premise of the condition remains clear.
 94. Condition 15 restricted the import of PFA to 150,000 tpa for use as an additive in production of CEMII (then called Phoenix cement and BCC cement). Condition 16 restricted the rate of import to the capacity of the silo storage and throughput facilities, with no open storage allowed.
 95. At this point in time dry PFA was imported to site and used as a cement product extender only. When used in this manner the PFA was mixed with the cement after it had been produced in order to bulk out the product. The current operator no longer conducts this process at the Hope Cement Works site. However, it is worthy to note that the principle of the importation of 150,000 tpa of dry PFA to site by rail was deemed acceptable and is established under this consent. This principle is a material consideration in the determination of the current application.

96. Permission NP/HPK/0710/0665 - granted on 1st September 2010 allows the use of cement storage silos 13-16 for storage of PFA brought in by rail. Condition 4 mirrored the end dates in the 2006 permission. Condition 6 specifically limits this importation to rail transport.
97. Condition 8 as originally worded limited the amounts of PFA that could be utilised for specific uses. Up to 150,000 tonnes per annum could be brought in by rail for use as an additive at the cement milling stage. The PFA was introduced into the process after the cement had been manufactured and the two are ground together to produce a product known as CEM II.
98. Secondly, importation of PFA for use as a shale substitute was allowed up to 100,000 tpa as a partial replacement for natural quarried shale for use in the raw material mix used to make cement clinker. The principle of the supplementation/substitution of site derived shale up to a quantity of 100,000 tpa is established under this consent and is a material consideration in the determination of the current application.
99. An application (ref: NP/HPK/0819/0896) to vary condition 8 of the above consent is currently under consideration by the MPA. The proposal seeks to remove the split of quantities of PFA for the aforementioned specific uses. If approved, this would facilitate the use of up to 250,000 tpa of PFA to be imported by rail for use as a shale substitute. This application is pursued by the operator to allow for the continued importation and utilisation of dry PFA as a shale substitute for use in the kiln feed mix, should sources become available.
100. Permission NP/HPK/0710/0665 allows PFA to be imported and specifically to be stored only in the existing silos. This type of PFA is imported in rail tankers and, because it is 'dry', it is pneumatically unloaded directly into the silos. Initially both dry PFA (imported under permission NP/HPK/0710/0665) and conditioned (wet) PFA, (consented by this application, if approved) would be imported. However, when the 'dry' PFA is no longer available, following closure of coal fired power stations, all the imported PFA would be conditioned PFA, or other ARM, which would be unloaded and stored in the proposed storage building.
101. Conditioned PFA contains varying amounts of water up to approximately 25-30% by volume. Conditioned PFA cannot be stored in silos thus this application is for 450,000tonnes (wet weight) of ARM all to be stored in the storage building and not just 200,000tonnes

Consultations

Bamford Parish Council

102. No objection.

Hope with Aston Parish Council

103. Our response is an assessment by the Hope with Aston Parish Council carried out by the Parish Councillors on behalf of the local community it serves. We recognize the need to minimize road transport in to and out of the site, and agree that the proposals have minimal impact on cultural heritage, recreation, biodiversity and the visual intrusion of the site. We welcome the slight reduction in visual intrusion stemming from burying the overhead power lines to the quarry. But we continue to

have important questions about the application and its impact on the local community of Hope. These issues still focus on:

- 1) noise and rail movements
- 2) climate change and long-term sustainability of the site
- 3) air quality
- 4) road transport and
- 5) social and economic costs and benefits.

Together these concerns suggest that the environmental impacts evaluated in the report still elide too much inconvenient detail and underplay the National Park location of the plant. In our view the benefit to the company is outweighed by the impact on the National Park, and the local community.

104. HwAPC therefore object to the application in its present form and would like the issues described in this report to be addressed.

105. Noise and rail movements

The majority of the revised noise chapter in the supporting report focuses on mitigating impacts of the proposed buildings on site, and we recognize that this mitigation is sensible and effective. The main issues of concern for local communities through still relate to rail movement and consequent noise and vibration that stem from transport of ARM into the site and exit of rolling stock from the site. We endorse and support the HEARD report on these issues and agree with their assertion that the noise survey carried out after the initial application significantly misrepresents experienced noise and vibration and underplays the impact of the 50% increase in rail traffic arising from the application.

106. Climate change and long term sustainability of the site

The key issue of the proposal is the wider spatial, and longer-term implications of the proposals, both for its role in contributing to an increased carbon footprint, and as a potentially precedent-setting issue for planning in the National Park. The application acknowledges that there would be an increase in CO₂ stemming in the main from transporting ARM to the site. It does not chart the wider greenhouse gas implications of operation of the plant, which already contributes 1.2 million tonnes of CO₂ to the atmosphere each year. We suggest the evaluation of climate impact surely has to recognise that.

107. Air quality

The central issue for air quality is the impact upon human health because of the changing nature of emissions, dust and particulate levels in the aftermath of the ARM development. But the focus of the air quality chapter is almost entirely on dust management and fine particulates.

108. Road transport

The key issue in relation to road transport is the need for a modal shift away from road towards rail, as a more carbon-neutral alternative for moving material in to and out of the site. Existing HGV movements to and from the Breedon works through Hope village are already at a level which creates significant issues for the community, including concerns around intimidation, noise, safety, pollution and environmental harm. While the current proposal focuses on bringing in ARM by rail, and indicates a small reduction in lorry movements, it has the potential to increase road traffic in a number of ways, including additional works traffic while the building works are undertaken, and displacement to road of movements of ARM during any period in which movements by rail are disrupted.

109. Social and economic Impacts

The report argues that Hope Works employs a significant workforce, contributing large sums directly and indirectly to the local economy. It implies this contribution would be threatened were the proposal not to be approved. It also suggests UK supply of cement would be threatened should Hope Works be no longer sustainable.

Each topic area the Parish Council refer to is followed by a number of key questions. All of which are considered in the body of this report and/or addressed by the proposed planning conditions.

Edale Parish Council

110. No comments to make.

Bradwell Parish Council

111. Support the application.

Hathersage Parish Council

112. No objection.

Tideswell Parish Council

113. The Parish Council have no comments to make apart from concerns about the language used in the application will be very difficult for anyone not advanced in this subject to understand. Again the Parish Council would like to see such applications be explained in simpler terms. No objection.

114. DCC Highways

115. No objection.

Hope Environmental and Rail Delegation (HEARD)

116. Representations received on 30.11.20 and 27.01.22.

117. The first correspondence received from HEARD constitutes a detailed objection with associated appendices to the proposal which is available to view in full on the Authority's website. The points of objection constituting material planning considerations are summarised below to assist Members when considering the application.

- Cement production should cease when remaining 'useable' shale reserves are exhausted on the basis of the existing planning permissions.
- Cement production should be relocated to an alternative site that has all the required natural resources in situ. 50% increase (3,600 additional) in branch line rail movements per year would represent a significant increase and cause adverse disturbance by way of noise and vibration.
- Increase in movements will cause an adverse impact on human health, due to stress and loss of sleep.
- Adverse impact on the quiet enjoyment of residential properties/gardens and the National Park.

- Excessive speed of passing locos with/without wagons contributes to noise/vibration impacts.
- Shunting activities and idling locos at Earles Sidings cause an adverse noise impact on residents.
- Adverse impact on tourism in the National Park. People staying in holiday accommodation in close proximity to the branch line have left negative online reviews sighting rail noise as a factor. Rail noise can also be heard in surrounding camping and caravan sites. Tourists will choose other locations to stay in the Park thus having an economic impact on small businesses in Hope.
- Continuous incremental increases in number of movements on the branch line over the years has increased blight and the current proposal would be unacceptable.
- Net increase in CO2 emissions as a result of the development.
- Alternative solutions to the need for lower sulphur shale may be available but are more costly than the current proposal, these should be utilised rather than impacting residents negatively through this proposal.
- Older buildings in close proximity to the branch line showing signs of structural cracks.
- Average noise measurements used in applicant's submission, residents are concerned by the maximum noise levels.
- Drivers sounding horns creates further disturbance.
- Rail noise has increased over the past 10-15 years.
- Applicants assessment focuses on average noise levels rather than peak levels that can reach 88dB.
- Refute 88dB as a maximum and have experienced higher levels with readings having been taken on handheld devices that exceed that level.
- 88dB is an increase in noise and sound volumes/pressures of a factor of virtually 16 times nosier than the average (50 LAeq) decibel levels the applicant draws attention to in their submission.
- Differences between average and peak noise levels must be recognised.
- Old rolling stock is nosier than modern locos/wagons. These should be replaced by modern equivalents.
- 450 additional mainline movements causing noise and disturbance to residents.
- Consideration to be given to DEFRA's Noise Action Plan: Railway – Environmental Noise (England) Officer Comment - *Does not apply in this instance as it refers to noise from major railways outside agglomerations where 1% of the population (the total population is the number of people within the 50 dB LAeq,18h contour from major railways outside agglomerations according to the 2011 census.) that are affected by the highest noise levels from major railways are located according to the results of the strategic noise mapping.*
- Reports that trains were driven slower during the 2019 monitoring period than they are usually.
 - The appendices submitted with the representation include a study into rail noise conducted in Slovakia. While it provides insight into the impact of rail noise on people it is not directly comparable to this application which must be judged on its own merits.
 - The appendices also include two videos of trains using the branch line. One in 2010 and one in 2019. The videos show trains moving along the branch line and generating noise. Again this evidence provides an insight into activities and occurrences it is not possible to quantify speeds or noise levels from them so they can only be given limited weight when assessing

the proposal.

118. Suggested Measures to Reduce Rail Noise
- Re-examine all noise and vibration issues in areas of greatest concern to reduce impacts
 - Replace all present rolling stock and wagons
 - Potential reduction in coal requirements for use as kiln fuel due to use of PFA could reduce night time rail deliveries of coal. These reductions should not be replaced by other rail movements.
 - Set in place measures to control speed of branch line movements.
 - Erect noise attenuation fencing at relevant parts of the branch line.
 - Fit noise/vibration reducing sleepers and rail tracks.
 - Install acoustic attenuation materials such as curtains or window inserts at affected properties.
 - Replace jointed tracks with continuous welded tracks.
 - Remove points close to Earles viaduct.
 - Install noise reducing windows at affected properties within 25m of the branch line at Breedon's expense.
 - Restrict speed of locos on the branch line
 - Modify horns on locos so as to warn pedestrians crossing the line but not be excessively noisy.
 - Reduce idling of engines at Earles Sidings.
 - Reschedule arrival and departure times of deliveries to Earles Sidings to reduce nuisance noise caused by shunting activities.
 - Automatic closing gate to be installed at Earles Sidings to prevent access by the public in the interest of health and safety.
 - Negotiate with Network Rail to replace the remaining sodium lit gantry lights with LED equivalents.
 - Negotiate with Network Rail to replace worn out track at Earles Sidings.
119. The 27.01.22 representation predominantly outlines the same concerns specified above and reiterates that residents remain adversely affected by the existing rail movements. It also refers to a night time noise survey undertaken in 2010. This evidence is anecdotal and not representative of the operation today so cannot be given weight in the planning consideration process for this application. It also critiques the applicants revised noise assessment and refutes the claims that '*noise levels at all ESRs are low and provide a good level of amenity to residents*' and that noise levels that would be experienced by residents are '*not significant*'.
120. This latter submission also outlines a number of assurances given by the applicant to make improvements to mitigate noise levels experienced by residents. It can be confirmed that the operator has made these assurances and they would be imposed by planning condition and legal agreement. The mitigation measures are outlined in the 'Rail Noise and Vibration' section later in this report and specified by conditions in Appendix A and the Heads of Terms for a S.106 agreement from paragraph 578 of this report.

DCC Flood Risk Management

121. No objection subject to conditions requiring:

- Surface water management, maintenance and drainage plan.

- Demonstration that the proposed destination for surface water discharge accords with the drainage hierarchy.
- Scheme for management of additional surface water run off created by development. Submission of a drainage verification report prior to first occupation.

Health and Safety Executive

122. No requirement to be consulted on the application.

Environment Agency

123. No objection subject to the following conditions:

124. A remediation strategy to deal with the identified free phase hydrocarbon hotspot on site should be submitted along with a verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy are complete.

125. A verification report demonstrating the completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to, and approved in writing, by the local planning authority. The report shall include results of sampling carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.

126. If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the local planning authority) shall be carried out until a remediation strategy detailing how this contamination will be dealt with has been submitted to, and approved in writing by, the local planning authority. The remediation strategy shall be implemented as approved.

Historic England

127. Historic England provides advice when our engagement can add most value. In this case we are not offering advice. This should not be interpreted as comment on the merits of the application. We suggest that you seek the views of your specialist conservation and archaeological advisers.

High Peak BC Environmental Health

128. No objection subject to conditions relating to a number of topic areas specifying the following:

Demolition and construction:

129. Works to be undertaken should be conducted under a Construction Environmental Management Plan (CEMP) to minimise emissions of dust and noise during construction works. The following conditions are recommended and should be incorporated within the CEMP:

130. CONSTRUCTION AND DEMOLITION – DUST

There shall be no visible dust emissions beyond the site boundary associated with

construction/demolition works undertaken at the site. In controlling dust on site, the contractor shall have due regard to the Institute of Air Quality Management Guidance on the assessment of dust from demolition and construction, 2014.

131. CONSTRUCTION & DEMOLITION WORKS: TIME OF OPERATIONS

Unless prior permission has been obtained in writing from the Local Planning Authority, all noise-generating activities shall be restricted to the following times of operations.

- 07:00 - 18:00 hours (Monday to Friday);
- 08:00 - 14:00 hours (Saturday)
- No working is permitted on Sundays or Bank Holidays.

In this condition, a noise-generating activity is defined as any activity (for instance, but not restricted to, building construction/demolition operations, refurbishing and landscaping) which generates noise that is audible at the site boundary.

132. PILING

No piling shall take place outside the hours 09:00 hours to 16:00 hours Mondays to Fridays

133. Branch Line:

134. Prior to the proposal first being brought into use, the applicant shall implement a scheme of noise management measures to be agreed by the Local Planning Authority, this shall include details for:

- Implementation of a speed limit on the branch line which should include provision for the monitoring and review of the speed of trains using the branch line.
- Improvements to the existing branch line to include smoothing of the bend and removal of points.
- Implementation of acoustic fencing

135. The movement of Alternative Raw Material (ARM) into Hope Works by rail, the return of ARM wagons to the Earles Sidings, or the movement of Loco's (with or without wagons) associated with the collection or return of ARM wagons (from or to the Earles Sidings shall be prohibited between 2300hrs to 0700hrs unless subject to prior approval by the planning authority in an emergency situation.

136. The movement of Alternative Raw Material (ARM) into Hope Works by rail shall be made using wagons with a double bogie arrangement.

137. No more than 450,000 tonnes of ARM shall be imported annually in to Hope Works. All imports shall be by rail only unless subject to prior approval by the planning authority in an emergency situation. There shall be no more than 7 trains delivering ARM to Hope Works each week.

Conveying and storage facility:

138. Prior to the proposal first being brought into operation, the applicant shall implement a scheme of noise mitigation measures to the extraction unit on the raw meal silo as identified in paragraph 13.5.8 of the Noise and Vibration Assessment (NT14126/EIA/2/013A, December 2021), to achieve a reduction in noise emissions of at least 10dB LAeq when measured or calculated to Pindale Farm, as identified in the receptor location ESR5 in Figure 13.1, of the assessment.

Validation that this has been achieved shall be submitted to the LPA for approval prior to first operation of the proposal.

Earles Sidings:

139. The applicant should make an undertaking to investigate operational practices at Earles Sidings to determine if noise levels from the engines can be mitigated at source with the aim of reducing noise levels emanating from activities at Earles Sidings.

Vibration:

140. The assessment undertaken indicates that vibration from the current track movements is below the daytime criterion for 'low probability for adverse comment' when considered against BS6472-2 at a receptor 22metres from the railway (Orlecar Cottage) and the additional proposed movements are considered likely to be negligible.
141. Suggest condition requiring monitoring post approval to ensure no significant divergence from the levels already monitored occurs and branch line maintenance plan.

Natural England

142. No objection. Based on the plans submitted, Natural England considers that the proposed development will not have significant adverse impacts on designated sites and has no objection.
143. European sites – South Pennine Moors Special Area of Conservation and the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area. Based on the plans submitted, Natural England considers that the proposed development will not have likely significant effects on the South Pennine Moors Special Area of Conservation and the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area and has no objection to the proposed development. To meet the requirements of the Habitats Regulations, we advise you to record your decision that a likely significant effect can be ruled out.
144. South Lee Meadows Site of Special Scientific Interest - Based on the plans submitted, Natural England considers that the proposed development will not damage or destroy the interest features for which the site has been notified and has no objection.
145. Protected Landscapes – Peak District National Park. The proposed development is for a site within or close to a nationally designated landscape namely Peak District National Park. Natural England advises that the planning authority uses national and local policies, together with local landscape expertise and information to determine the proposal.

Hope Valley Climate Action

146. The enormous emissions of carbon dioxide from cement manufacture derive almost entirely from the manufacturing process itself. The carbon emissions attributable to the transport of raw materials are only just over 0.1% of the total.

For this reason, the changes in practices planned by Breedon, which are dependent on the changes for which permission is being sought, will have a tiny impact on their overall emissions, so long as the overall amount of cement produced does not increase as a consequence.

147. Hope Valley Climate Action **does not, therefore, object** to the application made. We do, however, note that there are some elements of the proposed building works, and changes in practice that will follow, that have the potential to impact on carbon emissions, and we request therefore that conditions are applied to any permission given, as described below.

- That an ambitious requirement should be set for the minimum proportion of the overall tonnage of construction materials imported to be brought in by rail.
- That a detailed analysis of the carbon dioxide emissions caused by the construction should be carried out, and proposals put forward by Breedon as to how they will minimise these, ideally to carbon neutrality.
- That permission to import shale substitute by road in the event of blockage or difficulty in importing by rail, is rescinded.
- That Breedon work with the relevant rail authorities to produce, within a short time period to be determined, a costed proposal for the electrification of the Hope Valley line, with the necessary investment made available.
- That Breedon commit to reducing the carbon emissions from the Hope works by 50% by the end of 2030, and draw up plans to do so by the end of 2021.
- That Breedon commission a landscape design study to explore options for increased tree cover and biodiversity on the site, with the intention of planting 1000 trees of a suitable species mix per year during their continuing management of the site.

148. In response to the group's request for conditions, the MPA comments as follows.

149. A condition will specify construction materials shall be imported by rail where possible, however it is not possible to set a figure as the materials will be transported from as yet unknown sources and there may be implications for just in time delivery given available delivery time slots. There is also the implication of adverse impact on residents due to delivery by rail, so the condition shall not allow increased weekly rail movements above the figures currently consented unless otherwise agreed in writing with the MPA.

150. A detailed analysis of CO₂ emissions has been provided by the applicant as part of this application and is assessed in depth later in this report. A condition requiring all reasonable CO₂ reductions to be secured would be imposed on any consent. Setting targets would go beyond the reach of current planning policy.

151. The importation of PFA by road in rail outage emergencies is an established right and there are no material grounds for its removal. It is also necessary to ensure continuity of production. However, the ARMs storage building and the existing silos should provide capacity to cover most rail outages without the need for importation by road.

152. It is beyond the reach of this planning application to impose a requirement upon the operator to seek to electrify the Hope Valley rail line and in any case such proposal is disproportionate given the movements along the line associated with the proposed/existing development when compared with total movements along the line.
153. A landscaping scheme would be required by condition should consent be granted, but it is not possible to specify an exact number of trees to be planted on site as they would have a landscape implication that has not been assessed and may not be suitable in the context of the existing landscape character.

PDNPA Ecologist

154. No objection subject to conditions relating to habitat creation and enhancement, lighting scheme, CEMP and LEMP and long term management of habitat.

PDNPA Landscape Architect

155. The site is located within the 'Valley Farmland with Villages' LCT in the Derwent Valley LCA. Immediately south of the plant is the White Peak LCA with the 'Limestone Hills and Slopes' to the south west and 'Limestone village Farmlands' to the south.
156. The 'Valley Farmlands with Villages' LCT is a settled pastoral landscape, often with a low lying topography associated with a network of streams and damp hollows. This is an enclosed landscape, with views filtered through scattered hedgerow and streamline trees. Gritstone-built villages with outlying farms and dwellings are set within small to medium fields that are often bound by hedgerows.

157. Its key characteristics are:

- A low lying, gently undulating topography
- Network of streams and localised damp hollows
- Pastoral farmland enclosed by hedgerows and some drystone walls
- Small to medium sized fields
- Dense streamline and scattered hedgerow trees
- Gritstone villages and outlying farms with associated dwellings and field barns

158. The existing cement works plant and associated quarries are obviously key existing elements in the landscape.

Applicants LVIA:

159. No comments on methodology. Agreed that a 5km study area is appropriate. The character of the site and LCAs are considered, but as the study area includes a number of individual LCTs (with different characteristics), I would have liked to have seen a 'local landscape character area' defined (both spatially and in terms of key elements of character) as part of the appraisal. However, while this would be best practice (and would enable a more accurate assessment of landscape effects at a more appropriate scale to be carried out) it doesn't invalidate the overall findings of the appraisal.

160. Comments were given to the applicant at the Pre-app stage – these included comments on the colour scheme, roof light panels, mitigation and VP locations – and have been incorporated into the appraisal / scheme design.
161. Due to the presence of the existing plant and quarries, it is agreed that the application scheme would likely not have a significant adverse effect on the key characteristics of landscape character in the ‘Valley Farmlands with Village’ LCT. However, it is probable that some significant effects on a smaller ‘local’ landscape character area may be possible – potential adverse effects have not been picked up due to the scale of the landscape assessment.
162. However, due to the nature of the existing cement works, the existing strong structure vegetation cover and local landform, any adverse landscape effects are likely to be very localised. While I agree that in terms of the LCT overall effect magnitude may be ‘negligible’, I think some areas within the LCT may experience low adverse effect magnitude.
163. For other LCTs I agree that negligible is the most likely level of landscape effect. The visualisations are useful tools to determine level of visual effect from a number of viewpoints, and I agree that adverse visual effects of the scheme are likely to be relatively minimal.
164. While I do not object to the scheme (as it would be seen as a small part of an existing development and would likely result in negligible or localised adverse effects), I cannot support it as it does not accord with the ‘enhance valued landscape character’ part of Policy L1A

PDNPA Cultural Heritage

165. The Heritage Statement has identified heritage assets, both designated and undesignated that will be affected by the proposals. This identification has enabled the development of mitigation measures to try and limit the impact the proposals will have on these heritage assets.
166. The comments below reflect those expressed by the PDNPA archaeologist and Historic England, any proposals must ensure the impacts are mitigated for as far as possible, and opportunities to further reduce these negative impacts should be explored.
167. The proposals are within the site of a well-established industrial site that has been operational from the early 1920s, pre-dating the National Park and the designation of the listed buildings affected by the proposals. The proposals are close to the existing rather large industrial buildings, the loading house and conveyor crossing through existing buildings. The main ARM building is on the edge of the built site, and is closest to the Grade II listed Pindale mine engine house and chimney, designated on 21st April 1967.
168. The site has a landscape plan developed by Geoffrey Jellico, this includes the later bund known as Haywood Hill that is adjacent to the proposed ARM building. The bund was created from quarry spoil in the late 1960s as a natural screen for the cement works and has trees on it. The bund creates some screening between Pindale mine house and the proposed ARM, but as identified by the Heritage Statement this is not complete and there are views from Pindale engine house into

the site and of the ARM building. The Heritage Statement and the PDNPA archaeologist's photographs from the December site visit show clear views to the proposed area, and therefore the visual impact that the large modern industrial structure will have on the listed building. The Heritage Statement also identifies noise, vibration and dust as impacts that will be experienced by the listed building.

169. There are mitigation measures proposed to reduce the visibility of the new buildings by cladding them in olive green so they blend into the landscape, for the ARM building this will mean views through the trees from Pindale engine house will be of the olive-green building reducing the visual impact. From further afield the ARM building will be seen with the backdrop of trees on Haywood Hill. The olive-green cladding to mitigate the visual impact is welcomed. The Heritage Statement notes that some trees at the base of Haywood Hill may need to be removed to accommodate the ARM building, where this is done, the screening trees should be replaced elsewhere on the Hill.
170. To further limit the visual impact screening planting should be utilised including new areas of screening and improvements in the existing areas of screen planting. The new buildings proposed should be as low as possible, the opportunity to further reduce the height and massing of the proposed buildings should be encouraged.
171. In conclusion the proposals will cause harm to the significance of the Grade II Pindale mine engine house and chimney. This less than substantial harm should be assessed against the public benefit of the proposal and the mitigation measures identified to minimise the harm to the significance.

Representations

172. A total of 9 representations have been made by member of the public in relation to the development proposal. They are summarised as follows and the issues raised addressed in the body of the report.

Objections

173. 9 objections have been received in relation to the application from members of the public and their grounds are summarised below:

- Inappropriately sized vehicles for village roads are generated by the continued operation of the quarry;
- Concern about the potential impact of the increased rail activity on local tourism businesses;
- Noise generated by the rail activity negative affects resident's amenity;
- The application fails to meet the need for exceptional circumstance required for major- development to be considered acceptable;
- Adverse impact on the environment and not in line with the Governments climate change goals;
- Not compatible with core objectives of the Development Plan;
- The impact of the continued operation is detrimental to the landscape and outweighs economic benefit;
- Raised issue with the methodology of the Vibration and Noise survey;
- Negative impact on air quality;
- Proposed buildings are too large to assimilate with the surrounding landscape;

- Heavily automated process unlikely to generate much new employment;
- Surrounding roads are being damaged by large vehicles;
- Noise generated from site is often late at night or early in the morning and at weekends;
- Rail activity damages the landscape and has a negative impact on tourism;
- Road safety issues arise when HGV's have to pass each other on narrow lanes and poses a risk to pedestrians;
- HGV movements from 4am on occasion;
- The site should have an independent access road to avoid the centre of the village;
- Request conditions restricting the amount of material that can be import by road;
- Benefits of the development will not be felt by the local community;
- Request that no ARM consent increases the number of HGV movements along the narrow section of Pindale Road;
- Operation incompatible with domestic and international Net Zero targets

174. The points of objection are addressed in the respective sections of this report.

Representations

175. Despite reasons for objections the operators of the cement works have always been “good neighbours”

National Planning Policy Framework (NPPF)

176. National Park designation is the highest level of landscape designation in the UK. The Environment Act 1995 sets out two statutory purposes for national parks in England and Wales: Which are; to conserve and enhance the natural beauty, wildlife and cultural heritage and promote opportunities for the understanding and enjoyment of the special qualities of national parks by the public. When national parks carry out these purposes they also have the duty to; seek to foster the economic and social well-being of local communities within the National Parks.

177. The National Planning Policy Framework (NPPF) has been revised (2021). This replaced the previous documents (2012) (2019) with immediate effect. The Government's intention is that the document should be considered as a material consideration and carry particular weight where a development plan is absent, silent or relevant policies are out of date. In particular Paragraph 176 states that great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, which have the highest status of protection in relation to these issues.
178. The conservation and enhancement of wildlife and cultural heritage are also important considerations, and should be given great weight in National Parks. The scale and extent of development within National Parks should be limited.
179. When considering applications for development within National Parks, permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:
 - (a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
 - (b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and
 - (c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.
180. In the National Park, the development plan comprises the Authority's Core Strategy 2011 and the Development Management Policies (DMP), adopted May 2019. These Development Plan Policies provide a clear starting point consistent with the National Park's statutory purposes for the determination of this application. In this case, it is considered there are no significant conflicts between prevailing policies in the Development Plan and government guidance in the NPPF.

Main Development Plan Policies

Core Strategy

181. GSP1, GSP2 - *Securing National Park purposes and sustainable development, & Enhancing the National Park.* These policies jointly seek to secure national park legal purposes and duties through the conversion and enhancement of the National Park's landscape and its natural and heritage assets.
182. GSP3 - *Development management principles.* Sets out principles to which all development must conform to ensure the valued characteristics of the National Park are respected, conserved and enhanced, including the scale of the development, its siting and landscaping, the form and intensity of the proposed activity, its impact on local communities, the use of sustainable transport methods, and adapting to and mitigating the impact of climate change.

183. GSP4 – *Planning conditions and legal agreements*. Supports the use of planning conditions and legal agreements to aid the achievement of the National Park Authority's spatial outcomes by considering the contributions that development proposals can make.
184. DS1 - *Development strategy*. Sets out the spatial principles for new development in the National Park and directs the majority of new development into named settlements. The proposed development is not referred to as acceptable in principle in the open countryside. However, it is ancillary to mineral working which is defined as acceptable.
185. L1 - *Landscape character and valued characteristics*. Seeks to ensure that all development conserves and enhances valued landscape character and sites, features and species of biodiversity importance.
186. L2 - *Sites of biodiversity and geodiversity importance*. Requires development to conserve and enhance any sites of importance and where relevant, their settings.
187. L3 – *Cultural heritage assets of archaeological, architectural, artistic or historic significance*. Requires development to conserve and enhance or reveal sites of importance and their settings.
188. CC1 – *Climate change mitigation and adaptation*. States that development must make the most efficient and sustainable use of land, buildings and natural resources, and achieve the highest possible standards of carbon reductions and water efficiency. It requires non-residential development above 1000m² to achieve a Buildings Emission Rate of 10% than the Target Emissions Rate.
189. CC3 – *Waste management*. Requires construction and demolition waste to be managed and re-used on site.
190. CC5 – *Flood risk and water conservation*. Development which increases hard surface or roof area must adequately address drainage and surface water management.

Development Management Policies

191. DM1 – *The presumption of sustainable development in the context of National Park purposes*. A positive approach will be taken by the Authority when considering development proposals, and we will work proactively with applicants to find solutions that are consistent with our National Park purposes.
192. DMC1 – *Conservation and enhancement of nationally significant landscape*. Requires consideration and proportionate assessment of the potential landscape impact of development proposal, with reference to Landscape Strategy and Action Plan character areas and cumulative impact.
193. DMC3 – *Siting, design, layout and landscaping*. Development must respect, protect and where possible enhance the natural beauty, quality and visual amenity of the landscape and its distinctive sense of place, with particular attention to siting, scale, form, massing, height, orientation, as well as landscaping, visual context, flood risk and drainage.

194. DMC5 – *Assessing the impact of development on designated and non-designated heritage assets and their settings.* Development proposals must include appropriate assessment of the significance of the asset(s) and the potential impact of the development, demonstrating how it will conserve and where possible enhance, and detailing why the development is necessary or desirable.
195. DMC6 – *Scheduled Monuments.* Applies the policy tests of DMC5 to planning applications involving a Scheduled Monuments and/or their settings.
196. DMC11 – *Safeguarding, recording and enhancing nature conservation interests.* Proposals should aim for net gains to biodiversity and geodiversity, must provide details of appropriate safeguards and enhancements where features could be affected, and must consider the cumulative impact of the development with others as well as the impact of the development on the setting of features of importance.
197. DMC13 – *Protecting trees, woodland or other landscape features put at risk by development.* Recognising the value of these features in the landscape and to biodiversity, this requires sufficient information to be provided to enable full consideration of impacts and protects existing tree and hedgerow features by applying the exceptional circumstance test to the loss of these features.
198. DMC14 – *Pollution and disturbance.* Will not permit any development that risks an unacceptably adverse level of pollution or disturbance to amenity, neighboring land users, the valued characteristics of the National Park, recreation, ecosystem services or rural character, and requires adequate control measures and site restoration.
199. DMC15 – *Contaminated and unstable land.* Requires appropriate assessment and remediation on any potentially contaminated or unstable land, including when the risk of instability is posed by the proposed development.
200. DME7 – *Expansion of existing industrial and business development not involving farm diversification.* Part B is relevant as this proposal is location outside, and not on the edge of, a Named Settlement. It requires proposals to be modest in relation to existing activity and buildings, of a scale and type that can be accommodated with adverse impacts, to not adversely affect the enhancement of the site and its future management, and gives proper consideration of the use of existing buildings.
201. DME8 – *Design, layout and neighborliness of employment sites including haulage depots.* Seeks to minimize the adverse impacts of this type of development on the National Park's valued characteristics and local amenity, in particular considering viewpoints, access, vehicle circulation and parking, layout, storage, landscaping and operating hours.
202. DMMW2 – *The impact of minerals and waste development on amenity.* Will only permit development when adverse impacts on amenity can be reduced to an acceptable level or eliminated.
203. DMMW3 – *The impact of minerals and waste development on the environment.* Will only permit development when adverse impacts on the environment can be reduced to an acceptable level or eliminated.

204. DMMW5 – *Restoration and aftercare*. Requires restoration and aftercare schemes that contribute to the enhancement of the National Park, with consideration of achievable timescales, removal of built infrastructure, biodiversity and amenity enhancements, and comprehensive aftercare.
205. DMMW6 – *The cumulative effect of minerals and waste development*. Cumulative impacts must be acceptable, taking into account the site and its locality, existing and planned development, the setting of the development and off-site impact of infrastructure required to serve the development.
206. DMMW8 – *Ancillary minerals development*. Will only be permitted where there is a close link between the development proposed and the existing mineral development, supports the use of legal agreements and conditions to tie in the restoration of ancillary development with the mineral workings, and will not permit ancillary minerals development on sites that are not operational mineral extraction sites.

Peak District National Park Core Strategy – Minerals Background Paper (July 2010)

207. The Minerals Background Paper sets out the PDNPA's strategic policy approach in regards to the production of cement at Hope Works. Although it references the operator at the time, Lafarge Cement, the principles of the approach are still applicable today and to the current operator.
208. *'Policy approach*
46. *Major limestone and shale quarrying and cement making at Hope – the only cement works in the National Park – is considered fundamentally incompatible with National Park purposes, it is also a major emitter of CO₂ and would almost certainly fail to be approved today against current policy. However, the Authority has no realistic scope to influence significantly the output of cement from Hope cement works over the next three decades, due to the existence of substantial permissions for the plant and for quarrying limestone and shale raw materials. This period of stability, however, does provide an opportunity to work with Lafarge Cement UK to effect a transition to a more environmentally sustainable pattern of supply more in line with national policy, based on mineral working and cement making outside the National Park. The Authority considers that the best approach to cement making at Hope is to commit to assisting Lafarge to retain modern and efficient operations there until the consented reserves of limestone run out, perhaps around 2038, or when the planning permission expires in 2042, whichever is the sooner. Further reserves will not be allocated nor permissions granted where these would extend the life of operations beyond the permission date.'*
209. *The decision on the future of Hope Cement works is based around a consideration of the national or regional need for cement, impact on the local, regional or (possibly) national economy, the economic analysis of the substantial infrastructure established at Hope against the need to pursue national park purposes and the planning policies referred to above. The Authority considers that it will be necessary to address the long-term future of the Hope Cement works beyond its current lifespan in relation to other alternatives outside of the National Park in subsequent reviews of the Core Strategy, as this will be the appropriate time to start to consider an issue that will then be pertinent to the rolled forward strategic planning time horizon. The Authority is keen to see the future of Hope dealt with through the plan led system, and by indicating now that subsequent reviews will address the issue all interested parties can start to develop their thought processes in anticipation of the issue being considered.'*
210. It is considered pragmatic to continue with the strategy of managed cement production at the site until the existing consented reserves are exhausted. Although the life of the shale reserves would be artificially extended should this consent be granted, the limestone reserves would be unaffected, and represent a natural end point for production at the Works. It is also important to note that the applicant has agreed to a S.106 legal obligation to cease production at the Works in 2042 at the latest. This provides certainty to the PDNPA and would accord with the strategic policy set out above.

Assessment

Principle of Development

Major Development

211. This application constitutes major development and as such must be judged against the appropriate policy context. The NPPF and Policy GSP1 of the Core Strategy both outline the purposes of the National Park and state that major development should not take place other than in exceptional circumstances.
212. It is considered that there are a number of exceptional circumstances that apply in relation to this proposal which demonstrate it is policy compliant in that regard. Firstly, if approved the scheme would result in a reduction in sulphur dioxide emissions produced by the cement manufacture process, which is required by revised Environment Agency permitting legislation. This planning application arises from the need to comply with the requirements of the new EA permit and as such is a material consideration in its own right.
213. The national need for cement must also be given appropriate weight when considering this proposal. Hope Cement Works is one of 11 domestic plants supplying the UK cement market and contributes approximately 15% of the UK's demand. The ongoing need for cement for use in a wide range of construction projects such as meeting the housing shortfall, maintaining the highway network, large scale infrastructure projects such as HS2 and facilitating the Government's levelling up agenda. Market data also indicates that the UK is currently a net importer of cement, and such reliance on imports would increase should production at Hope Works be reduced or cease. Ensuring continuity of cement supply to the regional and national market is considered to be in the public interest both locally and in a wider context, thus constituting an exceptional circumstance.
214. The existence of the on-site raw materials, i.e. limestone and shale needed in the cement manufacture process and their proximity to the established Cement Works is a further exceptional circumstance. Minerals can only be worked where they are found. The extraction of the remaining reserves has been deemed acceptable after assessment through the planning process and under the EIA Regulations. If these reserves could not be worked, the demand for cement would still exist and alternative reserves would have to be sourced and consented, with consequential unknown impacts occurring elsewhere. As outlined in the 'Planning History' section of this report the Works and its associated quarries are one planning entity and the exploitation of the consented resource and the Works are intertwined and inter-reliant. Although not totally unique, this is a rare planning occurrence and represents an exceptional circumstance.
215. Alternatives to the proposal are considered below. However, it is worth noting here that any alternative would be likely to impact upon the continuity of cement production/supply for the UK market.

216. The final exceptional circumstance is the existence of the Works on the site since 1929, and the extant planning position. Neither the 1948 or the 1969 planning permissions stipulate a specific end date for the life of the Works and both infer the right for the Works to operate whilst mineral reserves continue to be won and worked. The extant planning position is a material consideration and cannot be ignored.
217. Benefits to the National Park of approving the proposal would include the continued transportation modal shift from road to rail when importing secondary materials to the Works. The economic benefits of the continued operation of the business, both in terms of the jobs it directly provides and by way of the money the business spends in the local economy, subcontracting various local services (i.e. haulage and engineering) and in local shops and businesses.
218. The detrimental effects the proposal would have on the environment and the landscape are considered capable of being suitably mitigated so as to make them acceptable in planning terms and are discussed in their relevant sections later in this report. Potential effects of the proposal on opportunities for recreation are limited given the application site is not open to the public and does not affect any rights of way. Increased rail movements, additional infrastructure and the continued production of cement may have limited impact on the enjoyment of those who utilise the Park but it would not directly affect their opportunities for recreation.

Development Strategy

219. Policy DS1 in the Core Strategy outlines the Park's development strategy and defines the types of development that are considered acceptable in principle in the countryside. The proposed development is unique given the extant planning position at the cement works and the need for the importation of ARM. It can't therefore, be reasonably expected that a proposal of such a specific nature would be defined in the development plan. However, the policy does refer to 'mineral working' as an acceptable development type in the countryside outside of the natural zone. It is reasonable to consider this proposal as ancillary to the extant mineral working and the associated Cement Works, which as a complete planning unit is an established business in its own right. It is therefore considered that the proposed development accords with Policy DS1 and does not represent a departure from the plan.
220. Policy DME7 of the Development Management Policies DPD relates to the expansion of existing industrial and business development in the National Park. Although the wider Works is not considered a standalone industrial operation given its intrinsic link and reliance on the associated quarries, the process of cement manufacture is an industrial process and as such this policy is relevant in the context of the proposed development.
221. Policy DME7 requires that businesses located outside of the settlements identified in Core Strategy Policy DS1, of which this proposal is such, shall only be expanded where proposals are modest in scale in relation to the existing activity; can be accommodated without adversely affecting residential amenity; do not adversely affect and where possible enhance the valued characteristics of the site and adjoining land; proper consideration of

enhancing landscape character by using, modifying or extending existing buildings. In all cases the impacts on residential amenity and valued characteristics from operating hours, lighting and noise will be considered.

222. Although the proposed ARM storage building is significant in size and scale, in the context of the existing cement works infrastructure it is proportionate to facilitate the proposed importation and storage of ARM and the ongoing operation of the Works. When viewing the site from distance the proposed storage building and associated infrastructure would not have an obvious impact on the wider landscape. The scheme proposes enhancement of the landscape via the undergrounding of a line of on-site electricity cables. Landscape impact and enhancements are fully discussed later in this report. The Works currently operates 24/7 and this entitlement would be conveyed in relation to this scheme should it be consented. The impact of hours of operation, lighting and noise are fully considered in the relevant sections of this report. However, it is worthy to note here, in the context of Policy DME7, that the impacts on residential amenity have been fully assessed and deemed acceptable subject to the imposition of the appropriate mitigation conditions. No objections have been received from any of the relevant statutory consultees.

Ancillary Minerals Development

223. Policy DMMW8 relates to proposals for ancillary minerals development and states that such proposals shall only be permitted where there is a close link between the ancillary development and the existing winning and working of minerals on site; where/when the winning and working of minerals expires, so too shall the ancillary development, with appropriate restoration of the site. The policy supports the use of planning conditions and legal agreements to secure these ends.
224. It is clear beyond doubt that the development proposal is ancillary to the winning and working of minerals given the extant planning status of the wider Hope Cement Works site. Simply, the winning and working of limestone and clay/shales provides the kiln feed stock which allows the production of cement. The importation of ARM would allow for their blending with site won shale for use in the kiln feed mix, thus allowing the continued exploitation of consent reserves that could otherwise be rendered unusable given their high sulphur content.
225. Should this consent be granted, conditions would be imposed, as supported by Policy DMMW8ii, that require the removal of all built development it grants by 22nd February 2044 at the latest and full restoration of the site by no later than 22nd February 2046 in accordance with the 2006 consent. These dates are extended beyond 2042 to allow for the working of any remaining stockpiles.

Principle of Shale Replacement

226. The proposal arises from the need to import ARMs to supplement and/or substitute on site shales given the sulphur content of the remaining indigenous reserves. It is necessary to consider the principle of this practice in the context of the extant planning position and the restrictions imposed under the existing consents.

227. The 1969 planning consent for the Works specifies under condition 2, that all operations shall cease should the permanent cessation of winning and working of mineral occur. It is recognised that the importation of ARMs would stretch the life of the indigenous shale reserves. As a consequence, the trigger under condition 2 would be artificially extended, which on a holistic level, would be at odds with the intent of condition 2 when it was imposed (see definition of condition 2 and reason for its imposition in ‘Planning History’ section of this report).
228. Condition 2 of the 1969 consent is the MPA’s control over the wider Works and it is critical that this control is not jeopardised in anyway given that the Works, from the point of its initial formal consent, granted with reluctance by the Minister of the time in 1948, is considered incompatible with National Park purposes as defined by the Environment Act 1995. It is also relevant to note at this point the Ministers comments in 1948 decision letter, that *‘...there must be a strong presumptions against any industrial extension which would be out of harmony with the natural beauty of the area’*.
229. Notwithstanding the above, condition 2 specifies the cessation of operations at the wider site only upon the permanent cessation of mineral extraction. Permanent cessation is difficult to establish given an operator only has to demonstrate more than de-minims annual extraction rates to preserve the life of a mineral consent. PPG states:
230. *‘A mineral planning authority may assume that minerals development has permanently ceased only when: no minerals development has occurred to any substantial extent at the site for at least 2 years, and; it appears to the mineral planning authority, on the evidence available to them at the time when they make the order, that resumption to any substantial extent at the site is unlikely (see paragraph 3(2) of Schedule 9 of the Town and Country Planning Act 1990).’*
231. Given that the operator would only have to demonstrate minimal continued extraction, it is reasonable to assume the life of the mineral working, and by default the wider Works, would continue until alternative means of ensuring cement production could continue on the basis of the life of extant limestone reserves are achieved. Alternatives to this importation of ARM application are discussed in the next section of this report.
232. Condition 2 of the 1969 consent specifies a position in time where the production of cement ceases and the Works shall be closed, dismantled and the site restored. It does not however, impose a fixed end date, nor does it stipulate a minimum annual extraction rate for either the shale or the limestone.
233. The importation of 100,000 tpa of PFA for use as kiln feed substitute has been established under permission ref: NP/HPK/0710/0665 and as such the life of the shale reserves have already been extended, in theory by up to 2,000,000 tonnes on the basis that extraction must cease by the 22nd of February 2042 as imposed on all mineral permission granted before 1982 by the Town and Country Planning (Minerals) Act 1981.
234. The principle of the importation of material to substitute/supplement the

indigenous shale for use in the kiln feed mix has been established under permission ref: NP/HPK/0710/0665. Impacts in regards increased quantities and the type of material proposed to be imported under this application are considered later in this report, but the principle of this practice, up to the amount of 100,000 tpa is established and accepted.

235. When consent was granted under NP/HPK/0710/0665, the importation of up to 100, 000 tpa of PFA for use a kiln feed substitute represented approximately 1/3 of the secondary raw material needed in the cement manufacture process on an annual basis i.e. the remaining 2/3 were derived from indigenous shales. Given the quantities at play, it is clearly identifiable as supplementary to the main feed stock, although not insignificant. This is perhaps one reason why consideration was not given to the ramifications granting the consent would have on the life of the on-site shale reserves. Another, perfectly reasonable consideration could have been that the life of the Works would be governed by the primary cement feed stock i.e. the limestone. This point remains valid and is the natural control over the life of the Works.
236. However, condition 2 of the 1969 consent expressly defines the cessation of mineral extraction at either the limestone or shale quarries as the trigger for the closure and restoration of the Works. This application seeks consent for what could ultimately be exploited as near 100% substitution of indigenous shales with ARMs. Ultimately, granting a consent without any controls would preserve the life of the indigenous shale reserves indefinitely and compromise one of the MPAs means of control over the life of the Works as afforded by the 1969 consent. This is a position that the MPA cannot accept given the Works is considered to be inherently incompatible with National Park purposes. There is therefore a need from the MPAs perspective to secure by one means or another certainty over the life of the shale reserves or a comparative offset of ARMs importation against the remaining indigenous reserves.
237. As such, it is considered necessary to impose some form of control on any consent the Authority may be minded to grant, which offsets the importation of ARM against the surrender of on-site reserves.
238. Ensuring a minimum rate of shale extraction would give the MPA some confidence that reserves will, at least to some extent, be depleted. However, given no controls exist under planning condition or legal agreement that stipulate a minimum rate of extraction of shale, it would be ultra vires to impose such a requirement on the operator under any possible consent.
239. There is the potential to impose, by way of planning condition and legal agreement, the surrender of shale reserves comparative to the annual quantity, or total quantity of ARMs imported over the life of the development, above the 100,000 tpa of material that is already consented for use as a kiln feed substitute. This control would require the implementation of a complex legal agreement and the monitoring and enforcement of detailed planning conditions. It is however, an option available to the Authority should it wish to utilise it. This approach would ensure that the life of the on-site shale reserves are not extended indefinitely. However, such conditions would be onerous and restrictive in

terms of fluidity of operation, which would not be optimal for cement production given the potential fluctuation in chemical composition of ARM supply and that of indigenous shales available at any one point in time.

240. The imposition of planning conditions by a Planning Authority must be done so only after assessment as to whether said conditions meet the six tests, conditions must be: necessary; relevant to planning; relevant to the development to be permitted; enforceable; precise; and reasonable in all other respects.
241. It is considered that such conditions requiring the surrender of comparative reserves would meet the requisite tests. Whether the conditions would be necessary or reasonable in the context of the imposed planning permission end date of 2042 on the mineral workings is a point for discussion. One may assume that extraction must end by 2042 and the end dates imposed upon the quarries would trigger condition 2 of the 1969 consent. Thus, rendering the imposition of said conditions unnecessary.
242. However, while mineral reserves remain, there is nothing to prevent an operator from applying to extend the life of a permission beyond 2042. The greater the remaining quantity of previously consented reserves, the more weight would be afforded to an extension of time for their extraction on the basis of their extant rights and contribution to the established mineral landbank and assumed levels of national supply/need.
243. It is anticipated that there will be many extant mineral permissions with considerable remaining viable reserves as the 2042 end date approaches. It is not inconceivable that the Government would impose a directive that extends the life of said consents. Although there is currently no indication of whether this is likely to happen or not, it is a complete unknown that if not considered, would leave the National Park vulnerable to future applications that could seek to extend the life of the Works.
244. The presence of the Works on its current site since 1929 is accepted and forms one of the exceptional circumstances required in order that officers support this proposal. However, consent for the Works was granted in 1948 and again in 1969, on the basis that it would be a temporary operation, governed by the life of the mineral reserves. The 1969 consent envisaged 30 years life on the basis of the remaining limestone reserves. This time frame has been long exceeded, and while the MPA does not consider this proposal as a whole to be unacceptable, it must be careful to protect the future position of the Park.
245. It is for these reasons that the determination of this application is considered to be the opportune point in time to define certainty as to the life of the Works. The operator has agreed to the imposition of an end date of the 22nd of February 2042 on the Works, secured by way of Section 106 legal agreement.
246. It is considered that this agreement negates the need for obligations or conditions requiring the surrender of comparative reserves of shale as the imposed end date offers certainty, as far as is possible, to the cessation of cement production and the decommission and restoration of the Works. Should any of the events specified in condition 2 of the 1969 consent occur

before the 22nd of February 2042, the requirement for closure and restoration of the Works would still be triggered.

247. On the basis of such a legal agreement and the aforementioned conditions, the principle of shale replacement with ARM for use in the kiln feed mix is considered acceptable.

Definition of ARM

248. Alternative Raw Material (ARM) is a broad description which could encompass a wide spectrum of materials. As such it is necessary to define what constitutes ARM for the purposes of considering this planning application. The assessment of this application is on the basis of importation of alternative raw materials for use as a substitute material in place of the Cement Work's secondary feed stock; site derived shale.

249. The recommendation of this report is made on the basis that all ARM imported to the site is 'secondary' material, i.e. those derived or arising from an industrial or societal process that has or will occur for a primary purpose, other than for the production of the material sought to be utilised as a shale substitute for the cement works.

250. PFA, both dry and conditioned falls within the above description, as would slate fines or shale overburden. These materials are all by-products from a process, namely energy generation at a power station and the extraction of mineral for a principal purpose, for example roofing slate.

251. Below is a list of materials commonly used for the purpose of shale substitution in the cement manufacture process, and which could be imported to site under this proposal should permission be granted:

- Coal ash (PFA) - conditioned, dry & processed.
- Quarry process fines & washings (Only to include waste derived from slate, shale and / or clays)
- Quarry process over and inter burden (Only to include waste derived from slate, shale and / or clays)
- Blast furnace slag
- Biomass ash
- Bottom ash
- Waste ceramic material
- Lime waste
- Used foundry sand
- Secondary iron oxide
- Alumina - containing materials (not including primary minerals containing alumina)
- Iron containing materials (not including primary minerals containing iron)
- Mill scale
- Gypsum
- Waste from stone cutting and sawing (not including limestone waste without prior agreement of the MPA)
- Waste ceramics bricks, tiles

252. All ARM would be required to comply with part S2.1 of the site's Environmental Permit, as defined in the table below.

Minimum Mineral Content	At least 80% dry weight (w/w)
Organic Materials	Organic Materials as measured by net CV should be <10MJ/kg
Mercury	≤ 2 ppm
TOC/VOC	≤ 5000 mg/kg as organic hydrocarbon
No materials which are defined as carcinogens for the purposes of the COSHH Regulations 2002 (as amended) shall be used.	

253. However, other materials such as shale, which is extracted elsewhere principally for the purpose of use as a kiln feed substitute for the indigenous shale, would not be considered a ‘secondary’ material and would not be consented for importation to the Works for the requested purpose.
254. NPPF paragraph 7 states: *‘The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs.’*
255. The use of ‘secondary’ materials would align with the principles of sustainable development outlined by the NPPF by utilising a material that is a by product of another process rather than being extracted solely for the purpose of kiln feed.
256. It is important to make this differential to ensure the most sustainable use of pre-existing resources, thus reducing the need to exploit virgin mineral reserves. The application is considered on this basis and the proposal is given favourable weight due to fact previously consented on-site shale reserves will remain unworked, to be replaced by material which has already been extracted/derived due to an alternative process that has happened or would occur irrespective of operations at Hope Cement Works. If the proposal sought to import ‘primary’ materials, such as shale extracted from another quarry solely for the purpose of use as a feed stock for Hope Cement Works, the proposal would be considered differently.
257. The Works has existed on this site since 1929 due to its proximity to the limestone and shale reserves, thus it can be considered a sustainable location for a cement works given the very limited distances the raw materials travel to feed the Works. If virgin minerals are imported to site, be they primary (limestone) or secondary (shale) feedstocks, the sustainability of the Works in this location is brought into question and any proposal for such an operation would be determined against the appropriate material considerations.
258. For the purposes of this application, ‘Alternative Raw Material’ sought for importation as a shale substitute shall be defined as:

259. ‘Materials that are wastes or by-products in other (mainly industrial) processes or societal sectors i.e. ‘secondary materials’, imported to the Works solely for the purpose of use as a shale substitute in the raw kiln feed mix.’
260. Should consent be granted, a condition is proposed that would define the types of ARM permitted to be imported which will exclude ‘primary’ sourced materials i.e. virgin material extracted from the ground.

Need for the Development and Alternatives

Need for Development

261. Hope Cement Works (HCW) came into existence at its current location due to its proximity to both primary (limestone) and secondary (shale) feedstocks required for use in the cement manufacturing process. Consent was first granted in 1948 and again in 1969 on the basis of this fact with both permissions defining the cement plant and the two quarries as one planning unit, with the existence of the plant reliant on the mineral reserves found within the planning permission boundary. More recently, since 2010, PFA has been imported by rail at a rate of up to 100,000 tpa to supplement the shale as an alternative secondary feedstock.
262. Although the existing permitted tonnage of natural on-site shale could potentially meet the demand of the cement plant until circa 2037, much of the remaining shale is too high in sulphur to use on its own and meet the requirements of the environmental permit. Low-sulphur shale found within strata and levels currently being worked, rather than the higher sulphur shale generally at greater depth, would currently suffice only to around 2025 in the absence of any ARM substitution. Therefore, ARM has been brought to site and used experimentally in the cement making process.
263. Since the cement plant was first built, air quality standards for industrial emissions have become more stringent. UK air quality standards are derived from EU standards. These are adopted into UK legislation and the Environment Agency is responsible for monitoring compliance. Applicants operating industrial processes have to apply for Environmental permits that set standards for permitted air emissions. The Cement plant at Hope has a part A1 permit.
264. The European Commission produces best available technique reference documents or BREF notes. They contain ‘best available techniques’ (BAT) for installations. The European Commission is updating BREF notes and the updated versions also include ‘BAT conclusion documents’. These contain emission limits associated with BAT (‘BAT AELs’) which must be complied with unless the Environment Agency agrees an applicant has met certain criteria.
265. Best available techniques’ (BAT) means the available techniques which are the best for preventing or minimising emissions and impacts on the environment. ‘Techniques’ include both the technology used and the way the installation is designed, built, maintained, operated and

decommissioned.

266. Applicants will only be granted a permit for activities that do not comply with BAT Associated Emissions Levels (AELs) if they can show that the costs of achieving the BAT AELs are disproportionately high compared to the environmental benefits, for a particular reason. The reason must be either: the geographical or local environmental conditions of the site, the technical characteristics of the site (for example, the effect of reducing excess emissions on other emissions, leading to an increase in water use or waste from the site).
267. Making such a proposal is to request a ‘derogation’. The operator has been operating under a derogation since 2017.
268. The operator’s issue with high SO₂ levels arises due to the nature of the remaining on-site shale. The amount of pyritic sulphur (FeS₂) in the shale, used as secondary raw material in the kiln feed mix used to make clinker, affects the amount of sulphur dioxide (SO₂) in stack emissions at the Cement works. Up until 9th April 2017 the limit on sulphur dioxide emissions was 1760 mg/ Nm³. After this date the operator was required to meet a derogation limit of 850 mg/ Nm³ until 1st April 2019. In November 2018 a second derogation, with a limit of 695 mg/ Nm³, was proposed for the period from April 2019 until the end of March 2022 whilst the plans for future shale substitution were developed and implemented. The operator is in the process of obtaining a further derogation to allow for the determination and potential implementation of this planning application. The current BREF4 SO₂ limit is 400 mg/ Nm³ and this could reduce further, to 200 mg/ Nm³ for example, in the future.
269. At a rate of 5% shale substitution the operator would be able to meet the secondary derogation limit, and at a rate 10%, the current BREF limit.
270. Importation of ARM and PFA is the operator’s preferred method in order for cement manufacture to continue and meet the emission limits set by the Environmental Permit. Full details and consideration of this proposal are the subject of this report.

Alternatives

271. It is necessary to consider alternatives to the development proposal to ensure that it is afforded the appropriate weight when weighing all material considerations in the planning balance. The alternatives to this proposal are: cessation of cement production; construction of an on-site desulphurisation plant; extension to the shale quarry.
272. Cessation of Cement Manufacture – Hope Works is one of the 11 cement plants located within the UK. The Works produces approximately 1.5mt of cement for the UK market each year. All of the UK’s cement plants are operating at close to full capacity but are unable to meet the current UK market demand. The most recent available data provided by the Mineral Products Association indicates that the UK has been a net importer of cement since 2001 (start of recording in data set obtained), with 2,350,000 tonnes imported in 2020.

273. Should cement production cease at Hope Works, the deficit in cement supply would have to be made up by imports, at least in the short term. Importing cement would create greater carbon emissions and potentially disrupt the supply chain. Given the current difficulties bringing goods into the UK from the EU and the ultimate impact of Brexit still unknown, it will be important for the UK to maintain relevant self sufficiency in the construction sector. The Government's 'levelling-up' agenda, ambitious home building targets and major infrastructure projects such as HS2 will all require continuity of cement supply.
274. In the longer term, construction of a new plant or plants would be likely be required to meet the UK's market needs. This would be a process that could take many years when factoring in site identification, acquisition, planning permission process, permit process and construction. There is also the consideration of where the raw materials would be derived from to feed a new cement works. It would be difficult to identify and obtain the relevant permissions for a site that has raw material reserves in situ, thus it would be more likely the feed stock would need to be imported by road or rail.
275. Given the extant planning status of Hope Works, the remaining workable limestone reserves and to a lesser extent shale reserves, it would be a sustainable and pragmatic use of resources and infrastructure to allow the exploitation of the remaining reserves. Should consent be granted with a fixed end date, it would give the operator and the industry certainty and allow for succession planning to meet market demand after the life of Hope Works has naturally come to an end.
276. On-site Desulphurisation Plant - It is possible to reduce the levels of sulphur in the on-site shale through a desulphurisation process, either processing the raw shale or the exhaust gasses produced during the cement making process.
277. The operator has observed that shale extracted and left for a period can, when tested, have reduced levels of pyritic sulphur compared to known data from the area. When carrying out initial optioneering, scaling of this behaviour was considered with the following findings.
278. Significant design, development and research would be required to prove the concept reduces sulphur levels to an extent that makes it suitable for use in the kiln feed raw mix. The arrangements for facilitating in-situ leaching would require significant quantities of shale to be advance dug, crushed and then placed in wind rows to begin the leaching process. It was envisaged space would be an issue for the amount of material spread on the ground for the pre-processing phase and the area of the western shale quarry would be required which has previously been restored and is planned to be managed as a nature reserve. The processing phase was considered to be undertaken by several washing plants most possibly rotary followed by a drying process to enable the material to be transported and dosed into the cement manufacturing process. Associated equipment would also be required for solids removal from water and pH correction before discharge.

279. Given the surface area needed for the initial leaching process, it is likely that the previously restored western shale quarry would need to be utilised. This area is undergone progressive restoration with favourable results. The leaching of shale in windows upon it could compromise the restoration and is seen by the MPA as a retrograde step in the progressive restoration of the Works with a view to achieving final restoration and decommission.
280. The potential for water and energy consumption to run the wash plants and associated equipment could be high and would likely be fuelled by oil or gas resulting in increased CO₂ emissions. Wastewater chemical treatment consumption would also be significant prior to discharging water to the River Noe via Bradwell Brook.
281. These further negative effects are not necessarily insurmountable, but whether they could be overcome and effectively mitigated is unknown and would have to be tested through the full formal planning process. Given these unknowns, the potential impact on the restored areas of the shale quarry, the uncertainty in relation to how successful the raw leaching process would be and the application currently before the MPA, it is considered the process can be ruled out until the current application is determined. While this process could turn out to be viable, it is not known at the current time and would certainly compromise the restoration the MPA has a duty to determine the application before it on the basis of all material considerations.
282. Wet scrubbing systems provide the highest removal efficiencies for soluble acid gases of all flue-gas desulphurisation (FGD) methods. The wet scrubber is a proven and commonly used technique for flue-gas desulphurisation within the power sector. For cement manufacturing processes, the wet process for reducing SO₂ emissions is also an established technique. The SO₂ is absorbed by a liquid/slurry, which is sprayed in a spray tower. The absorbent used is calcium carbonate. The slurry is sprayed in counter-currently to the exhaust gas and collected in a recycle tank at the bottom of the scrubber where the formed sulphite is oxidised with air to sulphate and forms calcium sulphate dihydrate. This synthetic gypsum material can be used in controlled amounts in the cement milling process, although other disposal routes for this waste may be required. The water used can be recirculated through the scrubber.
283. A wet scrubber could potentially reduce SO₂ emission levels, but even if all the on-site shale was useable, there would still be a requirement to import additional secondary feed stock to utilise the residual limestone reserves.
284. However, approximately 4.17 million tonnes of the remaining on-site shale is considered to posses an ultra-high sulphur content. Feeding shale with such elevated levels of sulphur into the plant would lead to the retention of unsupportable levels of sulphur in the cement kiln, ultimately rendering the process inoperable.
285. These reserves contain sulphur levels of between 7% and 12.5% , the vast majority of which, circa 90%, is pyritic. In theory all this pyritic

sulphur should be driven off as SO₂ at temperatures of between 400°C and 600°C in the upper stages of the kiln preheater tower and become a part of the exhaust gases. However, in reality, the efficiency of this removal in kilns with high levels of SO₂ is far lower, at 40% to 60%, with the data showing Hope Cement works to be at the lower end at 42%. Hence over half this sulphur would pass through the preheater and enter the kiln process. Of the 42% that would exit with the exhaust gases, slightly less than half would pass through the raw mill, which would trap approximately 30% of the SO₂ leaving the system.

286. The SO₂ trapped in the raw mill would be absorbed by the raw meal then fed back to the kiln, thus exacerbating this cycle still further. To run kilns with these levels of sulphur input and, by extension, sulphur to alkali ratios, is almost impossible. The potential amount of sulphur-based build-up within the kilns and preheater cyclones would seriously affect process control and reliability and would also severely affect clinker quality.
287. Even if the effects on the kiln were found to be manageable, this would still leave around 30% of the original sulphur input in the form of SO₂ leaving the stack. This would still equate to unabated stack emissions, depending on the level of SO₃ in the on-site shale, of between 2,500 and 2,900 mg/Nm³. Use of a scrubber modelling tool shows that in order to reach the SO₂ limit of 400 mg/Nm³ an SO₂ collection efficiency of 84.0% is required by the scrubber. The typically quoted level of efficiency is 75% and therefore it is not certain whether the use of wet scrubbers would result in the desired reductions in SO₂ levels required at Hope Works in order to meet the requirements of the EA permit.
288. It is considered that this option can be ruled out on technical grounds, but it is also worth noting that a proposal of such nature would require planning consent. Desulphurisation plant and equipment would be required to be constructed around both rotary kilns resulting in obvious physical additions to the Works. The use of wet scrubbers would also result in a visible plume emanating from the stack, both of these visual impacts would create an adverse impact on the Hope Valley landscape. In addition, the use of such plant would require off-site disposal of the waste material derived from the process, additional water consumption and a substantial increase in electricity supply, resulting in higher CO₂ emissions from the Work as a whole. All of these impacts would be weighed in the balance by the PDNPA when determining any such planning application.
289. Extension of the Shale Quarry – Laterally extending the existing shale quarry could potentially release additional reserves of shale with lower sulphur contents that would be suitable for use in the kiln feed mix to allow cement manufacture to continue and comply with the EA emission limits. Likewise, establishing consent for a new quarry further from the Works could also serve the same purpose.
290. The likely scale of such a quarry extension could lead to possible impacts upon landscape, heritage and wildlife, and such proposals could result in potential new impacts of quarrying upon residents and visitors. The probability of obtaining planning consent is uncertain and given the

existing extant planning position of the Works and the strategic vision of the PDNPA, it is unlikely the Authority would encourage the submission of such a proposal.

Design and Appearance

291. The built aspects of the proposed development are set out and described in detail in the 'Proposal' section earlier in this report. It is however necessary to assess the design and appearance of the buildings and infrastructure against the relevant Policy criteria.
292. Policy DMC3: Siting, Design, Layout and Landscaping states that where development is acceptable in principle (considered earlier in this report), detailed treatment is required to be of a high standard that respects, protects and where possible enhances the natural beauty, quality and visual amenity of the landscape. Particular attention should be paid to, inter alia; scale, form, mass, levels, height and orientation in relation to existing buildings, the use of landscaping to enhance new development and materials and finishes that reflect or complement the style and traditions of the locality.
293. The design of the buildings and associated infrastructure has been driven by the operational need, with size and mass of all structures limited to the minimum that can provide the capacity required for material handling and storage on site. The nature of the buildings and structures further dictates the materials suitable for use in their construction, prominently being steel frames and steel cladding. The style is of a functional and industrial nature, of no particular value but would be in keeping with existing structures present within the Hope Works complex.
294. However, it is possible to exercise control over the final finish and it proposed that all buildings and structures shall be finished in olive green, and secured by planning condition. The choice of colour is on the advice of the PDNPA Landscape Architect and it will ensure visual impact of the scheme is kept to a minimum. The olive-green finish would ensure the structures assimilate well with the surrounding environment and are less obvious features in the landscape when viewed from a distance. The impact of the ARMs storage building in particular would be greatly reduced given its proposed backdrop of established woodland and Haywood's Hill.
295. The positioning of the built development within the Works complex is again driven largely by operational need. The material reception and unloading building is located alongside Rail Siding C in order to facilitate unloading of wagons. There are no viable alternative options available for location of the reception building and a covered structure is required to contain any migrant dust that may be generated during the unloading process.
296. The conveyor system would then run in a north easterly direction across internal haul roads and some grassland area with the backdrop of the existing Works complex to the north. This backdrop would limit the visual impact of the conveyor system, which would be apparent in close

quarters but barely discernible amongst the existing infrastructure when viewed from outside of the site. Its route is dictated by the need to transfer material to the ARMs storage building located in the north east corner of the existing complex.

297. There are limited options available within the site when seeking to locate a building of the ARM storage shed's scale. The proposed location has been chosen as it will ensure the majority of the building is screened by the existing landscaped features 'Haywood's Hill'. The established vegetation upon the Hill provides further useful screening. This location is also optimal in terms of the production process as it is just south of the existing stone store and allows ARM to be feed into the stone store prior to use in the cement manufacture process. The stone store building is also slightly larger than the proposed ARM building measuring approximately 85m x 50m. As such, the proposed building would not be introduced into an area of the Works previously devoid of surrounding structures.
298. The ARM building is orientated so that it is set into the base of Haywood's Hill, with its longest side facing the Hill. This further demonstrates the thought process behind its siting so as to limit visual impact. The area of land is currently hardstanding occupied by contractors' offices and mobile shipping containers. As such, no biodiversity interests are affected other than the removal of some self-set trees at the base of Haywood Hill. The matter of tree removal is discussed later in this report.
299. Given the reasons outlined above, it is considered that the proposal has been designed as far as is practical when considering the functional need, to be sympathetic to the environment and makes best use of the available land within the Works Complex. As such the proposal accords with Policy DMC3.

Landscape and Visual Impact

300. The scale of the built aspect of the proposed development has the potential to cause a visual impact on the special landscape of the National Park and as such must be assessed accordingly. A number of policies within the Core Strategy apply in relation to the landscape impact assessment.
301. GSP1 – requires that major development to demonstrate a significant net benefit to the National Park and every effort should be made to mitigate and compensate for potential localised harm.
302. GSP2 – requires that opportunities for enhancing the valued characteristics of the National Park be identified and acted upon and proposals for enhancement will need to demonstrate significant overall benefit. A design will be sought that respects the character of the area and where appropriate landscaping and planting schemes will be sought that are consistent with local landscape characteristics and their setting. Opportunities will be taken to enhance the National Park by the removal of undesirable buildings.

303. L1 – states that development must conserve and enhance valued landscape character, as identified in the Landscape Strategy and Action Plan.
304. The applicant has conducted a landscape and visual impact assessment (LVIA) to support the application which includes detailed assessment of the impact of the scheme from numerous viewpoints surrounding the site defined within the Zone of Theoretic Visibility (5km radius from application site) as agreed with the PDNPA at pre-application stage. This area has been determined by the topography of the landscape and intervening physical features. Views of the Cement works diminish with distance and it is not predicted that any significant effects would occur at distances greater than 5km.
305. The site is located within the ‘Valley Farmland with Villages’ Landscape Character Type (LCT) in the Derwent Valley LCA. Immediately south of the plant is the White Peak LCA with the ‘Limestone Hills and Slopes’ to the south west and ‘Limestone village Farmlands’ to the south. The ‘Valley Farmlands with Villages’ LCT is a settled pastoral landscape, often with a low lying topography associated with a network of streams and damp hollows. This is an enclosed landscape, with views filtered through scattered hedgerow and streamline trees. Gritstone-built villages with outlying farms and dwellings are set within small to medium fields that are often bound by hedgerows.
306. The key characteristics of the locality are its low lying, gently undulating topography; Network of streams and localised damp hollows; Pastoral farmland enclosed by hedgerows and some drystone walls; Small to medium sized fields; Dense streamline and scattered hedgerow trees; and gritstone villages and outlying farms with associated dwellings and field barns.
307. The existing cement works plant and associated quarries have been in existence in some form since 1929 and are obviously key existing elements in the landscape that provide a context for the assessment for the proposed development.
308. The applicant’s LVIA considers the character of the site and Landscape Character Areas (LCAs) are considered, but given the study area includes a number of individual LCTs (with different characteristics), it may have been appropriate to have completed a ‘local landscape character area’ assessment (both spatially and in terms of key elements of character) as part of the appraisal. However, it does not invalidate the overall findings of the appraisal.
309. Due to the presence of the existing plant and quarries, it is agreed that the proposed development would not have a significant adverse effect on the key characteristics of landscape character in the ‘Valley Farmlands with Village’ LCT. However, it is probable that some significant effects on a smaller ‘local’ landscape character area may be possible. Potential adverse effects at this level may have not been identified due to the scale of the landscape assessment.

310. However, due to the nature of the existing cement works, the existing strong structure vegetation cover and local landform, any adverse landscape effects are likely to be very localised. While it is considered that in terms of the LCT overall effect magnitude may be ‘negligible’, it is possible some areas within the LCT may experience low adverse effect magnitude. These short distance views into the site could be suitably mitigated by the introduction of further screening by way of enhanced vegetation planting. The enhanced planting would be required by way of a landscaping scheme to be agreed and implemented via a planning condition.
311. In regards the other aforementioned LCTs the PDNPA’s Landscape Architect has agreed with the conclusion of the applicants LVIA that the most likely level of landscape effect is negligible.
312. The visualisations provided as part of the LVIA are useful tools to determine level of visual effect of the proposal from a number of viewpoints, and the PDNPA Landscape Architect again agrees that the adverse visual effects of the scheme are likely to be relatively minimal.
313. The various aspects of the scheme that could impact upon the landscape are discussed below.

New storage building, rail offloading infrastructure, and conveyors

314. As outlined in the previous section of this report, the proposed ARMS storage building and the rail offloading reception building are considerable structure in their own right. However, viewed in the context of the existing Works complex and the screening offered by Haywood Hill and the established planting around the site, the impacts would be minimal and capable of mitigation to a suitable extent via an appropriate colour scheme and further vegetation planting.

Plume

315. The use of ARM in the kiln feed mix raises the question as to whether there would be a noticeable alteration to the plume emanating from the Works stack. Given that the chemical composition of the ARMs would be comparative to the PFA that has previously been used as a shale substitute it is appropriate to expect little if any noticeable visual change to the plume. The use of ARMs has been preferred by the operator over the use of chemical scrubbers on the stack which would result in a visible plume.

Removal of Trees

316. The construction of the ARMs storage building would require the removal of a strip of self-set trees that currently occupy the base of Haywood Hill. These trees provide little screening of the area from outside views given they are at the base of the hill and the presence of the established woodland further up the hill. Another small number of trees are also proposed for removal to the north east of the rail reception building to facilitate the construction and location of the southern section of the transportation conveyor. When viewed from outside of the site the

loss of these trees will be barely if at all noticeable. The trees to be removed are of no special ecological value and their removal has not been challenged by the PDNPA Ecologist or Tree Officer. The trees offer little to the landscape in the context of wider established woodland and their backdrop of the vast Works complex.

Lighting

317. The proposed infrastructure will require suitable lighting for operational purposes and a strategy has been devised that covers both the rail sidings and unloading area and the vicinity of the ARMs storage building itself.
318. The lighting scheme has been designed to avoid adverse impact of wildlife, specifically bats. It is shown on WSP drawing 70056391 55 3201 A1. Lighting would comprise 140W LED flood on a 10m column (eg Thorlux Stargard or similar). It utilises a combination of building mounted and site perimeter column mounted lights operated with photocells and time clocks. The intent is to contain light within the curtilage of the development minimising light spill into the adjacent woodland area or upwards and would meet the requirements of BSEN 12463-2 Lighting of Work Places Outdoor, (section 4.4 Obtrusive light).
319. It is considered the site would be classified as environmental zone E1 ambient brightness. It will meet with requirements of BSEN 12463-2 section 5.7- Industrial sites and storage areas to achieve a maintained illumination level of c20 lux with a uniformity ratio of 0.25.
320. All luminaires would avoid use of metal halide fluorescent sources and instead be LEDs, due to their sharp cut off, lower intensity, good colour rendition and dimming capacity. • A warm spectrum would be adopted (less than 2700 kelvin) to reduce the blue light component, which is optimal for health and safety. Luminaires would feature peak wavelengths higher than 55nm to avoid the component of light most disturbing to bats.
321. During the operational life of the development the external lighting would be operated for short duration inspections i.e. 5-10 minutes per night shift, for breakdown repairs to the woodland side conveyors or dosing tower – it is understood from the operator that the frequency of this is anticipated to be once per annum.
322. The lighting scheme is designed to minimise sky glow to protect the amenity of the National Park. The building design specifically avoids transparent roof panels to avoid light spill. No objection has been received in relation to the lighting strategy from the PDNPA Landscape Architect and as such is considered acceptable and accords with Policy L1 of the Core Strategy.

Enhancements and Mitigation

323. In order to mitigate the loss of trees the applicant has proposed woodland tree and shrub planting and hedgerow compensation. These mitigation measures would be secured via planning condition. This

would present an opportunity to further increase the density of planting around the perimeter of the site to enhance screening and also within the site to compensate for any residual loss.

324. As previously discussed in the report all buildings and structures will be required to be finished in olive green as requested by the PDNPA Landscape Architect. This requirement would be secured through planning condition and would further mitigate any harmful visual impact arising from the proposal.
325. Policy GSP2 of the Core Strategy requires that opportunities be taken to enhance the National Park by the treatment or removal of undesirable features or buildings. The applicant is proposing to remove a 300m section of overhead electric lines that currently runs from the south of the stone store building in a south westerly direction. The current route of the line travels uphill through an established woodland. Although views into the site are not seriously affected by the presence of the overhead lines, the existing woodland is managed to allow safe passage of the power supply. The proposal to underground the lines would remove an undesirable structure in the landscape and allow for the woodland to naturally colonise the area it previously occupied. This would create a landscape enhancement in accordance with Policies GPS2 and L1 and a biodiversity gain.
326. The route of the overhead line lies upon land within the applicants control and the works can be undertaken under Part 17, Class A of the Town and Country Planning (General Permitted Development) Order 2015 on the basis that the works would be ancillary to the wining and working of minerals within the wider site. The requirement to underground the power lines would be secured by planning condition, specifying the works to be completed prior to the use of the ARMs storage building.
327. The potential landscape impacts have been fully assessed in the applicants LVIA and the PDNPA has assessed the proposal and agrees with its conclusion and raises no objection on this basis. The proposed mitigation and enhancement measures outlined above ensure the scheme strives to comply with Policy L1 of the Core Strategy. While the built development itself cannot be considered a visual enhancement it's impact can be suitably mitigated and the landscape enhancement measures ensure the proposal is not contrary to the policy as a whole.

Climate Change and Carbon Reduction

328. Hope Cement Works is a significant emitter of carbon, largely due to the chemic processes involved in cement manufacture which, at a molecular level, split carbon atoms. As such the proposal must be assessed against Policy CC1 of the Core Strategy which seeks to achieve the highest possible standards of carbon reductions and make the most efficient and sustainable use of land, buildings and natural resources.
329. The total greenhouse gas (GHG) emissions from the plant in 2019

were 1,180,385 tonnes of CO₂e. This data has been used to provide the relative emissions associated with the proposed development in the context of the overall existing cement works.

330. The baseline emissions scenario has considered emissions based on the extraction of on-site shale and its transportation from the quarry to the plant by conveyor. The calculations have been based on fuel and energy data available for 2019 corresponding to the extraction of 375,000 tonnes of shale. The assessment has also taking into account the plant's utilisation of 100,000 tonnes of PFA as already permitted, and the corresponding shale requirements of 330,000 tonnes. This data allows for a comparison of the CO₂ emissions associated with the importation of ARMs to be made against it.
331. A summary of the baseline GHG emissions is provided in the table below.

Table 11.5 GHG emissions – Baseline scenario					
Year	Scope 1	Scope 2	Scope 3 emissions		Total GHG Emissions (tCO ₂ e)
	Emissions from gas oil consumption for shale quarrying operations (tCO ₂ e)	Emissions from purchase of electricity for conveyance of shale and PFA Cement works (tCO ₂ e) ¹⁶	Embodied carbon of PFA (tCO ₂ e)	Emissions from transportation of PFA by rail	
Average Annual Emissions	437	183	10	333	963
Total Emissions from 2020-2042 ¹⁷	9,612	4,037	220	7,333	21,186

332. Carbon emissions are expressed as: tCO₂e (metric tonnes in carbon dioxide equivalent)
333. Under the baseline scenario the total average annual GHG emissions would be 963(tCO₂e) and the total emissions for the period 2020-2042 would be 21,186(tCO₂e).

334. The table below provides a breakdown of GHG emissions based on 4 development scenarios (likely sources of PFA/ARMs)

Table 11.6: GHG emissions –Proposed development scenario				
Year	Scope 2	Scope 3		Total GHG Emissions- (tCO ₂ e)
	Emission associated with conveyance of ARM from rail unloading facility to Cement works (tCO ₂ e) ¹⁶	Embody carbon of ARM/ PFA (currently permitted) (tCO ₂ e)	Emission associated with transportation of ARM by road/rail (tCO ₂ e)	
Import of 100,000 tonnes of PFA (Currently Permitted)	139	10	333	482
Option 1 – Import of PFA from Site A				
Average Annual Emissions	306	35	1167	1508
Option 2 - Import of PFA from Site B				
Average Annual Emissions	306	35	887	1228
Option 3 - Import of PFA from Site C /Site D				
Average Annual Emissions	306	35	922	1263
Option 4 – Import of Slate from Site E				
Average Annual Emissions	306	Data not available	2,590	2,896
Total (Maximum values across all options)	445	45	2,923	3,413
Total Emissions from 2020-2042	9,784	990	64,306	75,086

335. For the proposed development, the worst case annual GHG emissions is estimated to be 3,413(tCO₂e) and for the period 2020-2042 the total estimated GHG emissions would be 75,806(tCO₂e).
336. As such the development would result in maximum additional emissions of an estimated 2,450(tCO₂e) per annum and a total increase in emissions over its life (from 2020-2042) of 53,900 (tCO₂e) compared with the baseline scenario. The additional CO₂ emissions are attributable to the transportation of ARM to the site over greater distances than the site won shale.
337. It is useful, however, to put into context the increases in CO₂ emissions relative to the emissions from the Works as a whole operation. The increase of 2,450 tCO₂e per annum accounts for 0.21% of the total cement plant emissions. Although any increase in CO₂ emissions is undesirable, it is important to consider the proposal in the wider context of the operation and with the alternatives that are discussed further below.

338. It should also be noted that in January 2020 the operator entered into an agreement to purchase renewable energy for consumption at the Works, which would result in a saving of 834,588 tCO₂e over the period 2020-2042. Opportunities such as this and energy efficiency savings can all reduce the carbon footprint of the Works and should be sought and implemented by the operator at any reasonable opportunity.
339. The cement industry is recognised as a hard to decarbonise sector but is included in the Government's Industrial Decarbonisation Strategy (March 2021) which seeks to decarbonise industry in line with 'Net Zero' targeting a reduction in emissions by at least two-thirds by 2035 and by at least 90% by 2050, with 3 MtCO₂ captured through Carbon Capture, Usage and Storage (CCUS) and around 20 TWh switching to low carbon fuels by 2030.
340. The Mineral Products Association has also set out a road map which aims to make the UK cement and concrete industry carbon negative by 2050. The operator has confirmed that they are committed to achieving the aims set out in all of the above strategies.
341. In 2018 the operator became an active Member of the Global Cement and Concrete Association (GCCA), which aims to drive industry leadership in the manufacture and use of cement and concrete with a view to reducing the environmental impact of the industry's activities.
342. As such it is proposed to append a condition to any approval the Authority is minded to grant that requires the operator to make best reasonable endeavours to reduce the carbon footprint of the Works wherever possible.
343. In this instance, given the complexity of the proposal, it is necessary to assess the built aspect of the proposed development, the importation of ARM and the use of ARMs in the cement manufacture process to fully consider the potential climate change impacts of the development, and whether there are opportunities for further carbon reductions.

Built Development

344. Policy CC1 requires that non-residential major development above 1000m² floorspace must achieve Buildings Emissions Rate at least 10% less than the Target Emissions Rate. The proposed ARMs storage building exceeds this threshold and as such must be considered in the context of the Policy requirements.
345. However, Target Emission Rates for specific types of building are set by Building Regulations.
346. The ARM storage building would be provided to store solid aggregate type material to be used in the manufacture of cement. There would be no manufacturing process taking place within the building and there is no permanent occupation of the building. The structure would have no heating, the only fixed building service to be provided would be the lighting. As such the proposed structure is classified as a non-exempt building with low energy demand and therefore the Target Emission Rate calculation is not required. The lighting is to be designed to meet the standards set out in

Approved Document Part L2B of the Buildings Regulations. The aforementioned regulations will control the development in this regard and as such it is not necessary to impose a planning condition requiring the same.

347. The Institute of Environmental Management & Assessment (IEMA) states that emissions mitigation should be addressed against the following: Do not build; Build less; Design clever; Construct efficiently; Offset and sequester.
348. The building is required to store ARM which in turn are required to ensure the Works meets the standards set by the Environment Agency in relation to SO₂ emission. There are no existing buildings on site capable of performing this function. Alternative options are discussed previously in the report and it's concluded that those options would have greater CO₂ impacts. The building has been designed to the minimum scale required to accommodate the required stocks of ARM on site at any one time and to be as energy efficient as possible. It has been located on an area of existing hardstanding previously occupied by contractor offices and containers which will be rationalised and relocated on site. Bulky construction materials are proposed to imported by rail where possible as a more sustainable means than road transit. The applicant is seeking to offset any negative CO₂ impacts by way of a green energy tariff and process efficiencies in the cement manufacture process.
349. Given the above, it is considered that the built aspect of the development does not conflict with the requirements of Policy CC1 of the Core Strategy.

Use Of PFA/ARM as Kiln Feed Substitute

350. Use of PFA as a kiln feed substitute has already been established under permission ref: NP/HPK/0710/0665 albeit at a rate of 100,000 tpa. Trials have been undertaken by the operator where PFA has been used as a 100% shale substitute in the kiln feed mix and have demonstrated that the impact on carbon emissions from the stack are negligible. This is because any unburnt carbon present in the PFA contributes to the relatively constant fuel energy requirement within the kiln system, negating the requirement for the equivalent kiln fuel usage which equates to no net increase in CO₂ emitted.
351. The additional key characteristic of alternative raw materials that could fundamentally increase the process CO₂ emissions from the cement kiln is the presence of carbonate minerals which would dissociate at high temperatures (over 800°C), producing CO₂ as a consequence. Examples of commonly found carbonate minerals would be calcium carbonate or magnesium carbonates. These carbonate minerals are unlikely to be found in materials such as PFA which have already been exposed to high temperatures at the power stations: any calcium or magnesium being present as oxides which will not further dissociate nor produce CO₂.
352. Additionally, carbonate minerals are unlikely to be present within naturally occurring shales or slates in any measurable quantity. All of the incoming materials would be tested in accordance with various requirements and any CO₂ contribution from carbonate materials tracked against the current site greenhouse gas permit as well as being controlled to a raw material

specification.

353. At full shale replacement with PFA the effect on CO₂ emissions would be less than 4 kg CO₂ e/t clinker which is less than the inherent variability of the clinker-making process. Given the chemistry of the raw materials used in cement manufacture it is not possible to define a consistent CO₂ output from the process i.e. it varies depending on the precise kiln fuel and raw material mix used to produce the cement clinker. Given that the variation when using 100% shale substitute is less than the inherent variation of using site sourced shale, it is reasonable to accept that the replacement of on-site shale with PFA would not result in greater carbon emissions than that which would be emitted by the plant operating under its current consent.
354. It is also largely possible to apply this data to any ARM which may be imported for the same purpose on the basis that the chemical composition of such materials would need to be within the same field of range as the PFA currently used in order for it to be suitable for use.
355. It is however, possible that ARM imported under this consent may contain levels of organic carbon that are higher than the on-site shale. Any organic carbon within the ARM would be consumed as fuel in the kiln during the cement manufacture process on a 1:1 ratio with the fuel source i.e. a higher content of organic carbon within an ARM would be offset by a reduced fuel input of a comparative carbon content. This practice would comply with the energy hierarchy set out in part B of Policy CC1 in that it would ‘use energy more efficiently’. Any volatile organic carbon (VOC) present in the ARM would flash off in the pre-heater tower and therefore not produce CO₂.
356. It is necessary to note the requirements and wording of criteria (D) of Policy CC1 which states ‘Achieve the highest possible standards of carbon reductions.’ CO₂ is an inherent by product of the cement manufacture process and its production is inevitable in what is recognised as a hard to decarbonise sector. It is therefore not considered to be possible to reduce carbon emissions any further by way of altering the kiln feed mix if cement production is to continue.

Importation of ARM

357. The operator’s preference is to import dry PFA to the site for use as a kiln feed substitute where and when it is possible to source it. Dry PFA is obtained from the existing operational coal fired powers stations. However, these coal fired power stations are designated to be decommissioned by 2025 as the UK attempts to reach its net zero target by the year 2050. As such, the operator is seeking alternative sources of conditioned PFA, that is material which has previously been deposited in landfills and settlement lagoons, and a range of ARM previously outlined earlier in this report. Due to the complexity of the chemistry in the cement making process, the availability of materials and market fluctuation, it is not possible to define categorically where PFA or ARM will be derived from over the life of the proposed development. However, the table below provides examples of the likely sources of PFA and ARM and the distances they would travel to the Works.

Table 11.1: Assumptions for emission related activities	
Emission related activity	Assumptions
PROPOSED DEVELOPMENT SCENARIO	
Scope 3 -Other Indirect Emissions	
Transportation of ARM by Rail	<p>The type of ARM to be used and its source are not known yet and have been estimated on the potential sites from where these can be sourced.</p> <p>Calculated based on 350,000 tonnes of ARM being transported over the following distances:</p> <ul style="list-style-type: none"> PFA Site A – 100km rail Site B – 76 km rail Site C and D – 79 km rail Slate Site E - 168 km rail and 30 km by road to reach rail head
Production and use of ARM	350,000 tonnes of additional ARM to be imported

- 358 Notwithstanding the above and the baseline assessment previously discussed, it is not possible to categorically calculate the carbon footprint of the proposal arising from the distances the ARM would be transported to reach the site. It is however, reasonable to conclude that the transportation of any material to the site would result in a greater carbon footprint than the utilisation of site derived shale. The increases in emissions are estimated earlier in this report. When considering this point in isolation, it is reasonable to call into question the proposal's compliance with Policy CC1.
- 359 However, it is also necessary to consider the alternatives (previously discussed) to this proposal and the impact that they would have in regards to carbon emissions within the National Park and also in the national and global context.
- 360 Importation by road – importing ARM by road would result in approximately 22,500 HGV movement p/a based on delivery in 20 tonne tipper wagons, 45,000 counted as two-way movements. Again, it is not possible to define where the materials would be derived from, but it is fair to assume that transportation to the Works by rail is a more sustainable option in terms of carbon footprint. Transportation of freight by rail is widely established as being a more sustainable means of transport when compared with road due to the ability to transport larger quantities in fewer movements.
- 361 Closure of the Works – should the Works cease to operate, there would be a deficit in UK cement supply. The UK cement market is supplied by 11 operational cement plants, all of which are running at or close to production capacity. The most recent available data provided by the Mineral Products Association indicates that the UK has been a net importer of cement since 2001 (start of recording in data set obtained), with 2,350,000 tonnes imported in 2020. Hope Cement Works provides approximately 1,500,000 tonnes of cement to the UK market per annum. Should production cease, there is no existing UK capacity to meet that shortfall and further imports would be needed. It is reasonable to conclude that importing this additional cement to

the UK would result in a greater carbon footprint than the importation of 450,000t/pa of ARM to the Works by rail.

- 362 The construction of a new cement plant elsewhere would also have a greater carbon footprint due to procurement of materials, land take, construction and associated vehicle movements. There is also the question of where the raw materials would be derived from and the implications of said materials being extracted from new mineral sites or transported from existing consented sites. The potential upgrading of existing cement plants would also result in high levels of carbon emissions for the above reasons. It is also worthy to note that the market Hope Works serves with cement by road delivery is within a 60-mile radius. If cement was required to meet the demand within this area should Hope Works cease to operate there would be a further increase in carbon emissions due to the need for extended travel distances.
- 363 Given the consequences resulting from the alternatives to the importation of ARM by rail it is considered that while the proposal may not accord with Policy CC1 it is not possible to say it wholly conflicts with the aim of the Policy in a holistic sense. It is reasonable to assume that refusing this application would result in greater carbon emissions potentially locally, but certainly nationally and globally due to the implementation of the alternatives that would be required in order to meet the UK's need for cement. The intent of Policy CC1 is to achieve the 'highest possible standards of carbon reductions' and it is concluded that this proposal would achieve that aspiration in the context of contributing to the UK's national need for cement.

Heritage Impact

- 364 Given the geographic location of the application site, the proposal has the potential to affect numerous designated and non-designated heritage assets. Paragraph 194 of the NPPF states:
- 365 *'In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.'*
- 366 The applicant has employed specialist consultants 'Archaeological Research Services Ltd' to complete a full assessment of all cultural heritage assets within a 5km radius of the site based on zones of theoretic visibility, as agreed with the PDNPA during the pre-application discussion process. The assessment and effects on archaeological interests were scoped out of the process on the advice of the PDNPA Cultural Heritage team on the basis that '*the effects of the proposed development are considered likely to be insignificant on archaeological interests.*'

- 367 Notwithstanding, given that all of the proposed application site subject to construction works is previously developed or disturbed land, it can be concluded that any archaeological interest that may have been present will have already been disturbed and would not be adversely affected by consequence of this proposal.
- 368 Paragraph 195 of the NPPF states that:
- 369 '*Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.'*

On-Site Features

- 370 The applicant has consulted the Derbyshire and the PDNPA Historic Environment Record (HER) and Historic Buildings and Scheduled Monuments Record (HBSMR) records to identify known recorded assets within the application site boundary which are identified as:
- 371 Hope Cement Works - Constructed in 1929 by G & T Earle Ltd and expanded in 1935. Further expansion in 1948 included a 400 ft high chimney and also took place in 1961 and 1969. In 1990 there was a diversion of Castleton Lane and revised quarrying proposals with improved long-term and progressive restoration. This is the site of an innovative Jellicoe plan for environmental screening and restoration. It is a combined limestone quarry and shale extraction site for cement production; and
- 372 Pin Dale Quarry - Limestone quarry immediately north of the Blue Circle quarry on the south side of Pin Dale. Owned by Jack Eidson until c.1995. Some possibility of the quarry being re-opened (1997).
- 373 The first entry on the records relates to the cement works itself and it is considered to be of limited cultural value constituting an industrial facility in a rural location. Notwithstanding, the effects of the proposal would not adversely affect the asset given the industrial style ARMs storage building and associated infrastructure would be similar to the existing buildings and structures that occupy the vast industrial complex.
- 374 In regards to Pin Dale Quarry, it should be noted that the asset is not actually within the application site boundary and is in fact approximately 100m West of where the ARM storage building is proposed to be located. Pindale Quarry is however, located within the wider Hope Works Complex above the northern face of the Limestone Quarry.
- 375 A landscaped feature formed of quarry waste known as 'Hayward Hill' designed to screen the works from outside views lies between Pin Dale Quarry and the majority of the application site. This landform was designed by Geoffrey Jellicoe in 1968-70 as part of landscape impact mitigation proposals in relation to the 1969 consent and was planted with trees that are now well established. Some of the self-set trees that have colonised the north-western

edge of the site are proposed for removal as part of the development proposal, but the mature trees on Haywood Hill would not be affected and would continue to afford screening of the Works from the Hope Valley.

Off Site Features

- 376 The impact of the proposed development on off-site designated and non-designated heritage assets located within a 5km Zone of Theoretical Visibility, as agreed with the cultural heritage officer, have also been assessed as part of the application submission.
- 377 A total of 17 Scheduled Monuments, 17 Listed Buildings and 39 non-designated assets were identified for assessment. Potential impacts on four Conservation Areas were also discussed in the applicant's assessment, as well as impacts on the settings of areas of well-preserved medieval strip fields or other 'ancient enclosure'.
- 378 Full details of the assessment of the magnitudes of change predicted at each of the assessed assets (or the landscape zone that they are within) due to the proposed development can be found in the Heritage Statement submitted to accompany the application. The Heritage Statement also fully explains the methodology adopted for the assessment of the assets. The impact of proposed development on the various assets is summarised below.
- 379 Scheduled Monuments – neutral effects were predicted at 7 of the assets, neutral to slight adverse effect were predicted at 7 assets and slight adverse effects were predicted at 3 assets.
- 380 Listed Buildings – neutral effects were predicted at 12 of the assets, neutral or slight adverse at 4 of the assets and slight adverse effects at 1 of the assets.
- 381 Non-designated Assets - Neutral effects were predicted at all of the assets assessed.
- 382 Conservation Areas - of the four Conservation Areas that were assessed neutral effects were predicted at one, whilst effects that could range from neutral to slight adverse were identified at three. Potential effects of up to slight adverse significance were also identified for elements of the historic landscape characterised as 'Ancient Enclosure'.
- 383 The potential effects on the historic environment are considered to be minimal and capable of being suitably mitigated by way of additional screening and applying and appropriate colour (olive green) finished to the ARM building. These requirements would be secured by way of planning conditions.
- 384 The PDNPA's Cultural Heritage Officer concurs with the findings of the applicant's heritage assessment but notes that views of the Grade II listed Pindale Mine Engine House would be visible in conjunction with the proposed ARM storage building. Haywood Hill provides some suitable screening but it is not complete. As such, the heritage officer has concluded that there would be less than substantial harm to the designated heritage asset. Therefore it is necessary to consider the proposed development against the appropriate tests set out in the NPPF.

- 385 Paragraph 202 of the NPPF 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 including, where appropriate, securing its optimum viable use.*'
- 386 The proposed development would lead to less than substantial harm to the Grade II Listed Pindale Mine Engine House by way of impact on its setting. It is a High Priority Lead Mining site, identified in the Inventory of Nationally and Regionally Important Lead Mining Sites in the Peak District.
- 387 It comprises a well preserved two storey horizontal engine house and chimney, a sealed shaft, surrounding waste hillocks with a retaining wall in parts and a powder house set behind to the east. It is a site of considerable historic and archaeological interest. The engine house and chimney are of particular importance. This is the only complete dual winding and pumping engine house left in the National Park and one of the very few left anywhere in the country in good condition.
- 388 When appreciating the asset in close quarters, views of the cement works and the proposed ARM storage building would be generally well screened by Haywood Hill and the established woodland upon it. However, during winter months when foliage is not present, some glimpses of the ARM building may be possible.
- 389 The heritage asset itself, in a physical sense, would not be affected by the proposed development, rather its setting and one's experience of it, would be the element of harm that needs to be assessed. Views of the ARM building from in and around the designated asset would be intermittent and are not considered to be highly damaging to the setting of the asset or to its enjoyment. It should be noted that the development is temporary in nature and its removal by 2042 at the latest would prevent any long term harm to the asset.
- 390 They also have to be considered in the context of the existing Works, with the chimney already clearly visible. Any effect would be further mitigated through the proposed olive-green finish to the building and additional screening planting proposed for Haywood Hill. Both of these elements of mitigation would be secured through planning conditions appended to any approval the Authority may be minded to grant.
- 391 Noise from the works is already experienced at the heritage asset. Based on the assessment in the Noise chapter of the Environmental Statement, it was concluded that noise levels during construction would have a minor adverse noise impact, and during operation the noise from the ARM plant would result in a 1db increase of noise at the site, a change that is below the limit of perceptible change (which is 3db). As such, any harm by way of noise, if there is any, would be considered negligible.
- 392 The PDNPA Cultural Heritage Officer and the Archaeologist both concluded the proposal would result in less than substantial harm to the heritage asset.
- 393 The assessment of the 'less than substantial harm' to the heritage asset as a result of the proposal is set out above, and this level of harm must be weighed against the public benefits of the proposed development. Those benefits include the continuity of cement production in a regional and national sense

and represent what is currently considered to be the most sustainable option to secure the necessary continuity of cement supply to the UK market. Cement is vital in the construction of houses, roads, school and hospitals and other developments consummate to modern standards of living.

- 394 The less than substantial harm to the Grade II Listed Pindale Mine Engine House is considered to be outweighed by the need for continuity of cement production to sustain economic growth and allow the sustainable provision of social infrastructure. These public benefits which would be achieved via the proposed development outweigh the less than substantial harm to the heritage asset.
- 395 Although the Cultural Heritage Officer has only identified Pindale Mine Engine House as asset in need of assessment against the test in the NPPF, for the avoidance of doubt, the following assets were also identified in the Heritage Statement as possibly suffering less than substantial harm as a result of the proposed development.
 - 396 The Folly platform cairn (Scheduled Monument). Proposed storage shed screened from view by intervening vegetation, potential views of loading gantry and new transfer tower wholly within extant arc of view of HCW.
 - 397 Lord's Seat bowl barrow (Scheduled Monument). Very slight increase in arc of view of the HCW but may not be readily discernible at this distance.
 - 398 Slight univallate hillfort and two bowl barrows on Mam Tor (Scheduled Monument). Very slight increase in arc of view of the HCW due to small areas of roof of storage shed visible above the trees on 'Haywood Hill'.
 - 399 Engine Sough and associated nucleated lead mine, 500m south of Mam Tor (Scheduled Monument). Views across the monument from the north west could potentially include a very slight increase in the arc of view within which HCW would be visible.
 - 400 Odin Mine nucleated lead mine and ore works, 350m WNW of Knowlegates Farm (Scheduled Monument). Views from parts of the monument could potentially include a very slight increase in the arc of view within which HCW would be visible.
 - 401 Pin Dale lead side veins (Scheduled Monument). Very slight increase in massing would be wholly within the extant arc of view of the HCW but minor impact upon the appreciation of group value of High Priority sites on Dirlow Rake.
 - 402 Ring cairn on Bamford Moor, 900m north east of Lydgate Farm (Scheduled Monument). Very slight increase in massing of structures but within the same arc of view – barely discernible at this distance.
 - 403 Cairn on Bamford Edge, 500m north east of Mooredge (Scheduled Monument). Very slight increase in massing of structures but within the same arc of view – barely discernible at this distance.

- 404 Cairnfield and quarry on Bamford Edge, 720m north of Clough House (Scheduled Monument) Very slight increase in massing of structures but within the same arc of view – barely discernible at this distance.
- 405 Cairn on Bamford Edge, 570m north east of Clough House (Scheduled Monument) Very slight increase in massing of structures but within the same arc of view – barely discernible at this distance.
- 406 Highfield Head Farmhouse And Attached Outbuilding (Grade II Listed Building) Possible view of storage shed just above treeline but against a green wooded backdrop.
- 407 Chapel Farmhouse and Attached Outbuildings (Grade II Listed Building) Possible view of storage shed just above treeline but against a green wooded backdrop.
- 408 Barn to North of Ryecroft Cottage Farmhouse (Grade II Listed Building) Possible view of storage shed just above treeline but against a green wooded backdrop.
- 409 Milepost at OS 134 837 (Grade II Listed Building) Views from here could potentially include a very slight increase in the arc of view within which HCW would be visible.
- 410 The effects of the proposed development on all of the above mentioned heritage assets range from neutral or negligible to slight adverse, which could potentially constitute 'less than substantial harm' when considered in terms of the NPPF. None of the features have been considered worthy of further assessment by the Cultural Heritage Officer or Historic England. It is considered that any harm which could be caused by the proposal would be adequately mitigated by way of the olive-green finish to the ARM storage building and the requirement for an enhanced planting scheme to further reduce views into the Works. Any less than substantial harm is therefore outweighed by the need for continued cement manufacture as outlined above.
- 411 Policy L3 of the Core Strategy requires development to conserve and where appropriate enhance or reveal the significance of heritage assets, and states that other than in exceptional circumstances development will not be permitted where it is likely to cause harm to the significance of any cultural heritage asset.
- 412 Given the nature of this proposal and its location within the established Cement Works complex, opportunities to enhance or reveal significance of assets are not available. It is considered that the significance of assets is however, largely conserved given the findings of the Heritage Statement, the conclusions reached above and the proposed means of mitigation.
- 413 It is considered that the limited level of harm that the proposal would cause to cultural heritage assets is outweighed by the economic and social needs for continuity of cement production, continued local employment and sustainable development in the regional and national context. Thus the exceptional circumstances required by Policy L3 of the Core Strategy have been met and the proposal accords with the policy, the NPPF and Policy DMC5 of the Development Management Policies DPD.

Ecology Impact

- 414 The proposed development has the potential to impact upon habitat and species through its land take/ construction and through its operation. As such it if required to be assessed against paragraph 180 of the NPPF and development management policies DMC11, DMC12 and DMC13 of the PDNPA Local Plan. Consideration must be given to the protection of habitats and species, their enhancement and the schemes contribution towards a biodiversity net gain. The proposal also has the potential to affect European designated sites and has therefore been subject to a Habitat Regulations Assessment (HRA).

Habitats

- 415 The main habitats present at the Site are hard-standing, amenity grassland, buildings, immature mixed plantation woodland, ephemeral and tall ruderal vegetation, introduced trees and shrubs and scrub. A young mixed plantation woodland is partly within and outside the Site and covers an area of 0.36ha. The plantation is immature at approximately 35 years old and it is understood that 0.27 ha of this woodland will be affected by the works. This area of immature woodland would need to be removed to facilitate the location of the ARM storage building.
- 416 None of the habitats within the Site are considered to be Habitats of Principal Importance/priority habitat type. These habitats are considered to be of low conservation value, and overall are evaluated as being of no more than Site importance.
- 417 The Arboricultural Method Statement and Tree Protection Method statements have been produced to avoid damage to the above and below ground parts of existing trees that are to be retained during development operations. There would be no structures constructed within Root Protection Areas or crown spreads of the retained trees to ensure they are not compromised. As such the proposal complies with development management policy DMC13 of the PDNPA Local Plan. Conditions requiring the protection of retained trees and use of the felled trees foliage for habitat creation are proposed.

Birds

- 418 The mixed plantation woodland, introduced trees and shrubs, and scrub are suitable for breeding birds. These habitats are not considered likely to support significant numbers of notable bird species due to the immaturity of the habitats affected and the total combined loss of these habitats will be 0.35 ha. Off-Site habitat (i.e. the more established mixed plantation woodland) is considered to offer better opportunities for breeding birds.
- 419 Overall, it is considered that there is limited habitat available within the Site for breeding birds. Conditions are proposed to protect birds during the nesting season and for the installation of bird boxes within the retained trees.

Great crested newts

- 420 There are discreet areas of ephemeral, tall herb and scrub vegetation within the Site which include piles of rubble that are suitable for amphibians and the mixed plantation woodland also provides suitable terrestrial habitat. However, the local nature reserve provides suitable aquatic and terrestrial habitat for amphibians. The topography between the nature reserve and the Site is steep sided and it is considered highly likely that amphibians recorded within the nature reserve would remain in the proximate terrestrial habitat rather than moving towards the Site.
- 421 Terrestrial habitat associated with Pond 1 is connected to the railway sidings within the eastern part of the Site. Whilst unlikely, the ballast that is present in the sidings may provide places of shelter and rest suitable for great crested newt.
- 422 No waterbodies are present within the Site and majority of the Site supports terrestrial habitats that are suboptimal for great crested newt. It is considered unlikely that other amphibians are present within the Site or would be affected by the Proposed development.
- 423 Conditions are proposed to ensure creation of an off site great created newt hibernaculum to the benefit of the GCN population associated with Pond 1 within the wider Works holding, and for the creation of further habitat from timbre obtained from felled trees.

Reptiles

- 424 The majority of the Site (i.e. hard standing, amenity grassland) is considered to provide sub-optimal habitat to support reptiles. The areas of scrub and tall ruderal vegetation are considered to provide suitable habitat for common species of reptile such as grass snake and slow worm. It is considered that, due to the high amount of human-related activity and the limited nature of suitable habitat on site reptiles are unlikely to be present on the Site and will not be affected by the proposed development

Badgers

- 425 There is currently no evidence of badger within the Site but there is activity relatively close by. The site supports habitats that are considered to be of limited suitability for badger and as such the species would not be adversely affected by the proposal. A condition is proposed to ensure a pre-construction walk over survey is conducted to ensure no presence of badgers.

Bats

- 426 There are very limited opportunities for bats to roost within the site. The surveys undertaken in 2018 and 2019 did not identify any evidence of bat roosts within the Site.
- 427 Overall, there is suitable habitat for foraging and commuting bats within the Site including mixed plantation woodland, introduced trees and shrubs, and scrub. The woodland is connected to areas of more suitable habitat beyond the Site within the surrounding landscape.

- 428 Artificial lighting within the Site is considered to reduce the suitability of parts of the Site for foraging and commuting bats and as such requires further consideration. Conditions are proposed that would require a pre-construction site inspection for bats and the installation of bat boxes at suitable locations to provide additional roosts.

Lighting

- 429 The impact of the proposed additional lighting has been assessed in conjunction with BSG Ecology Report. It is proposed that the following measures would minimise lighting impacts of the development and in particular, in relation to bats. The lighting scheme has been designed to minimise sky glow with the building design specifically avoiding use of transparent roof panels to avoid light spill. This is supported by officers, and also reduced the visual impact of the building in the landscape.
- 430 In order to reduce disturbance to bats it is expected that the detailed lighting design scheme would comply with the guidance in Bat conservation Trust and ILP (2018) 'Guidance note 08/18, bats and artificial lighting in the UK' , and as set out in the submitted information as follows:
- 431 All luminaires would avoid use of metal halide fluorescent sources and instead be LEDs, due to their sharp cut off, lower intensity, good colour rendition and dimming capacity.
- 432 A warm spectrum would be adopted (less than 2700 kelvin) to reduce the blue light component, which is best for health and safety. (Whilst this may not be the least disturbing spectrum for bats it is satisfactory, and this is offset by the short duration).
- 433 Luminaires would feature peak wavelengths higher than 55nm to avoid the component of light most disturbing to bats.
- 434 For the duration of the life of the consented operations, the external lighting would be operated as follows:
- a. For short duration inspections i.e. 5-10 minutes per night shift.
 - b. For breakdown repairs to the woodland side conveyors or dosing tower – it is understood from Breedon that the frequency of this is anticipated to be once per annum.
- 435 Subject to the above requirements, which would be secured by planning condition, the scheme is considered acceptable and the impact on bats suitably mitigated.

Water Quality

- 436 There is potential for water quality effects on Bradwell Brook and two unnamed ordinary watercourses within the vicinity of the Site resulting from activities during the construction phase, for example: the interaction between surface and groundwater; demolition, remediation and excavation; the transport and storage of materials; and with the movement and operation of

vehicles and machinery. There is also potential for water quality effects from surface water discharge from the proposed development to these receptors, should free discharge occur.

- 437 Existing operational measures are already in place to mitigate a pollution event that might otherwise result in a decrease in water quality. A number of interceptors across the Site and the ability to ‘close off’ Pond 2 to prevent discharge leaving the site provide suitable mitigation. Conditions are proposed which require a surface water management plan.

Dust/Air Quality

- 438 The dust assessment in Chapter 12 of the Environmental Statement has concluded that the risk of dust generation arising from the Proposed development is low. This is based on the nature of the materials processing (under cover and the use of incoming wet materials). The assessment has also considered dust arising/air quality impacts associated with exhaust emissions from rail movements. They conclude that given the small number of rail movements involved, it is considered that impacts on the ecological receptors can be screened out and concluded to be negligible and not significant.
- 439 ARM is proposed to be transported to site by rail in open topped waggons in a wet condition so as to prevent dust emissions. Polymer spray would be used if required as an additional dust control measure. Once unloaded, ARM would be transported by covered conveyors and water sprays which would also control dust emissions from the storage building.
- 440 A Dust Action Plan has been prepared by Wardell Armstrong as part of this Proposed development and the development would be carried out in accordance with its provisions. This requirement would be secured by planning condition.

CEMP/LEMP

- 441 Overall, it is anticipated that construction environmental effects would be controlled by the operator’s environmental management systems that include a Construction Environmental Management Plan (CEMP) to be agreed and implemented by condition.
- 442 A number of mitigation and compensatory measures are proposed in the submission and it is recommended that these are either conditioned should approval be granted with a further condition requiring a Landscape & Ecological Management Plan (LEMP) to be agreed for the management of the habitat enhancements.

Biodiversity Net Gain

- 443 Habitat enhancement and creation measures have been incorporated into the proposed development to address habitat loss and provide a biodiversity net gain through all phases of the development. During the operational phase of the development it is anticipated that 13% net gain can be achieved, with further gains after the storage facility and rail sidings are decommissioned. This includes the enhancement and creation of areas of

broadleaved woodland, scrub, and species rich grassland both within and off-site.

- 444 The extent of habitat compensation and enhancement is shown on Figure 7.5 Rev A provided by BSG as part of the application submission. The requirement for its implementation prior to operation of the ARM storage building is proposed to be secured through planning condition.
- 445 The details of habitat compensation, enhancement, creation and management shall be set out in the CEMP and LEMP for the habitat creation and management respectively, to secure compensation and mitigation measures and the delivery of the measurable biodiversity net gain.
- 446 Conditions would be appended to any approval requiring the following; Prior to the commencement of works the CEMP and LEMP shall be agreed to the complete satisfaction of the Authority; Areas of habitat associated with the decommissioning of the storage facility and rail sidings, as shown on Figure 4 Rev A shall be created within 2 years of decommission; All habitat created, as shown on Figure 7.4 and 7.5, shall be managed and maintained as identified in the CEMP/LEMP for a minimum of 30 years after their creation.
- 447 Subject to the aforementioned conditions the proposal would result in a biodiversity net gain of 13% during operation, with further net gains expected upon decommissioning and would be suitably mitigated to avoid significant harm to habitats and species. As such the scheme accords with paragraph 180 of the NPPF and development management policies DMC11 and DMC12 of the PDNPA Local Plan.

Habitat Regulations Assessment (HRA)

- 448 HRA is required by Regulation 63 of the Habitats Regulations for all projects and plans which may have 'likely significant effects (LSE)' on a European Site and are not directly connected with or necessary to the management of the European Site. Regulation 84 of the Habitats Regulations states that Regulation 63 i.e. the assessment provisions, apply to applications for development consent under the Planning Act 2008.
- 449 The requirements of the Habitats Regulations with regard to the implications of plans or projects are set out within Regulation 63. It is a requirement of any public body (referred to as a competent authority within the Habitats Regulations) to carry out a Habitats Regulations Assessment when they are proposing to carry out a project, implement a plan or authorise another party to carry out a plan or project. Competent authorities are required to record the process undertaken, ensuring that there will be no adverse effects on the integrity of any European Site as a result of a plan or project whether alone or in combination with other plans or projects.

450 The three stages of the HRA process, in line with UK government policy are:

- a. Stage 1 - Screening: To test whether a Scheme either alone or in combination with other projects is likely to have a significant effect on a European Site

- b. Stage 2 - Appropriate Assessment (AA): To determine whether, in view of a European Site's conservation objectives, the Scheme (either alone or in combination with other projects) would have an adverse effect on the integrity of the site with respect to the site's structure, function and conservation objectives. If adverse impacts are anticipated, potential mitigation measures to alleviate impacts should be proposed and assessed
- c. Stage 3 – Derogation: allow exceptions:
- d. Test 1 – Consider alternative solutions: Where a Scheme is assessed as having an adverse impact (or risk of this) on the integrity of a European Site, there should be an examination of alternatives (e.g. alternative locations and designs of development).
- e. Test 2 – Consider Imperative Reasons of Overriding Public Interest (IROPI): Assessment where no alternative solutions have been identified and where adverse impacts remain. In exceptional circumstance (e.g. where there are imperative reasons of overriding public interest), compensatory measures can be put in place to offset negative impacts.

- 451 The PDNPA as competent authority has conducted a detailed HRA which is available on the Authority's website under the planning application record.
- 452 The PDNP Authority has considered the following potential impacts 'alone' and 'in combination'
- 1 Habitat loss and disturbance/disruption;
 - 2 Visual, noise and vibration related disturbance of mobile species and collision risk;
 - 3 Air quality impacts from dust deposition;
 - 4 Air quality impacts from other airborne pollutants.
 - c) rail – operational activities
 - d) construction and decommissioning
- 453 The Authority concludes that the proposal can be screened out from further stages of assessment because significant effects are unlikely to occur, either alone or in combination
- 454 Natural England were consulted on the HRA screening report and concurred with the findings of 'No LSE' advising that there was no requirement to go through to Stage 2 of the HRA process.

Transport

- 455 Transport matters related to this proposal are relative to two specific areas, the importation of ARM; and the construction/demolition phases of the development.
- 456 Policy T1 of the Core Strategy states conserving and enhancing the National Park's valued characteristics will be the primary criterion in transport management. It goes on to state that a modal shift to sustainable transport measures will be encouraged.

- 457 Policy T4 seeks to manage the demand for freight transport and states that infrastructure developments that enable the transfer of road freight, including minerals, to rail will be supported where appropriate.

Construction Traffic

- 458 The construction phase of the development is anticipated to last between 12-18 months, with delivery of material expected to last between 12-15 months. During this phase construction would take place from 07.00 hours to 18.00 hours Monday to Friday (excluding Bank Holidays), and 07.00 to 14.00 hours on Saturdays.
- 459 The applicant has stated that construction traffic would not exceed 200 annual average daily traffic movements (AADT), thus there is no requirement to study air quality impacts from construction vehicles. However, it is not possible to predict exact daily vehicle movements at this point and figures would be clarified once contractors are appointed. In order to ensure there is not an adverse impact on the highway network a Construction and Environmental Management Plan is proposed by the applicant. The CEMP would be secured by planning condition and would allow the MPA to specify a maximum daily importation limit. The Highway Authority have raised no objection on this basis.
- 460 In addition, it is proposed that deliveries of construction material would be made by rail wherever possible. These deliveries would not exceed 1 per day and would replace one of the existing permitted rail deliveries to the Works i.e. a kiln fuel delivery. There would be no additional rail movements overall to facilitate construction material delivery by rail and the timing of other movements would not be affected. This would also be secured by planning condition. The Highway Authority have raised no objection to the proposal. As such the construction phase of the development accords with the relevant transport policies.

Existing Rail Movements

- 461 It is important to note that the export of cement from the Works by rail is currently unrestricted and governed by the production capacity of the Works, circa 1.5mt/pa. The proposed development seeks additional daytime (0700 – 2300) movements only. The existing baseline is outlined accordingly.
- 462 The existing daytime rail movements associated with the Works based on the full year 2019 total daytime branch line movements per annum were as follows:
- a. Light engine movements – 1674
 - b. Empty cement – 592
 - c. Full cement – 1296
 - d. Empty coal – 142
 - e. Full PFA – 37
- 463 (NOTE – empty PFA wagons are included in empty cement)
- 464 The total number of existing daytime branch line movements, based on 2019

data is 3,741.

Importation of ARM by Rail

465 Conditioned PFA is currently being imported by road to be used in trials. This is due to the fact that no rail unloading infrastructure exists at present. The amount of shale substitute imported in 2019 was 53,698 tonnes. Assuming these deliveries were made in 20 tonne tipper wagons, it would equate to approximately 2,685 deliveries (5,370 movements) over the course of the calendar year, or approximately 14 daily movements. Should consent be granted for importation by rail, these vehicle movements would be taken off the public highway.

466 The applicant presented various branch line movement arrangements to facilitate the delivery of ARM from Earles Sidings to the Works. Ultimately the following arrangement has been selected.

467 Mainline deliveries would be broken down into 2/3 strings of wagons for transit along the branch line.

468 The daytime ARM movements (excluding PFA trains counted as part of the 2019 total that would no longer be required) would be:

2524 ARM associated movements per annum broken up by

Light engine movement – 778

Full wagon movement – 1055

Empty wagon moves – 691

469 7 mainline ARM delivery trains per week would generate 56 branch line movements per week. The proposed ARM movements on the branch line are broken down as follows:

- Mainline train arrives in Earles siding with 22 wagons
- The works class 20 runs down to Earles Sidings to collect the first rake – 1 movement light engine
- 11 wagons are pulled up to the works by the Class 20 – 2nd movement
- The works class 20 returns to Earles Sidings to collect the second rake – 3rd movement light engine
- 11 wagons are pulled into the works by the Class 20 – 4th movement
- Unloading process occurs
- The works class 20 loco takes 11 empty wagons back to Earles Sidings – 5th movement
- The class 20 loco returns to the works – 6th movement light engine
- The works class 20 loco takes 11 empty wagons back to Earles Sidings – 7th movement
- The class 20 loco returns to the works – 8th movement light engine

470 The 8 movements per day over the course of a 7 day working week equate to a maximum of 56 branch line movements associated with the proposed importation of ARM.

471 It is also proposed to append a number of planning conditions that would control branch line movements to ensure no more than 56 movements

associated with ARM occur per week. No movements associated with ARM would be permitted between 2300 - 0700 and no existing movements shall be pushed into the night time period. Given that movements along the branch line are currently unrestricted, it is proposed to take this opportunity exercise some control over its operation. A maximum total limit on branch line movements of 7,500 per annum is recommended by condition. This figure includes all existing movements and proposed ARM movements and has been fully assessed as part of the application process. Imposition of this condition would ensure that if further movements were ever proposed, they would be subject to further assessment.

- 472 In accordance with paragraph 55 of the NPPF 2021, the conditions are considered necessary in order to make the development acceptable and have thus been recommended for inclusion. Control of all branch line movements has been sought at this point on the basis of the noise and vibration assessment conducted in support of this application. It is both necessary and reasonable to restrict total movements to the levels that were assessed in order to ensure there are no adverse impacts on amenity which have not been subject to assessment.
- 473 The 1969 consent for the ‘Works’ allows for the production of cement on the basis of the utilisation of on-site mineral reserves. It is reasonable to conclude on this basis that the importation of primary and secondary feed stocks is not necessary and as such the consent does not permit the importation of feedstocks to the site. However, the consent does not explicitly preclude it by way of condition. The proposal seeks the importation of ARM by rail to supplement the secondary kiln feed stock and is the operator’s preferred means of delivery to the Works. Whilst this application must be determined on its own merits, it is worthy to note that importation by road is an avenue an operator may choose to explore should circumstances dictate. As previously discussed in this report, transportation of goods/freight by rail is widely accepted to be more sustainable than by road, and impacts upon the environment and amenity in relation to this proposal in particular, are expected to be more limited should ARM be imported by rail.
- 474 The importation of ARM to the ‘Works’ shall be restricted by condition to the means of rail except in emergency rail outage situations. An emergency situation constitutes a period of prolonged railway breakdowns or other impediment to rail deliveries that exceed the life of the ARM contingency storage.
- 475 The transport related elements of the proposal, subject to the conditions specified are in accordance with Policies T1 and T4 of the Core Strategy.

Noise and Vibration

- 476 Extensive noise and vibration assessments have been undertaken by the operator to support the application and consideration has been given to the effects from operational plant and activities within the Works site associated with the importation of ARM and the impacts arising from the branch line rail movements.
- 477 The increase in activity at the site and additional branch line movements mean additional impacts above what is currently experienced by receptor

sites is inevitable. However, it is crucial to determine the extent of the impacts and whether they can be mitigated to a suitable level or not in accordance with the requirements of Development Management Policy DMC14 – Pollution and disturbance.

478 Paragraph 185 of the NPPF states that:

'Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as potential sensitivity of the site or the wider area to impacts that could arise from the developments. In doing so they should:

- a. *Mitigate and reduce to a minimum potential adverse impacts resulting from noise from development – and avoid noise giving rise to significant adverse impacts of health and the quality of life;*
- b. *Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason...'*

479 Paragraph 185 of the NPPF also requires decision makers to consider the likely effects of noise on the environment and living conditions. In addition it requires the identification and protection of tranquil areas. The qualities of the National Park include its tranquillity and quiet enjoyment and it is therefore appropriate to apply the policy rigorously to ensure noise impacts are considered accordingly. However, it is also worthy to note that the policy refers to areas that 'have remained relatively undisturbed'. Given the existence of the Works and the associated branch line, it is important to recognise that this area of the Park does not remain undisturbed, and that the current environment is considered to be the baseline for any assessment.

480 With regard to 'adverse impacts' the NPPF refers to the 'Noise Policy Statement for England' (NPSE), which defines three categories, as follows:

- a. NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

- b. LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

- c. SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur.

481 In order to quantify the assessment, the applicant's consultant has identified the sensitivity of receptors and the magnitude of impact. Both factors have been combined to identify the 'impact severity' categorised as negligible, minor, moderate and substantial.

482 A total of 8 existing sensitive receptors (5 residential properties, 1 outdoor centre) have been identified for the purpose of the assessment, 6 of which are in proximity to the existing Works and proposed ARMs storage building/conveyors and 2 are in the close proximity to the branch line (Castleton Road and Orclecar Cottage). Impacts at 1 bridleway and 2 public footpaths have also been assessed. Impact on a heritage asset was considered but not subject to further assessment given the outcome of assessments on the rights of way are similar, yet closer to the noise source

and were deemed negligible.

Construction Noise

- 483 The activities associated with the earthworks and construction phase of the proposed development would have the potential to generate noise and create an impact on the environment and surrounding sensitive receptors. Although this matter is considered as part of the application, the effects of construction noise are controlled by the Control of Pollution Act 1974 (COPA 1974).
- 484 The Control of Pollution Act 1974 (COPA 1974) gives the local authority power to serve a notice under Section 60 imposing requirements as to the way in which works are to be carried out. This could specify times of operation, maximum levels of noise that may be emitted and the type of plant that should or should not be used.
- 485 Paragraph 188 of the NPPF states that '*The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes Planning decisions should assume that these regimes will operate effectively.'*
- 486 Given the above policy, it is appropriate to allow for control of construction noise via the Control of Pollution Act 1974 and not the planning system. However, an assessment of construction noise and vibration has been undertaken by the applicant's consultants which concluded that there would be a negligible effect at the sensitive receptors. The Environmental Health Officer has raised no objection on this basis.
- 487 It is proposed to append a condition to any approval that Members may be minded to grant that requires submission of and adherence to a Construction and Environmental Management Plan (CEMP) that would include best practice measures for the control of noise, vibration, dust and construction vehicle movements.
- 488 A further condition would restrict the hours of construction/demolition operation to between 0700 – 1800 Monday to Friday (excluding public holidays) and between 0700 -1400 on Saturdays, with no working on a Sunday.

Construction Vibration

- 489 Earthworks and construction activities may take place at a distance of approximately 80m from the nearest sensitive receptor (Pindale Outdoor Activity Centre). Modelling was undertaken on the basis of the plant and machinery likely to be used during the construction phase and found that levels of vibration would be highly unlikely (vibration at 2.35 mm/s at 30m from source) to breach the threshold as defined by the British Standard that could generate complaints at the nearest sensitive receptor. Notwithstanding, should vibration be experienced at the nearby sensitive receptors, it would be for a temporary period only which on balance is considered acceptable when considering the proposal as a whole.

490 Vibration modelling found both potential impact on human health and on built structures to be negligible.

Operational (daytime and night-time)

- 491 The operational phase of the development would add new plant noise (due to unloading and conveying) to the existing cement works facility, and therefore has the potential to affect existing receptors near the Cement Works. An assessment has been undertaken by the applicant to compare the existing background levels with predicted ARM plant noise.
- 492 A baseline noise survey was conducted at one of the closest receptors to the proposed development in order to establish the effects of increased activity.
- 493 Due to the current activities on site operating 24/7, it was not possible to take a background noise measurement at the nearest receptor in the absence of the existing plant noise. Therefore, an assessment has been undertaken to ensure that the noise emissions from the proposed development would not significantly increase the ambient noise level at nearest receptors. It should be noted that a 3dB increase is considered by laboratory tests to be the limit of perceptible change and anything below this would likely be unperceivable. The book 'Fundamentals of Acoustics' by
- 494 Professor Colin H Hansen explains that a 3dB increase in noise level is just perceptible, therefore this value has been adopted as the threshold of a minor impact. BS4142 has been used to estimate rating levels.
- 495 To present a worst-case scenario the storage shed has been modelled with the doors open. Figure 13.2A of the applicant's submission demonstrates operation noise contours during the daytime and Figure 13.3A demonstrates operational noise contours at night-time. The tables below present the existing ambient sound levels, the estimated sound levels as a result of the proposed development and the predicted increase at each of the sensitive receptors.

Table 13.95: Comparison of specific noise levels, daytime

Description	Daytime L _{Aeq, 1hour} (dB)					
	ESR1	ESR2	ESR3	ESR4	ESR5	ESR6
Proposed Noise Level, L _{Aeq} (dB)	36	38	37	41	41	41
Existing Ambient Sound Level L _{Aeq} (dB) which includes existing industrial noise	47	47	47	47	47	47
Proposed + Existing Ambient (dB)	47.3	47.5	47.4	48	48	48
Calculated increase to ambient (dB)	0.3	0.5	0.4	1	1	1

Table 13.106: Comparison of specific noise levels, night-time

Description	Night-time L _{Aeq, 15min} (dB)					
	ESR1	ESR2	ESR3	ESR4	ESR5	ESR6
Proposed Noise Level, L _{Aeq} (dB)	36	38	37	41	41	41
Existing Ambient Sound Level L _{Aeq} (dB) which includes existing industrial noise	41	41	41	41	41	41
Proposed + Existing Ambient	42	43	43	44	44	44

Description	Night-time L _{Aeq, 15min} (dB)					
	ESR1	ESR2	ESR3	ESR4	ESR5	ESR6
(db)						
Calculated increase to ambient (dB)	42	2	2	3	3	3

- 496 The modelling shows that daytime ambient noise levels would increase by a maximum of 1dB at sensitive receptors ESR4 – ESR6. The 1dB increase is unlikely to be audible and as such is considered to be an acceptable increase in noise levels. The EHO has raised no objection on this basis.
- 497 However, the modelling shows that night time ambient noise levels at ESR4 – ESR6 are likely to increase by 3dB, which is the widely accepted level of possible perceivable change to humans. While the change may only be slight and not necessarily great enough to cause concern, it is necessary to consider the potential impact, especially given the increase would occur during the night time.
- 498 Overall the sensitivity of ESR1 – ESR6 is high and the magnitude of impact is considered to be low, resulting in a ‘moderate’ noise impact during the operational phase of the development.
- 499 Subsequent to the initial assessment, further investigation by the applicant revealed that the increased noise could be attributed to an extraction unit on the raw meal silo. In order to further reduce the noise impacts on sensitive receptors the EHO has requested a condition requiring the submission of a scheme of noise mitigation measures to achieve a reduction in noise emissions of at least 10dB LAeq when measured at source. The condition would require submission of the scheme prior to commencement of development and further require validation that the reduction has been achieved prior to first operation of the proposal.
- 500 Estimated noise levels at the nearby bridleway and footpaths have also been assessed. The predicted levels at the nearby bridleway (ESR9) and footpaths (ESR10 and ESR11) are 39dB, 36dB and 47dB respectively. The nearest receptor to the northwest of the proposed ARM facility is ESR9; this location is also representative of ESR10. The existing ambient noise levels at ESR9 are likely to be similar to those at ESR1-ESR6. Since ESR 9 is at a greater distance from Pindale Road it is unlikely to have a significant impact on the existing LAeq. Road traffic movements on Pindale Road are infrequent and consist mainly of residents moving towards the dwelling. An LAeq of 41dB has been adopted as a representative ambient noise level. Therefore, the increase in noise levels at ESR9 and ESR10 would be less than 3dB. At ESR11, the existing ambient noise level is expected to be higher than experienced at ESR9 and ESR10 as this location is closer to the current operations at the Cement works. The distance of ESR11 from the proposed development is greater. Therefore, the potential noise impact at ESR11 would be less than it is at ESR9 and ESR10, where a minor magnitude of impact is predicted.

501 The sensitivities of ESR9 to ESR11 are low and the magnitude of impact is minor. Any impact on users would be temporary while they pass the Works. Therefore, the effects of noise during the operational phase of the proposed ARM facility on the public rights of way are considered to be negligible.

502 Subject to the proposed condition the EHO has no objection on the grounds of operational noise and the proposal is considered acceptable in accordance with NPPF paragraph 185 and Development Management Policy DMC14.

503 Rail Noise

504 The proposal seeks the additional importation of ARM to the Works by rail, consequently increasing the number of branch line movements to and from Earles Sidings and the Works (movements discussed previously in this report). It is clear that the increase in movements would generate additional noise and it is necessary to assess whether that level of noise constitutes an adverse impact upon amenity.

505 The application originally proposed 9 mainline deliveries of ARM to Earles Sidings each week, constituting up to 72 branch line movements. The proposal has since been revised such that it would allow only 7 mainline deliveries and 56 branch line movements. The noise assessment has been conducted on the basis of the existing movements associated with the Works and the additional proposed movements. Should the proposal be granted, a maximum of 7,500 branch line movements could occur per calendar year. The impact of those movements upon the properties located along the branch line has been considered by the applicant's assessment and independently by the MPA and the EHO as part of the planning application process.

506 Baseline noise surveys were undertaken at Orlecar Cottage (ESR8), the closest receptor to the branch line in order to inform the study. The baseline assessment consisted of the recording of actual noise levels at Orlecar Cottage over a 7 day period in October 2019 with the figures displayed in Appendix 13.4 of the applicant's submission.

507 Noise generated by passing trains is emitted from two sources; the noise of the locomotive's engine and the noise of the locomotive/wagon's wheels running along the rails. Both noise sources have been assessed to best understand impacts and implement the most appropriate mitigation to ensure effective reduction of noise levels at sensitive receptors.

508 The noise generated from passing trains varies depending on number of wagons, quantity of load and type of load. As such the noise levels recorded vary considerably with the lowest recorded Sound Exposure Level (SEL) being 54dB and the highest 88dB.

509 Sound exposure levels at receptors along the branch line are displayed in the table below.

Table 13.18: Existing Rail Movements			
Existing Rail Movements			
Train Types	Existing Number of Movements	Existing SEL – Engine (dB)	Existing SEL – Tracks (dB)
Light Engine Movements	1674	77	66
Coal	142	83	70
Cement Full	1296	83	75
Cement Empty	592	79	84
Façade Noise Level Existing Train Movements – Daytime – 1.5m Receiver heights			
Location	Existing Operations – Daytime L _{Aeq,16hr}		
ESR 15 – Robin Hill	41		
ESR 8 – Orlecar Cottage	43		
ESR 16 - Cartref	43		
ESR 17 – 1-3 Oddfellows Cottages	44		
ESR 18 – Tobruk House	45		

510 The SEL was then used in combination with the number of existing and proposed train movements to calculate a daytime L_{Aeq,16h} noise level associated with all train passes.

511 The difference in levels between the scenario with only existing train movements and the scenario with both existing and proposed train movements has been used to provide an indication of the potential noise impact of increased train movements in the daytime. Night time impacts have not been considered as the proposal would not create additional night time movements or push any existing movements into the night time, and this would be controlled by condition.

512 The table below displays the predicted noise levels at the receptors should the development be implemented and should train movements occur at their maximum level.

Table 13.19: Points Removal Assessment			
Proposed Rail Movements			
Train Types	Proposed Number of Movements	Proposed SEL – Engine – Points Removed (dB)	Proposed SEL – Rail – Points Removed (dB)
Light Engine Movements	5988	76	66
Full PFA and Cement Movements	2351	83	74
Empty PFA and cement Movements	691	79	83
Coal Movements	142	83	64
<i>Note - PFA and Cement movements have been combined as the carriages that will be used for both cement and PFA will be similar</i>			
Location	Existing Operations – Daytime L _{Aeq,16hr}		
ESR 15 – Robin Hill	44 (+3)		
ESR 8 – Orlecar Cottage	46 (+3)		
ESR 16 - Cartref	46 (+3)		
ESR 17 – 1-3 Oddfellows Cottages	47 (+3)		
ESR 18 – Tobruk House	48 (+3)		

- 513 The modelling indicates that there would be a 3dB increase in the SEL LAeq 16hr at the receptors along the branch line. As previously discussed, 3dB is widely considered to be the limit of audible change perceivable to humans.
- 514 These increased noise levels are considered to ‘remain low and not significant’ by the applicant’s consultant and the EHO’s consultation response of ‘no objection’ indicates that this level of change is not considered to be of a level detrimental to residential amenity that warrants refusal of the application.
- 515 It is worthy to note that British Standard BS8233: Guidance on sound insulation and noise reduction for buildings states “external areas that are used for amenity spaces such as gardens and patios, it is desirable that the external noise level does not exceed 50dB LAeq. The predicted noise levels as a result of the implementation of the proposed development to its maximum would result in a noise environment that is below the maximum recommended sound levels that should be experienced in gardens as set by the relevant British Standard.
- 516 The predicated noise levels at the receptors are on the basis of a number of mitigation measures being implemented along the branch line prior to the importation of ARM. The mitigation measures include the removal of the points, the smoothing of the bend and the installation of acoustic barriers as shown on Figure 13.8 of the applicant’s submission. These measures would be required by planning condition as part of a scheme of rail noise mitigation measures to be agreed prior to importation of ARM. A further planning condition to ensure all movements of ARM are transported in wagons with a double-bogie axel is also proposed to further reduce noise/vibration effects.
- 517 Although the measures proposed would be suitable to reduce and control the effects of noise at the receptors, the impact on them as a result of the potential additional movements and the location within the National Park is recognised by both the MPA and the operator. As such further conditions are proposed that seek to commit the operator to maintain the track in accordance with the Rail Management Handbook and to investigate the viability and effectiveness of further mitigation measures should they prove to have a beneficial reduction in noise levels experienced by the receptors.
- 518 Furthermore it is recommended that the number of train movements along the branch line is strictly controlled by planning condition to ensure that the resulting noise environment should the application be approved, is comparative with the assessments undertaken and the predicted noise levels.
- 519 Concerns have been raised by the local campaign group HEARD in relation to trains moving at excessive speed and the correlation between it and increased noise levels. While speed is a possible causation of increased sound levels, it is not, in itself the adverse impact on amenity that the planning system should be concerned with. The noise and vibration resulting from the movements are the effects in question and it has been demonstrated that they can be suitably controlled by the mitigation proposals.

- 520 It would be difficult to control the speed of trains by condition and it would not meet the tests for planning conditions on the basis that it is not necessary (speed not the effect impacting upon amenity) and that it is not enforceable. The speed a driver feels it is necessary to travel at is based on a number of factors including load, weather/track conditions, gradient and previous progression along the line. Thus it is difficult to set a limit that can be adhered to consistently.
- 521 However, a condition is also proposed to require the installation of speed monitoring equipment into the locomotives and the required reporting of speeds to the MPA so that it can be appropriately monitored. A condition is also proposed to ensure the provision of a training programme for train drivers with a view to controlling speeds and reducing the effects on receptors.
- 522 Noise monitoring would be required to be conducted by the operator twice per annum at any of the receptors, subject to allowance of access to ensure future compliance. The façade noise levels displayed on plan ref: NT141260 500 Rev A Figure 13.8 would be set as a maximum not to be exceeded by planning condition. All conditions can be viewed in Appendix A to this report.
- 523 A further condition, in relation to vibration levels would also serve to control noise and is discussed later in this report.
- 524 Given the proposed mitigation measures and no objection from the EHO, the development is considered acceptable and as such accords with paragraph 185 of the NPPF and Development Management Policy DMC14.

Rail Vibration

- 525 It is also necessary to consider the effects increased branch line movements could have on both people and structures by way of vibration.
- 526 British Standard 6472-2:2008 presents a guide to the evaluation of human exposure to vibration in buildings. The impact upon humans by way of vibration is expressed as Vibration Dose Value (VDV) which is calculated by combining the magnitude of vibration and the time for which it occurs. A seismograph was placed at Orclecar Cottage during the monitoring exercise to measure the vibrations in PPV mm/s (Peak Particle Velocity millimetres per second).
- 527 BS5228-2 indicates that the threshold of human perception is generally accepted to be between a peak particle velocity (PPV) of 0.14 and 0.3mm/sec. BS5228-2 also indicates that it is likely that vibration of 1.0 mm/s in residential environments would cause complaint but can be tolerated if prior warning and explanation have been given to residents. The standard also indicates that 10 mm/s is likely to be intolerable for any more than a very brief exposure to this level.
- 528 The highest reading recorded when a train passed the monitoring point was 0.49 PPV mm/s, and as such would be noticeable to anyone present.

529 BS6472-2 (2008) provides guidance regarding the significance of Vibration Dose Value (VDV) within buildings in terms of human response for both daytime and night time periods, as detailed in the table below.

Table 13.2: Vibration dose value ranges which might result in various probabilities of adverse comment within residential buildings			
Place and time	Low probability of adverse comment m/s ^{-1.75} *	Adverse comment possible m/s ^{-1.75}	Adverse comment Probable m/s ^{-1.75**}
Residential buildings 16-hour day	0.2 to 0.4	0.4 to 0.8	0.8 to 1.6
Residential buildings 8-hour night	0.1 to 0.2	0.2 to 0.4	0.4 to 0.8
*Below these ranges adverse comment is not expected			
**Above these ranges adverse comment is very likely			

530 The PPV mm/s figure of 0.49 has been used against the average length of time it took for a train to pass the monitoring point to produce the VDVs which are displayed in the table below.

Table 13.10: Summary of measured vibration Levels				
Monitoring location	Time period	X (ms-1.75 VDV)	Y (ms-1.75 VDV)	Z (ms-1.75 VDV)
VML2- Within Cement works, near rail	Daytime 16h	0.03227	0.03213	0.17530
	Night-time 8h	0.03210	0.03199	0.17440
VML3-Orlecar Cottage, near rail	Daytime 16h	0.04499	0.04499	0.04517
	Night-time 8h	0.00027	0.00054	0.00032

531 It is clear from the VDV figures recorded at the monitoring location that the levels of vibration experienced are considered by the British Standard to be of a level below that of 'low probable adverse comment'.

532 In order to ensure these levels of vibration and the VDV are not exceeded, and consequently residents are adversely affected, it is proposed to append conditions requiring the quarterly monitoring of vibration at Orlecar Cottage and set a vibration limit at the monitoring point of PPV 0.60 mm/s which must not be exceeded. These conditions would give confidence that the operation of the branch line will be comparative to the time the vibration and noise assessment were undertaken and ensure residential amenity is not adversely affected.

533 In relation to the potential for structural damage of properties, BS5228-2 suggests that the onset of cosmetic damage is 15mm/sec (15 mm/s at 4 Hz increasing to 20 mm/s at 15 Hz for residential or light commercial type buildings). Given the PPV recording of 0.49 mm/s relative to the British Standard guidance there is sufficient confidence that vibration as a result of

rail movements alone would not cause structural damage to property. The aforementioned vibration limit and monitoring condition would ensure the levels are controlled.

- 534 Given the proposed measures of control, the proposal accords with paragraph 185 of the NPPF and development management Policy DMC14 of the PDNPA Local Plan.

Hope Valley Line/Earles Sidings

- 535 Deliveries to and from the Works are transported via the branch line to Earles Sidings for onward transfer from/to the Hope Valley Railway Line that connects Sheffield and Manchester. On average this line has in excess of 230 train movements per 24-hour period, and the proposed development would add up to a maximum of 7 trains per week (14 movements in and out). As such, the increase is not considered to cause a noticeable increase in daytime rail noise levels on the Hope valley line.
- 536 However, there are a number of residential properties on Edale Lane (closet approx. 210m away) and a group of properties to the east of the sidings between 60 – 210m away which suffer disturbance due to activities at the sidings. These disturbances arise from the noise of shunting of wagons, sounding of horns, idling of engines and light over spill from the rail gantry.
- 537 It should be noted that the Sidings are outside of the application area and are not within land under the applicant's control. It is therefore not possible to control the activities by condition. In addition, the handling of freight at the sidings is conducted by a third party company, again outside the control of the applicant. The third party is liable to change at the end of any contractual operating period and as such a S.106 agreement with a third party as a signatory is not appropriate, notwithstanding whether they would be willing to enter into an agreement or not. Neither the MPA nor the applicant has the power to compel a third party to sign up to a legal agreement.
- 538 In order to best address the effects of activities arising at the sidings it is proposed to set up a stand alone liaison committee comprising representatives from the local community, the MPA, the cement works operator and the freight handler. The liaison meeting will be secured through planning condition and S.106 agreement. The committee would be required to meet at least bi-annually with a view to discussing and arranging environmental mitigation measures to be implemented at the sidings. The freight handler have agreed to attend the liaison committee meeting and the S.106 agreement would require any future freight handler to be contractually required by the Works operator to attend liaison committee meetings.
- 539 Given the current situation this approach is considered to be the most effective means of fostering a working relationship between the operators and the local community with a view to developing mitigation measures and improved working practices at the sidings. The EHO has raised no object on the basis of current activities at the sidings given there are no means to

address them through this application, but has advocated the creation of the new liaison committee.

Dust and Air Quality

540 The proposal has the potential to impact upon air quality by way of dust generated during construction/demolition, handling of ARM and due to vehicle/locomotive emissions during construction and the operational phase of the development. These aspects of the scheme must be considered in the context of paragraph 185 of the NPPF and Development Management Policy DMC14. The applicant has completed a full dust and air quality assessment as part of the application submission.

Air Quality

Rail (Human Health)

541 The initial pre-application submission indicated that the applicant intended to apply for a mix of both road and rail importation would be applied for. However, this was revised for the planning application to be solely rail importation of ARM. Rail freight is often encouraged as it results in fewer emissions to air than the higher number of road vehicle movements which would be required to transport the same quantity of material. Rail lines also often pass through environments where air pollution concentrations are lower, and population densities are lower whereas road vehicle movements along A-roads are likely to add to pollution levels that are already elevated and pass more residential properties.

542 Human sensitive receptors along the mainline and branch line have been identified as part of the air quality assessment.

543 Nitrogen Dioxide (NO₂) concentrations along the entire length of the rail line where it passes through the PDNP would be substantially below 25µg/m³. As identified on Figure 12.2 of the applicant's submission, NO₂ concentrations are below 15µg/m³ at all identified sensitive receptors, which is below the 25µg/m³ threshold for assessment set by Local Air Quality Management Technical Guidance - LAQM.TG(16). The impact of rail emissions on human health is therefore expected to be negligible and no further assessment is necessary.

544 Importation by road could occur in emergency rail outage situations. However a road vehicle emissions assessment (of NO₂) is not required as there would generally be no increase in road vehicle emissions arising from material importation. Notwithstanding, such situations are considered unlikely and the ARM storage building has been designed to afford enough capacity to supply the Works with over a weeks' worth of ARM, meaning any rail outage is likely to have been rectified before the need to import ARM by road emerges.

545 It is also not necessary to address road vehicle emissions during the construction phase given its short-term temporary nature and the vehicle generation is expected to be below the requirement when a detailed assessment is considered. This criterion is when more than 100 heavy-duty vehicle movements/day are created in a location outside an air quality management area as stipulated by Environmental Protection UK 'Land-use

Planning & Development Control: Planning for Air Quality' 2017. The number and frequency of HGV movements would be controlled by the CEMP required to be agreed by planning conditions should approval be granted.

- 546 The EHO has raised no objection to the proposal on the basis of air quality and the proposal accords with paragraph 186 of the NPPF.

Rail (Biodiversity)

- 547 Figure 12.2 of the applicant's submission shows that the Hope Valley Line passes through and close to a number of Ecological designations, including ancient woodland, SAC, SPA and SSSI. The Eastern Peak District Moors on the edge of Sheffield and the South Pennine Moors to the east of Manchester are both Special Protection Area (SPA) and Special Area of Conservation (SAC) designated.

- 548 There is no specific guidance in relation to air quality impacts arising from rail movements on ecological designations, nor is there any screening criteria available. The applicant has used a modified version of the screening criteria for road traffic emissions on ecological designations. The applicant's consultant undertook an exercise to compare the emissions for a diesel freight train compared with an HGV to inform the study.

- 549 The screening criteria for road traffic emissions on ecological designations is 200 HGV / 1,000 AADT movements within 200m of a designation. This assumes continuous daily movements on the road network. Over the course of a day, there may be numerous road vehicles passing ecological designation. The proposed development would generate up to 7 trains per week. Train movements to and from the development would be in single transient passes and emission release would disperse into the airflow. The rail emissions would be released above ground level (4m is expected). It is anticipated that emissions of NO₂ from 14 train movements per week on the main line would be well below emissions of NO₂ from 200 HGV / 1,000 AADT.

- 550 The impact additional rail and highway movements would have in terms of additional generation of pollutants to the air is fully considered in the PDNPA's Habitat Regulations Assessment. The HRA found that the transient nature of the train movements, low levels of existing pollution and dispersal of NO₂ from passing locomotives 4m above ground level would not trigger the threshold for further assessment. It can therefore be concluded that the minimal increase in levels of pollution would not adversely affected any of the biodiversity within the railway line assessment buffer area. The PDNPA Ecologist has raised no objection on the basis of air quality impacts on biodiversity interests.

Fine Particulate Matter

- 551 Guidance indicates that the risk of fine particulate matter effects is considered to be possible only when background PM10 concentrations exceed 17µg/m³. Background concentrations in the area of Hope Cement works are below 17µg/m³ and therefore the requirement for a detailed assessment has been scoped out in accordance with the IAQM Minerals Guidance. Overall, with site specific mitigation measures in place, the dust and fine particulate effects

from the operations are not considered to be significant. The EHO has raised no objection.

Control of Dust

- 552 The earthworks and construction and demolition phases of the development would give rise to dust emissions. Should dust clouds form within the site they may be visible from heritage assets or impact upon their setting, although dust itself is non-hazardous and innocuous to the built environment. Dust emission could also impact upon the enjoyment of PRoW and the views users could appreciate from them.
- 553 To ensure a visible dust cloud does not form and transient dust does not leave the working area a dust management plan has been submitted as part of the application submission. The plan includes details of best working practices to minimise emissions and dust suppression measures such as damping down dry surfaces/material, wet transport of material, sheeting and use of mist cannons to arrest escaping particles.
- 554 There is also potential for dust generation during the operational phase of the development due to the handling and storage of ARM. Storage of the ARM within the storage building would contain the majority of any transient dust, as would the covered conveyors used to transport material. However, the handling of material may give rise to air borne dust. Likewise ARM transported by rail could also contribute to dust generation. This would be appropriately mitigated by the use of sealed or sheeted rail wagons. The dust action plan DAP) would be required to be implemented by planning condition. The proposed control measures would ensure compliance with development management policy DMC14.

Other Greenhouse Gas Emissions (Stack Emissions)

- 555 Neither Policy CC1 or the NPPF directly refer to greenhouses gases other than carbon dioxide. However, other emissions from the stack have the potential to contribute to climate change or impact upon human health. The plant's emissions are regulated by the Environmental Permit issued by the Environment Agency. The permit set limits for emissions which the Works operates within comfortably, other than in relation to Sulphur Dioxide. There is the potential for fluctuations in emissions from the stack dependant on kiln feed mix, however it is for the Environment Agency to regulate these matters and it is not for the planning system to seek to impose controls which are enforced through other legislative regimes as prescribed by paragraph 188 of the NPPF. Implementation of this proposal would result in a demonstrable reduction in sulphur dioxide emissions as required by the Environment Agency, which are known to have an adverse impact on the environment due to acidification.

Land and Hydrology

Contaminated Land

- 556 Although almost all of the land proposed for physical development has been subject to previous disturbance, the applicant has conducted a Ground Investigation Report to ascertain whether there are any potential

contaminates present, and if any risk of pollution is likely.

- 557 The report identified a single localised hotspot of free phase hydrocarbon contamination. Although the occurrence is localised, effort should be made during the construction phase of the development to ensure that the contamination is not left in situ as an ongoing source. There would also be the possibility that the localised contamination could be mobilised during the site's redevelopment if appropriate steps are not taken. As such it is proposed to append a condition to any approval which requires the submission of a scheme detailing the method of handling and removal of the hydrocarbon contamination prior to the commencement of operations. A further condition would require a verification report demonstrating, that the contamination has been removed successfully.
- 558 Subject to the suggested conditions the proposal would accord with paragraph 183 of the NPPF and development management policy DMC15 of the PDNPA Local Plan.

Flood Risk and Drainage

- 559 The applicant has conducted a flood risk assessment to support the application and determine whether the proposal is likely to increase the risk of flooding or have an impact upon the water environment. The assessment considered, inter-alia, surface water run-off, ground water, fluvial and artificial sources. Potential receptors have also been identified and their sensitivity categorised.
- 560 The application site and the wider Works lie within Flood Zone 1 as defined by the Environment Agency and represents areas at the lowest risk of flooding. This site is at very low risk of flooding with only some minor areas of surface water ponding having been identified.
- 561 The proposed scheme would utilise the existing Hope Works drainage infrastructure. The majority of surface water on site is captured in drains or surface water sewers that convey water to the east of the site, before discharging into a number of unnamed watercourses which flow through and are hydraulically linked with four existing ponds. Downstream, these ultimately discharge to the Bradwell Brook.
- 562 A small on-site 'circulatory system' where surface water is collected and thereafter used within the onsite cooling system is in operation on the wider Breedon Cement works site. This system promotes a sustainable means of reusing surface water usefully at the site reducing demand on supply from the mains.
- 563 The site has not been identified as being at risk of ground water or sewer flood risk, as confirmed by the Lead Local Flood Authority. There are no identified risks to human health or potential cumulative effects in regards to flood risk or drainage as a result of this proposal.
- 564 In accordance with the sustainable drainage (SuDS) hierarchy, it is proposed to utilise a geocellular storage system within the existing on site drainage network to provide on-site attenuation of surface water before it is discharged at a maximum rate of 5l/s into the existing drainage network

- 565 The drainage design is shown on Plan Ref: BRE WSP XX ZZ SK CV 009 and 11 in Appendix 9.1 of the applicant's submission. The drainage scheme has been designed to collect surface water in an underground storage tank facility that attenuates flow to the ponds on site to a greenfield runoff rate. The capacity of storage is designed to accommodate the 1 in 100-year flooding event, with an allowance of 40% for climate change.
- 566 The CEMP which would be required by planning condition would include measures to control the potential pollution risks during the construction phase of the development.
- 567 The lead Local Flood Authority have raised no objection to the proposal subject to conditions requiring the submission of a surface water management plan, surface water discharge in accordance with drainage hierarchy, details to avoid surface water run-off during construction and a drainage scheme verification report.
- 568 The proposal, subject to the recommended conditions accords with paragraphs 167 and 169 of the NPPF and Policy CC5 of the PDNPA Core Strategy.

Socio-economic

- 569 Hope Cement Works is a significant local employer and contributor to the Peak District economy. It represents £61.2m in GVA (Gross Value Added) which provides 1.8% of total employment in the Peak District National Park and 7.0% of GVA to the PDNP economy. 270 people are directly employed at the Works, with local contractors employed where possible. A social club is also provided on site for use by employees and members of the local community, as well as a golf course. A local catering company provides food and refreshments at the club.
- 570 Direct benefits generated by operation of the site which amount to 202 FTE jobs and GVA of approximately £59.0m. Indirect benefits supported in the supply chain across the PDNP economy, via the procurement of goods and services, especially spending on manufacturing services, other quarrying support and repair & maintenance services. These benefits are estimated to amount to around 52 additional jobs and £1.7m of GVA.
- 571 Induced benefits resulted from employees (both those directly employed and in the supply chain) spending their wages. These benefits are estimated at 14 additional jobs and £500,000 of GVA.
- 572 Community and social impacts resulting from Hope Cement Works engagement with the local community either through volunteering time, charitable donations and sponsorships, and rental savings from utilising the Hope Works Estate. In total these amount to 2 jobs and £59,400 of GVA.
- 573 The Works as a whole is a significant contributor to the local economy and the continued production of cement at the site would preserve the existing employment contribution to the Park and associated contractors, local supply chains and businesses. A condition is proposed that would require the use of local contractors during the construction and demolition phases of

development where possible.

Restoration

- 574 The proposed development is temporary in nature and would be required to be removed upon the cessation of mineral extraction and cement production. Consent is proposed to be granted until the 22nd Feb 2042 and a condition would require removal of all buildings and infrastructure granting under the consent by 22nd of February 2023 at the latest.
- 575 Upon removal of buildings and infrastructure the site is to be restored in accordance with plan ref: Figure 7.4: Restoration phase plan (BGS Ecology). The approved restoration scheme would provide for the creation of neutral grassland, scrub and mixed plantation woodland. A condition would require the completion of final restoration works by 22nd February 2044 and further conditions would require suitable aftercare and management to ensure habitat can establish appropriately. The proposed restoration scheme would achieve a biodiversity net gain in excess of the statutory 10% required by the Environment Act 2021, although the requirement does not come into force until 2023.
- 576 An area of hardstanding in the immediate vicinity of the Works railway sidings is proposed for retention and could be utilised for alternative uses in the future given its proximity to a potential sustainable travel link. However, the area is also included under the wider 1969 Works consent which is subject to its own restoration conditions which will outline the final restoration of the site. Ultimate restoration and after use will be decided in the context of the strategic aims and extant policies of the National Park Authority at the appropriate point in the future.
- 577 The proposed restoration of the site would accord with development management policy DMMW5 of the PDNPA Local Plan.

S.106 Heads of Terms

- 578 The recommendation of approval is subject to a Section 106 legal agreement to secure the permanent cessation of the winning and working of minerals and the associated manufacture of cement at the wider Works site by 22nd February 2042 at the latest.
- 579 Paragraph 55 of the NPPF states that '*Local Planning Authorities should consider whether otherwise unacceptable development could be made acceptable through the use of conditions or planning obligations. Planning obligations should only be used where it is not possible to address unacceptable impacts through a planning condition.*'
- 580 Allowing the proposed development without the proposed planning obligations would effectively allow the preservation of consented on site shale reserves and present any potential operator with the opportunity to build a case for the ongoing manufacture of cement at the Works beyond 2042 on the basis of the remaining on-site reserves. When planning permission was originally granted in 1948 and again in 1969, it was on the basis of the Works ceasing to operate upon the exhaustion of the on-site raw materials (limestone and shale). Allowing importation of ARM without agreeing to the final closure of

the Works would be contrary to the intent of the historic permissions at the site.

- 581 Given the Works setting in the National Park's protected landscape the obligation is necessary to ensure the current non-conforming land use does not continue for a longer period than necessary to provide for the UK's need for cement, while alternative means of production are realised.
- 582 The cessation of mineral extraction and cement production could not be secured through conditions related to this application given the extant planning consent applicable to the wider Works and as such a legal agreement is the only means of imposing an end date on the relevant consents.
- 583 This approach accords with the NPPF, policy GSP4 of the Core Strategy and Development Management Policy DMH11: Section 106 Agreements in the PDNPA Local Plan.
- 584 Should the Authority be minded to approve the proposal it is recommended that it be subject to a Section 106 legal agreement that stipulates the following heads of terms:
- No operations consisting of or relating to the winning and working of minerals shall take place on the Land after 22 February 2042.
 - Development (as defined in section 55(1) of the Act) pursuant to the 1948 permission, the 1969 Permission and the 2006 Permissions or any permission modifying those permissions shall cease on 22 February 2042.
 - When the Works have ceased to operate permanently either for the winning and working of limestone or clay or shale or for the manufacture, storage and delivery of cement, or the importation of ARMs all buildings, plant and machinery, for the manufacture, bagging, and delivery of cement or cement products, including all chimneys and other structures connected therewith, and all plant and machinery for quarrying, and the transporting of limestone, clay or shale whether useable or derelict shall be taken down, and removed from the site.
 - Phased restoration and aftercare shall be completed, in accordance with the principles for restoration and aftercare set out in or referred to in the 2006 Permissions or any plans, drawings or schemes approved by the Authority under or by virtue of that planning permission, not later than 5 years after the cessation of mineral extraction or by 22 February 2047 whichever is the sooner.
 - Total importation of PFA and ARM to Hope Cement Works for use as a secondary kiln feed substitute (shale supplement/replacement) shall not exceed a total of 450,000 tonnes per annum (wet weight) pursuant to the planning permissions granted for the Full EIA Application and the PFA S73 Application.
 - To use reasonable endeavours to ensure the company's rail freight handler attends a regular, standing, liaison meeting with the company, the Authority and locally affected residents with a view to facilitating the mitigation of

noise and disturbance arising from activities at Earles Sidings.

- Upon entering into a new contract with any freight handler, for the operation of rail freight to and from the Land, the Owner shall require:
 - i. regular attendance by the freight handler at the Liaison Committee for the life of the contract
 - ii. that said freight handler shall agree to use reasonable endeavours to reduce noise and disturbance arising from activities at Earles Sidings.
 - iii. the Owner shall use all reasonable endeavours to ensure that the freight handler performs such contractual requirements]

Conclusion

- 585 The determination of this complex planning proposal will have considerable implications for the future of the Works as one of the Park's strategically important sites and will have an effect on the economy, society and the environment.
- 586 In reaching a recommendation, all of these matters have been given full consideration during the planning process. There have been no objections received from any specialist statutory bodies or any internal expert consultees subject to the conditions proposed to be appended to any consent the Authority may be minded to grant.
- 587 The positive resolution, in some cases with suitable mitigation, of effects on matters relating to the topic areas covered in the report allow for officer support of the scheme and present no technical grounds for a recommendation of refusal.
- 588 The basis of the Authority's decision should therefore be taken in relation to the application of relevant planning policy and the strategic vision for the Works and the Park itself into the future.
- 589 Interpretation and compliance with Policy CC1 of the Core Strategy is discussed in detail earlier in this report. When weighing all material matters including viable alternatives to the proposal in the planning balance, it is officer opinion that allowing the production of cement to continue at Hope Works on the basis of the importation of ARM for a further 20-year period, is the most environmentally sustainable way of meeting the UK's demand for cement over that period of time. The increased carbon footprint due to importation of ARM by rail is an obvious negative impact upon climate change. However alternatives are considered to present outcomes that would produce greater CO₂ emissions due to the need to import cement from outside the UK in the short/medium term due to existing domestic production capacity and the utilisation of additional raw materials for the construction of a new cement works, consumption of virgin mineral as opposed to secondary materials and its transportation to any new facility for manufacture. It is also reasonable to expect reductions in CO₂ emissions from the plant as a whole given the industries efforts to decarbonise to meet national climate change targets.
- 590 The utilisation of secondary materials for use in the cement manufacture process is more sustainable than the utilisation of virgin won minerals. It is also considered pragmatic to allow the utilisation of the remaining viable on-

site shale reserves and consented limestone reserves given their existence and proximity to the cement plant.

- 591 The importation of ARM by rail is a sustainable means of transport and would result in lower CO₂ emissions compared to transport by road and has the benefit of taking HGV movements off the road network avoiding conflict with other road users and improving air quality.
- 592 The 1969 consent is conditioned such that upon the cessation, inter-alia, of shale/clay extraction the cement manufacture process must cease and the site be restored. It could be considered that once useable on-site shale reserves are depleted, the condition is triggered. However, the condition is not as prescriptive. It is also worthy to note that the remaining reserves could have been utilised in conjunction with the extant consent for the importation of supplementary PFA if it were not for the requirements of the Environment Agency for the plant to reduce its SO₂ emissions.
- 593 Given the UK's need for continuity of cement supply, the consented reserves on-site and the extant consent for the Works, it is considered pragmatic and sustainable to allow importation of ARM to supplement/replace the high sulphur shale allowing cement manufacture to continue whilst reducing SO₂ emissions.
- 594 As previously discussed, an open-ended permission would not be considered acceptable by the PDNPA as it would allow the nonconforming use of the site as a cement works to continue longer than is necessary. The recommendation is therefore subject to the aforementioned legal agreement that requires the cessation of all mineral extraction and cement production by 22nd February 2042 at the latest and the subsequent restoration of the site.
- 595 This approach strikes a balance between allowing the operator certainty of supply of secondary kiln feed material for a period of up to 20 years and gives the PDNPA certainty, as far as is possible, that operations at the Works would cease in 2042 at the latest. The PDNPA has never before been in the position of certainty as to the life of the Works. Issuing a consent with the S.106 obligation provides that certainty and a means of influencing the future of the site.
- 596 The proposed 2042 end date aligns with the end dates imposed upon mineral operations granted before 1982 by the Town & Country Planning (Minerals) Act 1981. However, should on-site limestone reserves be exhausted before 2042, the Works would be required to be removed and restored in accordance with the provisions of the extant 1969 planning consent and as specified in the Section 106 agreement attached to this permission should consent be granted.
- 597 Notwithstanding, the certainty of an ultimate end of operations at the Works by 22nd February 2042 allows for the PDNPA to plan effectively for the future of the site beyond that date.
- 598 The closure of the Works, its removal and restoration would result in a significant alteration to the visual landscape of the Hope Valley. The Works has been in existence since before the formation of the National Park and its presence, although providing a vital role in the local and national economy

has long been in conflict with the core purposes of the Park. Many of the impacts of the Works on the landscape, environment and local community have been mitigated to an extent through the co-operation of the current operator, but ultimately the operation, by its very nature, is a land use incompatible with the purposes of the Park which should be removed at an appropriate point in time.

- 599 It is considered that 2042 is the appropriate time for the cessation of operations at the Works the reasons explained in this report and securing an end date is a significant point in the history of the Peak District National Park Authority. This resolution would allow for the PDNPA to meet its strategic aims and objectives in the future, whilst allowing the continued sustainable production of cement at the Works in the medium term to meet the UK's demand.
- 600 It is for these reasons, after weighing all material planning considerations in the balance, that the proposal is recommended for approval subject to conditions and a S.106 legal agreement.

Human Rights

- 601 Any human rights issues have been considered and addressed in the preparation of this report.
- 602 List of Background Papers (not previously published)
- 603 Appendix A (Draft Conditions)
- 604 Report author: Tom Evans, Strategic Planning Manager