

ADULT AND COMMUNITY BASED SERVICES COMMITTEE AGENDA



Thursday 18 September 2025

5.00 pm

**in Council Chamber,
Civic Centre, Hartlepool**

MEMBERS: ADULT AND COMMUNITY BASED SERVICES COMMITTEE

Councillors Allen (C), Boddy, Cook, Hall, Little, Roy (VCh)

PARISH COUNCIL REPRESENTATIVE(S):

S Gaiety (Headland Parish Council)

1. APOLOGIES FOR ABSENCE

2. TO RECEIVE ANY DECLARATIONS OF INTEREST BY MEMBERS

3. MINUTES

- 3.1 To receive the Minutes and Decision Record in respect of the meeting held on 26 June 2025 (*previously published and circulated*).

4. BUDGET AND POLICY FRAMEWORK ITEMS

None.

5. KEY DECISIONS

None.

CIVIC CENTRE EVACUATION AND ASSEMBLY PROCEDURE

In the event of a fire alarm or a bomb alarm, please leave by the nearest emergency exit as directed by Council Officers. A Fire Alarm is a continuous ringing. A Bomb Alarm is a continuous tone.

The Assembly Point for everyone is Victory Square by the Cenotaph. If the meeting has to be evacuated, please proceed to the Assembly Point so that you can be safely accounted for.

6. OTHER ITEMS REQUIRING DECISION

- 6.1 Review of Stranton Cemetery and Crematorium – *Assistant Director (Preventative and Community Based Services)*

7. ITEMS FOR INFORMATION

None.

8. ANY OTHER BUSINESS WHICH THE CHAIR CONSIDERS URGENT

FOR INFORMATION

Date of next meeting – Thursday 6 November 2025 at 10.00 am in the Civic Centre, Hartlepool.



ADULT AND COMMUNITY BASED SERVICES COMMITTEE

18 September 2025



Subject: REVIEW OF STRANTON CEMETERY AND
CREMATORIUM

Report of: Assistant Director (Preventative and Community
Based Services)

Decision Type: Non Key Decision

1. COUNCIL PLAN PRIORITY

Hartlepool will be a place:
- where people live healthier, safe and independent lives. (People)
- that is connected, sustainable, clean and green. (Place)
- a Council that is ambitious, fit for purpose and reflects the diversity of its community. (Organisation)

2. PURPOSE OF REPORT

2.1 The purpose of this report is to provide the Committee with an overview on work that has recently being completed which considers the long-term cemetery provision at Stranton and services connected with this.

2.2 It also addresses a recent review of working practices and changes the service is looking to introduce to:

- manage services for those under the age of 18, and
- deal with metal in the cremation process.

3. BACKGROUND

3.1 Hartlepool Crematorium is in the grounds of Stranton Grange Cemetery. The public areas comprise of two chapels of rest and the Book of Remembrance Room. The cemetery is situated in grounds of over 30 acres.

- 3.2 The site has reached a critical point in its lifespan with work required to multiple elements to ensure it can continue to be used. Over the past year repairs have been carried out to the chapel building to ensure that this remains fit for purpose and meets the needs of those who visit. A report was commissioned to consider the remainder of the site with a particular focus on the following areas,
- a) A crematorium that is a welcoming and a suitable space for services meeting the needs of residents of the town now and over the next 20 years;
 - b) A cemetery that will ensure there is sufficient capacity to continue burials of all types for the next 20 years;
 - c) A tribute area and garden of remembrance which will provide sufficient capacity over the next 20 years.
 - d) A workforce and supporting infrastructure which will enable the successful operation of the site.
- 3.3 A particularly pressing issue is burial capacity and how future burials can continue to be accommodated on the site.
- 3.4 After an open procurement process an independent party, the CDS Group, who have experience in the development of cemeteries and crematoria in both the public and private sector, were appointed to produce the report. The purpose of this was to review the current situation and look at the capacity to meet the objectives outlined in 3.2.
- 3.5 The group spent time visiting the site to review the current situation. In addition to this they have benchmarked the operations in Hartlepool against those of similar organisations and industry best practice to advise on future planning.

4. PROPOSALS/OPTIONS FOR CONSIDERATION

- 4.1 A copy of the final report can be found in **Appendix 1**.
- 4.2 Proposals to extend and increase capacity in the cemetery
The report proposes the extension of Stranton Cemetery to the west of the existing site, onto the former allotments. It recommends that work is completed in two phases, starting in 2028, which would provide sufficient burial capacity for a further 20 years. The estimated cost at the current time to implement this proposal would be £1.25 million. Further work is needed as part of the Council's financial planning to consider the appropriate investment strategy to support future-proofing the capacity at the Cemetery.
- 4.3 An impact assessment was carried out to understand the effect the works would have on other cemeteries within the town, in particular West View. It was concluded that this has capacity for burials for approximately 48 years. Should Stranton not be extended, this lifespan will fall significantly.

- 4.4 The report also addresses the need to find additional space for ashes burials. The current Garden of Remembrance has limited capacity, and it is proposed that any extension to the cemetery primarily focuses on full burials. The proposed solution is to install above ground structures for ashes burials. These allow spaces to be leased for a number of years with the option to renew the lease at the end the period. This allows for changes in circumstances but also a more effective use of space.
- 4.5 In considering spaces around Stranton Cemetery and the opportunity to repurpose these to increase the lifespan of the site, the report also considers movement of traffic. There has been conflict between pedestrians and vehicles within this cemetery as the area predominantly has shared pathways used by both. The report proposes the introduction of a system to reduce traffic movement around the site and provide dedicated parking areas to address this.
- 4.6 The document reviews both the current and predicted future demographics for Hartlepool, along with considering the wider provision of burial space across the town. This concludes that burial space is declining and alongside this there is an increasing percentage of the population that is over 65 which will impact on the provision. Further to this, it indicates the service is predominantly providing for those living within the town, rather than outside therefore increasing the likelihood that it will continue to be used generally by the immediate community.

Cremation Services

- 4.7 There are currently two gas cremators serving the site which were installed in 2014 and are estimated to reach the end of their life by 2030. The report covers the options for replacing these including both gas and electric. It is noted that electric cremators could reduce CO2 emissions significantly, however there would be other issues associated with these including a change in working practices and a need to provide cold storage to maximize the benefits that they provide.
- 4.8 The report concludes that the site could potentially revert to a single cremator when it becomes necessary to change the machines over but acknowledges that further work should be done prior to this to ensure that, at that time, such a solution would meet the needs and working practices of the service.

Operational Improvements

- 4.9 The service currently uses off the shelf software products to manage its operations. The report considered the functionality of these and how they compare to the current dedicated systems available on the market. It recommends changing to a programme which provides an integrated cemetery and crematorium management system but notes that this should be done as part of a comprehensive procurement process in order to understand both the full cost implications of this and satisfy the council's requirements under its ICT provisions.

- 4.10 A review of the operating model was carried out. Currently Bereavement Services provide the office support and front of house to the crematorium chapel with Neighbourhood Services covering the rear of the crematorium, burials and grounds maintenance in both Stranton and West View Cemeteries. The operational practices of both services were reviewed alongside how the teams work together on a daily basis. Consideration was given to how other similar facilities operate and how this compares with the existing arrangements. Two alternative staffing models are proposed, however this report provided only a light touch review in relation to staffing. It is therefore considered that further work would need to be undertaken in order to explore if any beneficial changes could be made across both teams by following these recommendations.

Sustainability of Assets and Carbon Emission Reduction

- 4.11 The report reviews current policy on this issue and sets medium and long term proposals as to how the service could address this topic. Proposals include reducing paper and more efficient water usage, exploring alternative sources of fuel and monitoring waste management.

4.12 Conclusion

In summary the document provides a useful starting point to consider the future direction of the service in the short term. In particular it offers a solution to the pressure on burial space in Stranton Cemetery and a future proposal for ashes burials. Further work is required on a number of aspects of the report, and in particular it should be noted that this is a snapshot in time and many of the suggestions will require more in-depth cost analysis to be completed in order to assess the full impact that these will have on the existing budget.

5. REVIEW OF SERVICES

- 5.1 Alongside the strategic position the service is considering changing some working practices. These are outlined below.

5.2 Charity donations from recycled metals

A number of crematoriums across the country take part in schemes whereby the metals which remain after cremation are recycled and the subsequent money received donated to charity.

- 5.3 The current practice at Hartlepool is to collect the metals that remain after cremation and bury these within Stranton Cemetery. The crematorium has been approached on several occasions by charities in the area asking if it will consider joining the recycling scheme and gifting the subsequent funds to them.

- 5.4 The company would provide a container to collect the metals which remain after cremation. Technicians deposit metal within this and when full, the company collect it and begin the recycling process. To enter into this process, crematoriums are required to gain the consent of the deceased's loved ones

to recycle metals which remain, this is done via the Cremation Form which is completed at the point of booking.

- 5.5 The scheme is run at no cost to local authorities. The net profit from the process is given back to the organisation to pass on to charities. It is proposed that the council look to join this scheme. Each year the Ceremonial Mayor chooses a charity or charities to raise funds for. It is proposed that, at the appropriate time, the incumbent Ceremonial Mayor is approached regarding the proceeds of the scheme to decide where this should be directed to.
- 5.6 Reclaiming the cost of delivering funerals for young people (under 18)
In June 2018 it was decided that there would no longer be a charge for the funerals of those who were under 16. The government subsequently introduced legislation in England removing all charges for the cremation or burial of those under 18. A fund was then introduced to enable providers to cover the cost of these services.
- 5.7 Since the removal of the charges the council has not made any applications to cover the costs of these services. It is proposed that this position is reconsidered. To do this it would be necessary to clearly advertise the cost of the service so this can be shown to be reasonable, alongside other charges. These charges would not be passed on to individuals and services would remain free, but the council would make an application to the Children's Funeral Fund for England to cover the cost. Whilst the number of services is relatively low, this would allow the council to account for the services provided, rather than bearing the cost of this.

6. OTHER CONSIDERATIONS/IMPLICATIONS

RISK IMPLICATIONS	Forecasting future needs and resource across cemetery space is required to ensure that sufficient land is available for burial. As space in existing cemeteries becomes unavailable, it could impact more widely on other burial areas, such as West View, reducing the lifespan of that cemetery. There is the potential for reputational damage should residents feel that the service offered does not meet their needs, for example reduced choice could potentially cause dissatisfaction as individuals cannot fulfil the wishes of loved ones. A reduced offer would mean individuals looking elsewhere for burial space which would result in a loss of income and potentially an increase in funeral poverty due to the increased costs of finding solutions outside of the town.
FINANCIAL CONSIDERATIONS	The report provides outline costs to inform future service planning. This will ensure that these can be anticipated and

	accommodated well in advance in order to manage the budget to support these. The additional services which are outlined, namely the recycling metal scheme and reimbursement of funeral costs would not provide any financial gain. The recycling metal scheme has no costs attached and would be integrated into existing working practices. Drawing down funding from the government scheme would allow the council to be reimbursed for costs connected with the delivery of services.
SUBSIDY CONTROL	Not applicable.
LEGAL CONSIDERATIONS	The management of Cemeteries is covered by the Local Authorities Cemetery Order 1977 (LACO). The LACO states that whilst the provision of Cemeteries is not a statutory duty, if a Local Authority does take on this provision, it must then maintain the provision of these Cemeteries to an acceptable standard. The Authority also has a statutory duty under the Public Health (Control of Disease) Act 1974 to undertake the funeral arrangements for those residents who are unable to fund their own funeral or have no next of kin able to do so. There has been both cemetery and crematorium provision within the town for a number of years, therefore it is anticipated that residents would expect that their needs would continue to be met.
SINGLE IMPACT ASSESSMENT	Appendix 2.
STAFF CONSIDERATIONS	None.
ASSET MANAGEMENT CONSIDERATIONS	The report considers existing land holdings which have previously been identified for burials.
ENVIRONMENT, SUSTAINABILITY AND CLIMATE CHANGE CONSIDERATIONS	Future service planning for both cremations and burials will mean that the service can plan for anticipated technology changes, legislation requirements and wider environmental impacts and be responsive to these where required, within the capacity of the service.

CONSULTATION	The report included consultation with internal stakeholders. Wider consultation on individual elements will be brought forward should this progress.
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7. RECOMMENDATIONS

- 7.1 It is recommended that the committee note the Master Plan report summaries in paras 4.2 – 4.12, and agree to the recommendations within it, acknowledging that further work is needed to develop detailed implementation plans.
- 7.2 It is recommended that the committee agree the proposal outlined in paras 5.2 – 5.5 to introduce a scheme to recycle metals with any proceeds from this passed to charities chosen by the Ceremonial Mayor.
- 7.3 It is recommended that committee agree to the change in working practices to seek reimbursement for the cost of under 18 funerals as outline in para 5.6 and 5.7.

8. REASONS FOR RECOMMENDATIONS

- 8.1 The report provides the service with guidance on developing its offer and provision, so it continues to be fit for purpose to meet the needs of residents now and in the future.
- 8.2 The practice of recycling metals as part of the cremation process is carried by many other local authorities and provides an opportunity for charitable funding to be created from this.
- 8.3 The government created a fund for local authorities to access in order to reimburse the cost of funerals for those under 18. It is proposed that this practice is introduced in Hartlepool.

9. BACKGROUND PAPERS

- 9.1 None

10. CONTACT OFFICERS

Gemma Ptak
 Assistant Director (Preventative and Community Based Services)
 Email gemma.ptak@hartlepool.gov.uk
 Tel: (01429) 523441

Sarah Scarr
Head of Service (Heritage & Open Spaces)
Email sarah.scarr@hartlepool.gov.uk
Tel: (01429) 523275

Sign Off:-

Managing Director	Date: 18.08.2025
Director of Finance, IT and Digital	Date: 18.08.2025
Director of Legal, Governance and HR	Date: 18.08.2025

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Discover what's beneath

Hartlepool Bereavement Services: Redevelopment Review

Hartlepool Borough Council

Address: Stranton Cemetery Office Tanfield Road, Hartlepool,
Tees Valley, TS25 5DD

Date: July 2025

The CDS Group, Building 51, Wrest Park, Silsoe, Bedfordshire, MK45 4HS

W: www.thecdsgroup.co.uk

T: 01525 864387



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1 Executive Summary

- 1 This report establishes a robust evidence base, to support the proposal for sustainable cemetery provision and placement, considering the current local cemetery provision.
- 2 It is proposed that once Stranton Cemetery reaches its full burial capacity, the cemetery is extended to the west of the existing site. This proposal is supported in this report, by a business case analysis which reviews the likely cost and opportunities of the cemetery extension.
- 3 It is estimated that works for the cemetery extension would start in 2028 and the extension would be split into two separate phases to provide sufficient burial capacity for 20 years (based on existing burial rates).
- 4 The report details information pertaining to additional opportunities to increase the amount of memorialisation in Stranton with a plan which indicates an opportunity to provide both below and above ground ash interment space within the existing footprint of Stranton cemetery from 2025.
- 5 A full demographic and Drive Time Analysis has been completed to determine the likely impact that extending Stranton may have on nearby cemeteries (primarily West View). It is calculated that based on existing burial rates at West View the cemetery will have capacity for new burials for approximately 48 years (until 2071). However, if Stranton Cemetery is not extended and a 'Do Nothing' approach is pursued, then more people will need to be buried at West View, which means that the anticipated lifespan of West View will fall significantly (as approximately 174 burials will occur at West View per year).
- 6 The existing catchment of Stranton cemetery is for residents to the south of Hartlepool, by extending the cemetery, this will ensure that the residents of the south of Hartlepool continue to have access to a cemetery located in close proximity for the long term. It is concluded that the development of Stranton Cemetery and Crematorium (in both the short and long term) would not have a detrimental impact on cemeteries within the wider community, namely West View Cemetery.
- 7 As part of the council's green agenda and net zero objectives, opportunities to improve the efficiency of the cremators should be explored. With the retained heat effect built up inside cremators throughout each working day, it is more fuel, carbon and cost efficient to operate a single cremator to complete five cremations per day rather than two cremators completing three cremations and two cremations respectively.
- 8 The opportunity to install cold store technology was explored to increase the efficiency of the cremators. Under the ICCM's 72-hour cold storage policy the operational team could 'hold over' cremations from a quiet day to maximise the efficiency of the cremators. Based on the availability of space at Stranton Crematorium a cold storage unit with capacity for three or six coffins could be installed.
- 9 When the existing cremators reach the end of their end of operational life in 2030, the council should review the opportunity to install a single electric cremator as this will significantly reduce the CO₂ and NO_x emissions that the existing gas cremators produce. With the installation of an electric cremator operating on a green energy renewable tariff, emissions would be reduced by 604kg of CO₂ per day.
- 10 The function of the office management and booking system has been reviewed, currently a calendar system is used in Outlook to manage bookings of cremations and burial services. CDS have provided information on a series of specialist software providers.

- 11 Design options for the flow of traffic and motor vehicles at Stranton cemetery has been provided, this plan indicates locations for onsite parking.

2 Introduction

2.1 Site Description



Figure 1. Location of Stranton Cemetery Lodge, Tanfield Rd, Hartlepool TS25 5DD

- 12 Stranton Grange Cemetery was established in May 1912 and the Hartlepool Crematorium which is central to the site was established in 1954. The cemetery is referred to as Stranton Cemetery and Crematorium.
- 13 The cemetery and crematorium are located within the settlement boundary of Hartlepool, which is located within Tees Valley.
- 14 Stranton Cemetery and Crematorium is located south of Hartlepool Town centre, within an established residential area, that connects to A689, the main road that runs through the centre of Hartlepool. The main access to the cemetery is off Tanfield Road, with a secondary access on Brierton Lane.
- 15 The crematorium building which also includes an associated chapel is ecclesiastical in character and is included on the councils local list of buildings as a Heritage Asset, as well as the whole site.
- 16 Following consultation with the client, it has been confirmed that the cremators and abatement systems were recently changed, and refurbishment works to the crematorium and chapel have taken place.

Item A: A business plan outlining an investment strategy, based on income and expenditure, to support the works required for the continued use of the site.

3 Business Case

3.1 Introduction to Business Case

- 17 This business case sets out to review the financial feasibility of the construction of phase one of the burial extension area, car parking and cremated interments area at Stranton Cemetery and Crematorium.
- 18 It is standard practice across the bereavement sector, that with cemetery extensions which have multiple phases, only the first phase is developed at the commencement of the project. Then in a number of years' time, once the subsequent phases of an extension are required, they are then developed at that given point in time. This approach ensures that the costs of the development are managed alongside the immediate burial needs of the community.
- 19 CDS recommend that a single planning application for both the phase one and two extension areas (referenced in Item B of this report) is completed in the coming years. By applying for a single application, the cost of the professional fees to take the project through to planning will be lower than by splitting the cost of over 20 to 30 years and completing two separate planning applications. By securing planning consent for both phases but only constructing the first phase of the project, the council will ensure that resources are managed effectively.
- 20 By rigorously evaluating cremation and burial statistics, construction costs, competitive quality standards, and pricing strategies, this analysis aims to guide a well-informed decision-making process.

3.1.1 Context and Objectives:

- 21 The primary objectives of this business case are as follows:
 - i. Quantitative Analysis: To use Drive-Time Analysis data to forecast potential cremation numbers for both options, considering geographical accessibility and demographic trends.
 - ii. Cost Evaluation: To analyse the feasibility of the existing business model for the site, in order to determine if the council's cemetery and crematorium can meet the margin and repay the loan fee.
 - iii. Pricing Strategy: To review cremation and burial fee charges at Stranton cemetery and crematoria and propose, if necessary, a sustainable pricing strategy.
 - iv. Risk Management: To adopt a conservative approach in the financial analysis, acknowledging uncertainties and potential variables, and remaining open to client input.

3.2 Stranton Cemetery and Crematorium – (burial space, cremation interments and additional parking)

- 22 This business case examines the financial viability of extending the burial space at Stranton Cemetery and Crematorium, as well as extending the cremation interments area and additional parking.

3.2.1 Analysis and Cost Breakdown:

- 23 The proposed burial extension site is currently under the ownership of Hartlepool Borough Council; therefore, purchase cost does not require analysis. As part of the works, it is proposed to extend the ash interment area within the existing cemetery and provide additional parking.
- 24 The development cost for the proposed development and alterations at the site are estimated at a minimum cost of £1,250,000 (this cost doesn't account for drainage infrastructure or phase two of the development). This cost is based on The CDS Groups industry experience of working with local authorities to construct cemetery extensions. This cost includes the professional fees, construction and hard and soft landscaping costs to extend the cemetery.
- 25 CDS would recommend that only phase one of the extension is constructed as there would be a lag period before phase two is used. Therefore, the council would be attributing all the cost to not only construct but also to maintain roads, paths and soft landscaping in phase two without the area actually being used for burials.
- 26 In order to assess the financial viability of the proposed developments at Stranton Cemetery and Crematorium, a comprehensive analysis of projected costs and potential revenues has been conducted, considering various elements of operation and market dynamics. This section outlines key costs and revenue based on an analysis of the regional cremation market.
- 27 As indicated Item B of this document Phase 1 of the proposed site will account for approximately 2,247 burial plots and Phase 2 of the proposed extension site will account for 1,155 burial plots. Assuming that there are 155 burials per year at Stranton, this means that Phase 1 will accommodate 15 years' worth of burial provision and Phase 2 will accommodate eight years' worth of burial provision. In total, depending on fluctuations in demographic trends and death rates in Hartlepool, the proposed extension is anticipated to provide additional burial capacity for 20 to 25 years.

3.2.2 Facility Fees and Revenue

- 28 Following a review of burials and cremations, for this analysis it has been assumed that 155 burials and 955 cremations will occur per annum.
- 29 Total ceremony building fees serve as a primary revenue stream for the cemetery and crematorium. CDS understand that in the financial year of 2024/2025 the cost for hiring the chapel for 30 minutes totalled £878, the cost for hiring the chapel for an hour totalled £1,007 (these costs are inclusive of the cost of the cremation). This competitive fee structure applies over both core and non-core hours.
- 30 Additionally, to account for inflationary effects, an annual increase of 3% has been incorporated into the fee structure.
- 31 Additional revenue streams have been accounted for such as; burial fees, interment fees, sale of urns, certificates etc.

3.2.3 Loan Rate

- 32 The financial assessment includes a loan component, which is calculated based on an average bank borrowing rate for Local Authorities, through a Public Works Loan Board (PWLb). A loan term of 40 years has been chosen for analysis, with a loan rate of 5.35%.

3.2.4 Staff Costs

- 33 The staff at both Stranton Cemetery and Crematorium and West View Cemetery will primarily remain the same in regard to quantity.

3.2.5 Operational Costs: Crematorium

- 34 Operational costs include various facets of day-to-day operations. Operational costs account for marketing materials and office overheads, including expenses associated with computers, phone bills, and administrative necessities.

3.2.6 Revenue Projections

- 35 The projected revenue for the facility is primarily derived from the existing service fees. As per the determined fee structure and considering the annual inflationary adjustment, these revenues are anticipated to increase over time as the median age of the population of Hartlepool increases and the total population of Hartlepool increases.

3.2.7 P&L Summary

Project Cost Plan: £1.25 million.

Loan %: 5.35%

Period: 40 years

Annual Borrowing Cost: £75,841

- 36 Through correspondence with the heritage and open space team at Hartlepool council, CDS understand that the bereavement service main revenue stream is burials and cremations.
- 37 The borrowing cost introduces an additional annual revenue pressure of £76,000, which must be absorbed by the service or the wider authority. Whilst this annual cost is relatively modest and is essential in order for the council to keep offering the people of Hartlepool burials, it represents a fixed long-term financial commitment. The consideration of this cost in future financial long-term planning is essential to ensure sustainability and budget resilience over the length of the loan term.
- 38 Without the investment into extending the cemetery at Stranton and once West View reaches its burial capacity, there will be a loss of burial services which will reduce the revenue which the bereavement services team generate.

3.2.8 Opportunities to Increase Revenue

- 39 Cemeteries can expand their revenue streams by offering bereaved customers a variety of memorialisation options beyond traditional burials and cremations. Introducing features like memorial walls allows families to commemorate their loved ones in a unique manner as these walls can be adorned with plaques. The council would generate revenue by charging a fee for the engraving of the plaque and installing the plaque onto the memorial wall.
- 40 In addition to memorial walls, installing benches in scenic spots throughout the cemetery offers families a peaceful place to reflect and remember loved ones. These benches can be dedicated to individuals, again with custom engravings, it understand that this service is offered by HBC.
- 41 By diversifying offerings to include memorial walls, benches, themed gardens, and other personalised options, cemeteries can not only meet the diverse requirements of bereaved individuals but also increase their revenue.

- 42 For example, when North Yorkshire Council developed Hambleton Crematorium, as part of the landscape design for the crematorium a memorial wall was incorporated into the design. This memorial wall is indicated in the below figure.
- 43 It should be noted that the provision of memorial plaques and park benches etc. may be subject to VAT so any charges would need to account for this as if so then the amount the customer pays will be more than the income the council receives.

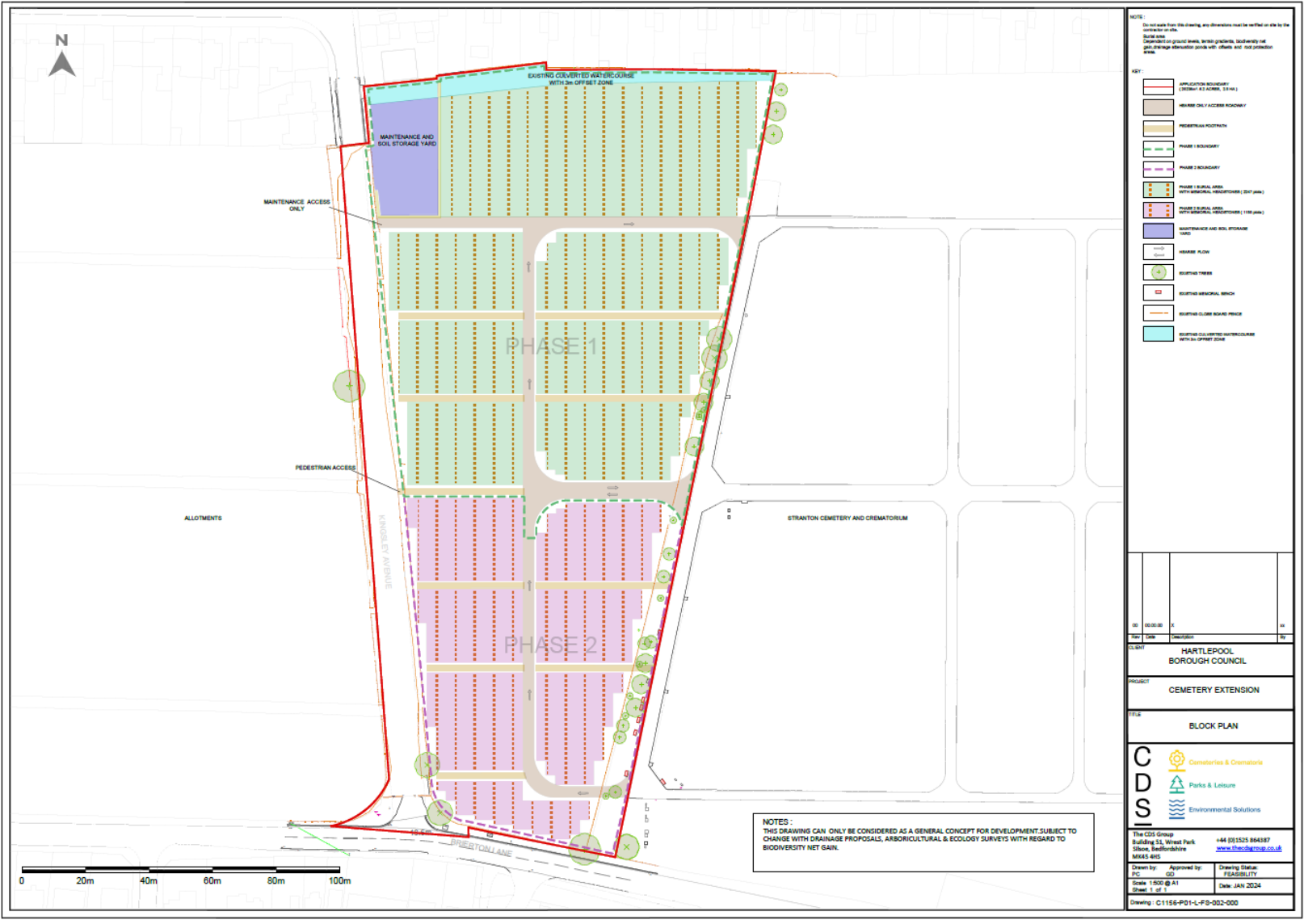


3.2.9 Conclusion

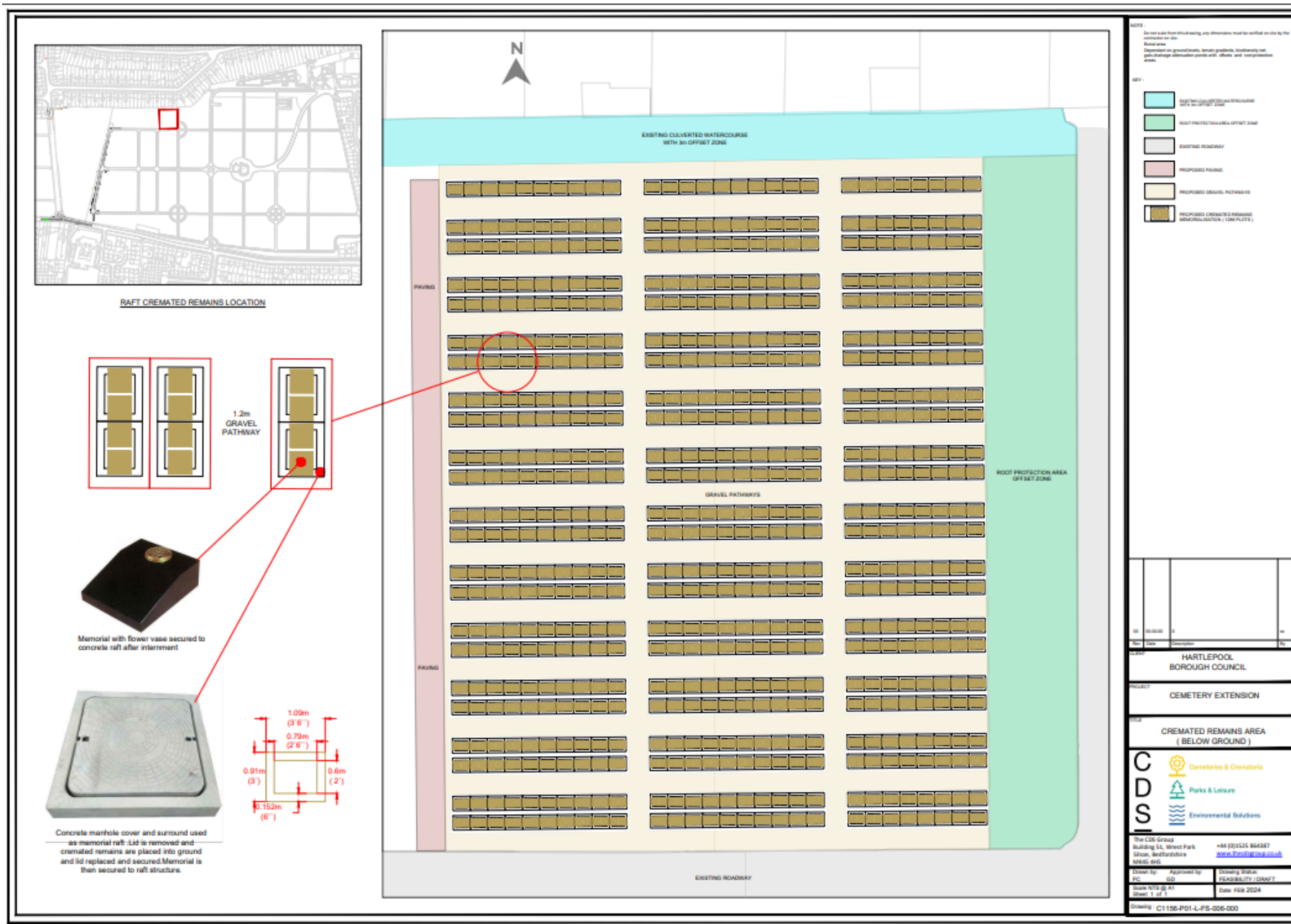
- 44 The analysis of projected costs and potential revenues for the proposed service facility underlines a comprehensive financial assessment. By considering critical elements such as ceremony and cremation fees, loan rates, staffing, and operational costs, this evaluation provides a holistic understanding of the financial landscape surrounding the cemetery and crematorium's operations.
- 45 As aforementioned, Stranton Cemetery and Crematorium is an already established facility with a presence within the community and surrounding area. Therefore, the projections outlined here serve as a reliable foundation upon which to build strategies and make informed decisions.
- 46 The evaluation has taken into account building costs, projected revenues, operational expenses, and loan considerations to provide a holistic perspective on the viability of the endeavour.
- 47 After an examination of the Profit and Loss (P&L) statement, factoring in the annual loan repayment cost of approximately £76,000:
- The current model does not include any confirmed or secured sources of additional income to support the development.

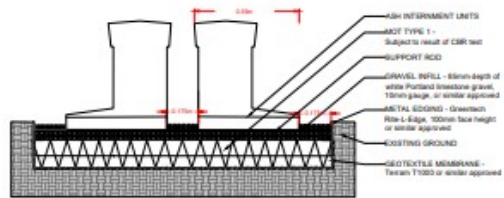
- As a result, while the financial modelling indicates the potential to cover loan costs through operational revenue, in practice, this will represent an ongoing financial pressure on the Council.
- The analysis has adopted conservative assumptions and incorporated inflationary pressures and market dynamics, but further scrutiny will be required to assess long-term affordability in the context of the Council's broader financial commitments.

Item B: A plan outlining how the cemetery could be extended to provide sufficient capacity for burials for the next 20 years, with work starting in 2028.

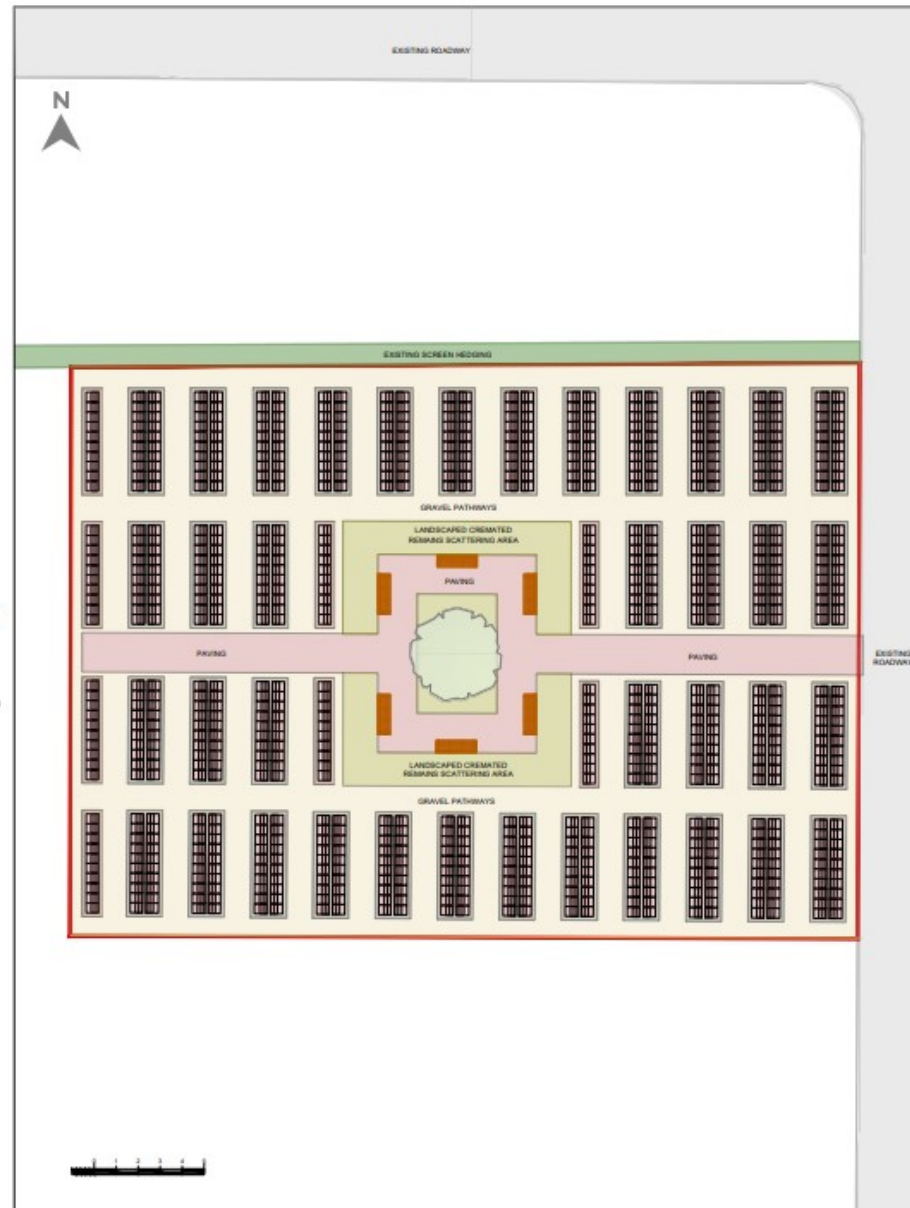


Item C: A plan and accompanying information with proposals to provide space for above ground ashes burials from 2025.





TYPICAL ABOVE GROUND MEMORIALISATION



- NOTE: Do not scale from this drawing; any dimensions must be verified on site or referenced on file.
- KEY:
- | | |
|---|--|
|  | ARISE (GROUND) CREMATED
REMAINS AREA BOUNDARY |
|  | EXISTING ROADWAY |
|  | EXISTING ASPHEN HEDGING |
|  | PAVED |
|  | ORIGINAL PATHWAYS |
|  | LANDSCAPED-CREMATED
REMAINS SCATTERING AREA |
|  | PROPOSED TREE |
|  | BACK TO BACK ASH INTERPOLULIZATION
(AND PLANTS) |
|  | BRUSH |

01	01-00-00	0	00
00	00-00-00	00	00
HARTLEPOOL BOROUGH COUNCIL			
CEMETERY EXTENSION			
GARDEN OF REMEMBRANCE (CREMATED REMAINS AREA (ABOVE GROUND))			
C		Consultations & Consultees	
D		Parks & Leisure	
S		Environmental Solutions	
The CDS Group Building 54, West Park Glass, Southwicks M16G 4JG		+44 (0)1925 864387 www.thecdsgroup.co.uk	
Drawn by PLS	Approved by PLS	Drawing Status FEASIBILITY / DRAFT Date: Feb 2024	
Drawing: C1156-P01-LFS-005-000			

Item E: A review as to how the redevelopment of this site will impact on other cemeteries in Hartlepool, primarily West View.

(This section also covers elements from Item B)

4 Existing Burial and Crematorium Provision in Hartlepool

4.1 Hartlepool Borough Council – Bereavement Services

- 49 Hartlepool has eight cemeteries within the local authority boundary. A number of these burial sites are now closed and only open to family plots and in some cases as churches.
- 50 The Local Authority owns Stranton Cemetery and Crematorium, West View Cemetery, Hartlepool North Cemetery, and the Old Cemetery (Spion Kop). Stranton and West View are currently in use, however, both Spion Kop and North Cemetery have now closed except for reopening of existing family plots.
- 51 Listed below are the other cemeteries in Hartlepool:
- **Hartlepool Jewish Cemetery** – The cemetery is located on the north side of the Old Cemetery. The burial site was merged as part of Spion Kop/Old Cemetery. The Jewish Cemetery is owned by West Hartlepool Hebrew Congregation.
 - **St Hilda Churchyard** – The cemetery is now closed; however, the church is currently in use.
 - **Stranton All Saints Churchyard** – All Saints Cemetery is no longer accepting burials. It is the Old Parish Church for Stranton which in 1860 became West Hartlepool.
 - **Saint Peter's Churchyard** – The cemetery is still opened; however, the burial provision is limited. The church is still open for services and serves the village of Elwick.
 - **Saint Mary Magdalene Churchyard** – Located in the village of Hart, the church was founded in 675 AD and is the oldest church in Hartlepool. The church is still in use for services; and has limited capacity in regard to burial provision.
 - **St. John The Baptist Churchyard** – Lies in the village of Greatham. The church is still in use; and burial provision is still available, however, burial provision is limited.
 - **Holy Trinity Churchyard** – The church is located in Seaton Crew, east of Hartlepool. The church is still in use for services, however, the churchyard no longer offering burials.

4.1.1 Stranton Cemetery and Crematorium

- 52 Stranton Cemetery opened in 1912, and Hartlepool Crematorium opened in 1954.
- 53 The crematorium completes approximately 1,000 cremations per annum and the cemetery completes 155 burials per year. In accordance with information provided by the client, at present the burial site is estimated to only have burial provision until 2027.
- 54 Due to the limited amount of provision and age of site, the site is deemed to have reached a critical point within its lifespan and multiple elements require modernising, as well as planning for the future.
- 55 Renovation of the existing chapel has been recently completed, however, there is a need to consider future burial provision on site.
- 56 As highlighted in **Figure 1**, it is proposed that land to the west of the site, which was formerly allotments is used for the cemetery extension. The proposed space would allow Stranton cemetery and crematorium to have burial space for a further 25years.

4.1.2 West View Cemetery

- 57 The cemetery was opened in 1911 and is currently still open for burials. It was extended in 1982 and is owned by Hartlepool Borough Council. The cemetery replaced Spion Kop/ Old Cemetery and is currently still open for admissions and is located 1km west, or inland, of Spion Kop cemetery, which lies on the bluffs above the sea. West View Cemetery which is located north of Hartlepool sits approximately 15-minute away (non-cortege speed) from Stranton Cemetery and Crematorium which is located south. West View has a significant provision for burial plots within the site at present (based on current burial rates, it is estimated that West View will reach full burial capacity in 48 years' time – 2071).



Figure 3. West View Cemetery Site Location

4.2 Impact of a Pandemic on Capacity

- 58 A pandemic is a rare event and can be defined as a widespread occurrence of an infectious disease over a whole country or the world at a particular time¹. During a pandemic, the number of deaths over a given time period increase, which means that local bereavement services are placed under additional pressure (higher rates of cremations and burials).
- 59 This can particularly effect cemeteries capacity to cope with the need for burials, especially if they are close to reaching their burial capacity, like Stranton Cemetery and Crematorium.

¹ Cambridge Dictionary (2024) <https://dictionary.cambridge.org/dictionary/english/pandemic>

4.3 Summary

- 60 With the due expiration of burial space at Stranton Cemetery and Crematorium, there is a clear, present need for new burial provision for the Hartlepool community.
- 61 Once Stranton Cemetery and Crematorium reaches capacity, residents of Hartlepool would either have to opt for burials at West View Cemetery, which could in turn lead to a decrease in the lifespan of West View Cemetery, or they would have to travel further in order to bury the deceased.
- 62 As aforementioned, there are a number of cemeteries, within the area, however, from the desktop analysis taken of the surrounding burial provision, a significant number appear to be reaching capacity.
- 63 The proposed development presents a sustainable location where local burial requirements can be future proofed and thus the need to travel further afield for a suitable interment is reduced.

5 Population Statistics and Projections

- 64 It is practical for The CDS Group to review the population statistics and catchments, to ensure accurate assumptions are made and a well-informed analysis is undertaken.
- 65 The Office for National Statistics provide population estimates each year with the most recent being census data from 2021. Population data, as well as actual deaths and the death rates are given in the table below for Hartlepool and for England from 2017 - 2021.
- 66 The data from the ONS demonstrates that Hartlepool has a higher death rate than the average across England.
- 67 The data demonstrates that in Hartlepool and England, the population is shown to have increased each year between 2017-2021 with the exception of a slight decrease in population in England between 2020 and 2021. At the same time, the number of deaths recorded have generally increased year on year except in 2019 where there was a slight decrease for England, whereas, in Hartlepool the death rate dramatically increases in 2019. The death rate falls again for both Hartlepool and England in 2021.
- 68 The table below shows the pre-covid average death rates and average death rates for covid years in Hartlepool and England. The data demonstrates that across Hartlepool and England, the pandemic caused an increase in death rates.
- 69 During years affected by the Covid-19 pandemic the death rate in Hartlepool rose by 0.01%.

Table 1. Population, Total deaths and Death rates 2017-2021 (ONS)

	2017	2018	2019	2020	2021
Hartlepool					
Population	93,000	93,200	93,700	93,800	92,600
Total Deaths	1,044	1,014	1,023	1,173	1,079
Death Rate	1.12%	1.09%	1.38%	1.25%	1.17%
England					
Population	55,519,430	55,977,178	56,286,961	56,550,160	56,489,800
Total deaths	498,882	505,859	496,370	569,700	549,349
Death rate	0.90%	0.90%	0.88%	1.01%	0.97%

Table 2. Average death rates for pre-covid and covid years for Hartlepool and England.

	Pre-Covid average death rate (2017-2019)	Covid average death rate (2020 & 2021)
Hartlepool	1.20%	1.21%
England	0.89%	0.99%

5.1 Projected expanding population.

- 70 The ONS have calculated 2018-based population projections by local authority, these have been obtained out to 2038 (Table 3) for Hartlepool and England. The population projections enable forecasting of expected deaths (mortality) in line with the current death rates, and number of burials in line with the current national burial rate of 20% (Cremation Society of Great Britain).

Table 3. Population projections and estimated numbers of deaths and burials 2018-2038

Population predictions			
	2018	2028	2038
Hartlepool	93,242	93,687	93,732
Percentage		0.5%	0.05%
England	55,977,178	58,751,651	60,766,253
Percentage		4.9%	3.4%

5.2 Ageing Population

- 71 Table 4 below shows the proportion of the population that are aged 65 and over in Hartlepool and England. It is this demographic group that contributes towards an ageing population.
- 72 Hartlepool has a considerably high proportion of those aged 65+, the ageing population is expected to increase in the future. The result of an ageing population is an increase in the need for burials due to an increase in the death rate.

Table 4. Ageing population in Hartlepool and England (ONS 2018-2038)

Ageing population (65 and over)			
	2018	2028	2038
Hartlepool	19.3%	21.4%	26.0%
England	18.2%	20.7%	23.6%

5.3 Religious Breakdown of Existing Burials

- 73 Both Stanton and West View Cemeteries have burial provision for various different religious groups.
- 74 Offering burial space tailored to the diverse needs of different cultural and religious communities is crucial for honouring religious practices, as part of Hartlepool Borough Councils equality and diversity strategy, Hartlepool Borough Council have committed to providing services that meet the needs of all local communities. Providing accessible cemeteries that accommodate various religious practices ensures that the bereaved can mourn their loved ones, according to their specific beliefs.
- 75 The table below demonstrates the available remaining spaces across the two cemeteries:

Table 5. Remaining Burial Capacity Breakdown

Stranton Cemetery	West View Cemetery
Unconsecrated Lawn = 188	Unconsecrated Ordinary = 268
Unconsecrated Ordinary = 176	Consecrated Lawn = 270
Consecrated Lawn = 792	Consecrated Ordinary = 516
Consecrated Ordinary = 435	Roman Catholic Lawn = 394
Roman Catholic Lawn = 630	Roman Catholic Ordinary = 252
Roman Catholic Ordinary = 430	Cremated Remains below ground =140
Cremated remains below ground = 300	Muslim Bangladesh Community = 150
Muslim Ordinary (Ahmadiyya) = 70+	Unconsecrated, Roman Catholic and cremated remains unplanned approximately = 936
	Consecrated Ordinary unplanned approximately = 312

76 The CDS Group would always recommend that any new cemetery remains unconsecrated, as with consecration the local authority are bound to maintain and make any financial changes to the cemetery but have no authority to do so unless granted permission by the church.

5.4 Summary

77 Having regard to the current and projected demographic profile of Hartlepool, it is expected that the need for burials will increase in the future due to the anticipated increase in the ageing population. The information in the above tables further highlights that the over 65 percental will increase at a faster rate, than that of England as a whole. This further reinforces the need for the proposal in light of dwindling provision.

6 Extension Area Longevity Calculations

- 78 The purpose of the information below is to provide knowledge on the estimated number of years the proposed site area would be able to provide burial provision for the cemetery.
- 79 Table 6 below shows the number of burials per annum between the years 2018 -2022 at Stranton Cemetery and Crematorium, as provide by Hartlepool Borough Council. The number of burials per annum have been calculated and averaged for the purposes of calculating the longevity of the site.

Table 6. Number of Burials: Stranton Cemetery and Crematorium (2018-2022)

Location	Year	Number of Burials	Average Number of Burials
Stranton Cemetery and Crematorium	2018	186	Total Number of burials ÷ 5 = 174.4
	2019	189	
	2020	161	
	2021	168	
	2022	168	

- 80 Table 7 below shows the number of burials per annum between the years 2018 -2022 at West View Cemetery, as provide by Hartlepool Borough Council. The number of burials per annum have been added and averaged for the purposes of calculating the longevity of the site.

Table 7. Number of Burials: West View Cemetery (2018-2022)

Location	Year	Number of Burials	Average Number of Burials
West View Cemetery	2018	58	Total Number of burials ÷ 5 = 60.2
	2019	44	
	2020	70	
	2021	59	
	2022	70	

- 81 From the plans produced by The CDS Group Landscape Architecture Team (Block Plan), the amount of burial provision available within the proposed site would be **3,402** burials plots.
- 82 In order to determine the number of years they could provide burial plots; the following calculation is used; **3,402** burial plots ÷ Average number of burials: **174.4 = 19.5 years**.
- 83 The calculations provided above estimate that the proposed burial grounds would provide burial provision for **19.5 years**.
- 84 Given an estimated construction start date of 2028, as instructed from Item B – this would provide capacity until 2047, which is **23 years from this review date**.
- 85 Following a desktop review of both Stranton Cemetery and Crematorium and West View Cemetery, the estimated number of years remaining in regard to burial provision is highlighted in Table 8 below.
- 86 Please note from the information provided by the client, it is stated that the number of years remaining at Stranton Cemetery and Crematorium is until 2027, which is 3 years. The quantitative data provided below in Table 8 does not take into account qualitative data such as, burial provision

for cremated remains which Stranton Cemetery provides or other extenuating circumstances, that may limit their burial provision.

Table 8. Estimated Number of Years Remaining

Location	Acres Remaining	Estimated Number of Burials	Estimated Number of Years Remaining
West View Cemetery	4.8	2,880	Estimated remaining burials ÷ Average number of burials per annum = 48 years

- 87 From the information provided above in Table 8, West View Cemetery has approximately 48 years of burial provision remaining within its curtilage. The average number of burial plots you can fit within an acre is approximately 600 burial plots. The proposed site area (West View Cemetery) is approximately 4.8 acres; however, this might be marginally inaccurate as it does not take into account factors that may reduce the burial provision. For example, depending on the amount of space that is allowed for infrastructure such as additional footpaths or storage and spoil areas the total amount of burial space could be reduced.
- 88 Following a desktop review of the site, it appears that a cemetery extension in future at West View Cemetery would be difficult, given the location of the site, therefore, it can be concluded that the cemetery provision at West View is finite.

6.1 'Do Nothing'

- 89 Hartlepool Borough Council owns four cemeteries, Stranton Cemetery and Crematorium, West View Cemetery, Hartlepool North Cemetery, and the Old Cemetery (Spion Kop). Hartlepool North Cemetery and Old Cemetery (Spion Kop) are now currently closed and only opening for the reopening of existing family plots.
- 90 If the council were to opt to 'do nothing' and continue to provide services to the community without securing future burial provision, Stranton Cemetery would run out of burial provision in 2027. The tribute area at the cemetery currently only has five years of provision remaining.
- 91 As a result, the cemetery site might remain open for re-openings, however, it would not be able to provide new burial provision. The site would remain utilised with the site still offering cremations and chapel ceremonies, however, within the first few years the revenue from burials would significantly reduce and then altogether cease to be a source of revenue for the council.
- 92 Residents would likely opt to travel to West View Cemetery, as it is owned by the council, however, as there are other privately owned cemeteries within the area, they may opt to be buried at these other sites. West View would see an influx in the burial numbers, with approximately 174.4 new burials per annum arriving to the site. Therefore, the burial capacity at West View would drastically begin to decline and the lifespan would be reduced.

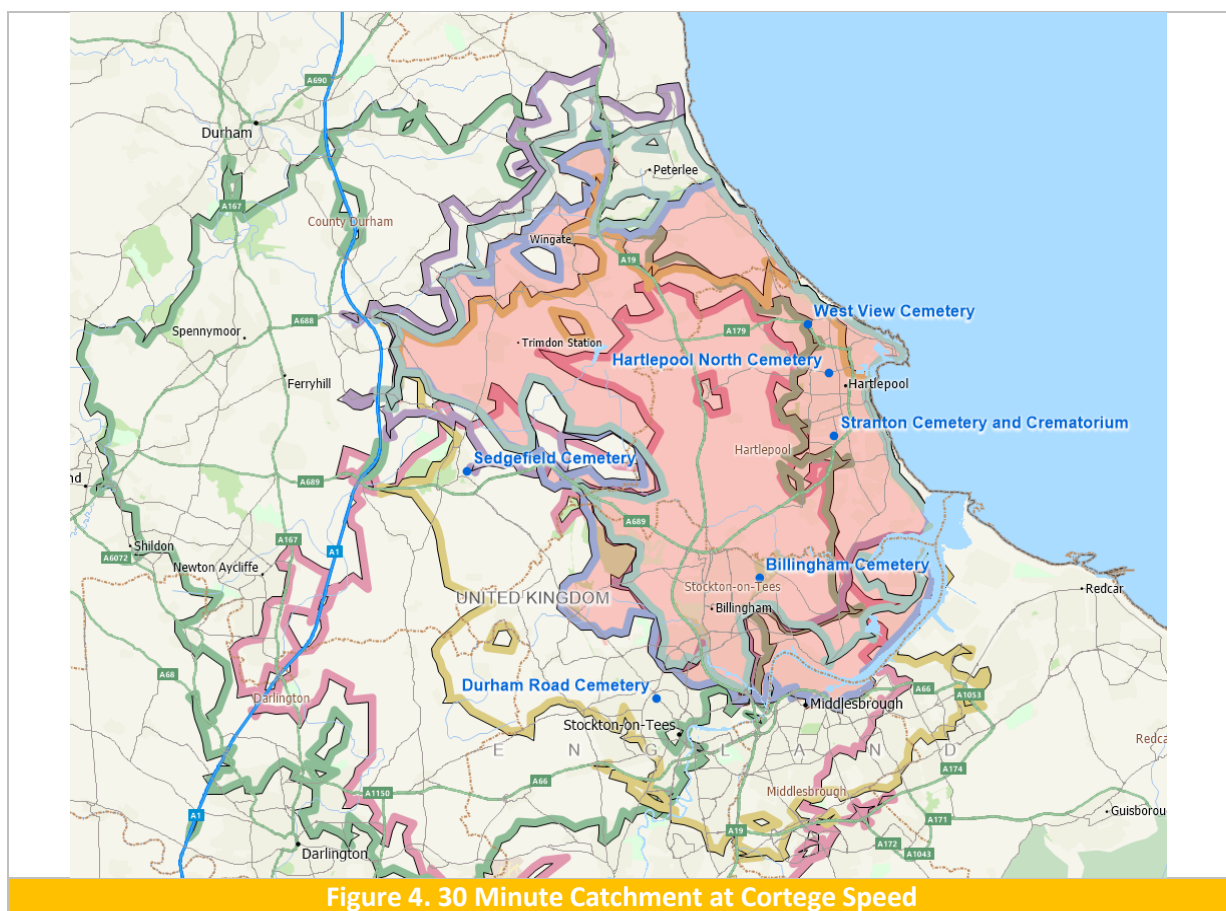
7 Drivetime Analysis

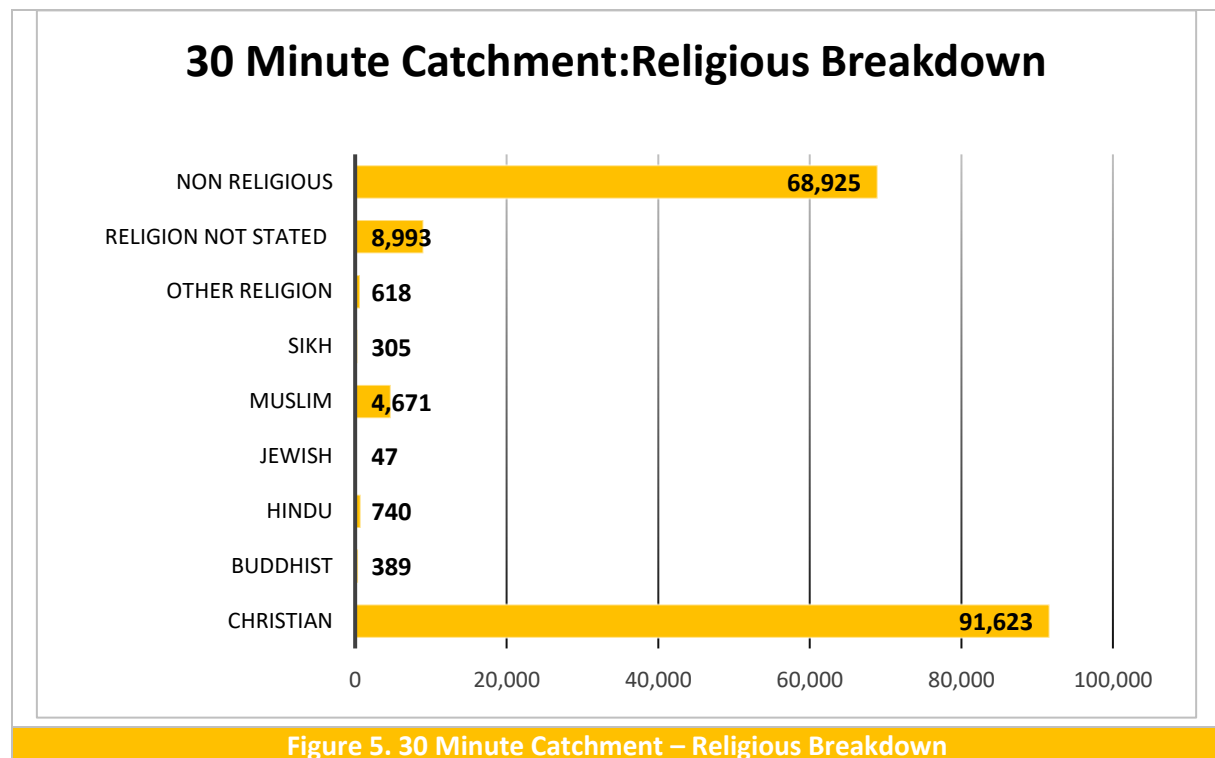
7.1 Catchment Analysis

7.1.1 30-minute drivetime analysis

93 A drive-time analysis has been completed to understand from a quantitative perspective the catchment of Stranton Cemetery. Figure 4 below shows the 30-minute influence of drivetime rings from Stranton Cemetery and Crematorium at cortege speed. The catchment zone is outlined in purple and shaded in pink/red.

94 It can be seen that the catchment of the proposed site extends within the northern area of the Tees Valley and north-east of County Durham, which are the two major counties within the vicinity of the burial site. The population within the 30-minute drivetime catchment at cortege speed of the burial site equates to approximately 176,312 people according to ONS 2020 population data.





7.1.3 Existing Local Cemetery Provision

- 96 Figure six below illustrates the existing cemeteries within the surrounding vicinity. The cemeteries highlighted below fall within the regions of County Durham, Tees Valley, and Hartlepool. The area highlighted in pink in the figure below showcases the boundary of the Hartlepool local authority area.
- 97 The cemeteries highlighted on the map are still operational. However, following a desktop study of the cemeteries, the common trend among a majority of these sites is, that they appear to be nearing full burial capacity or are now closed and only reopening family plots.
- 98 Given the proximity of Stranton Cemetery and Crematorium to other cemeteries, when running the drivetime analysis, there is no unique population/catchment area. The unique catchment area is a population located within a 30-minute drive of the site at cortege speed, that is not currently serviced by an existing cemetery.
- 99 As identified in Figure three, the drivetime rings generated from surrounding cemeteries and Stranton Cemetery and Crematorium overlap. Therefore, there is no unique catchment area. A unique catchment would be a population within the region that is currently not served by an existing cemetery or crematorium.
- 100 Given that a number of cemeteries have reached or are reaching their full burial capacity around Hartlepool, it can be assumed that this may lead to additional burials at the cemeteries which have remaining burial capacity.

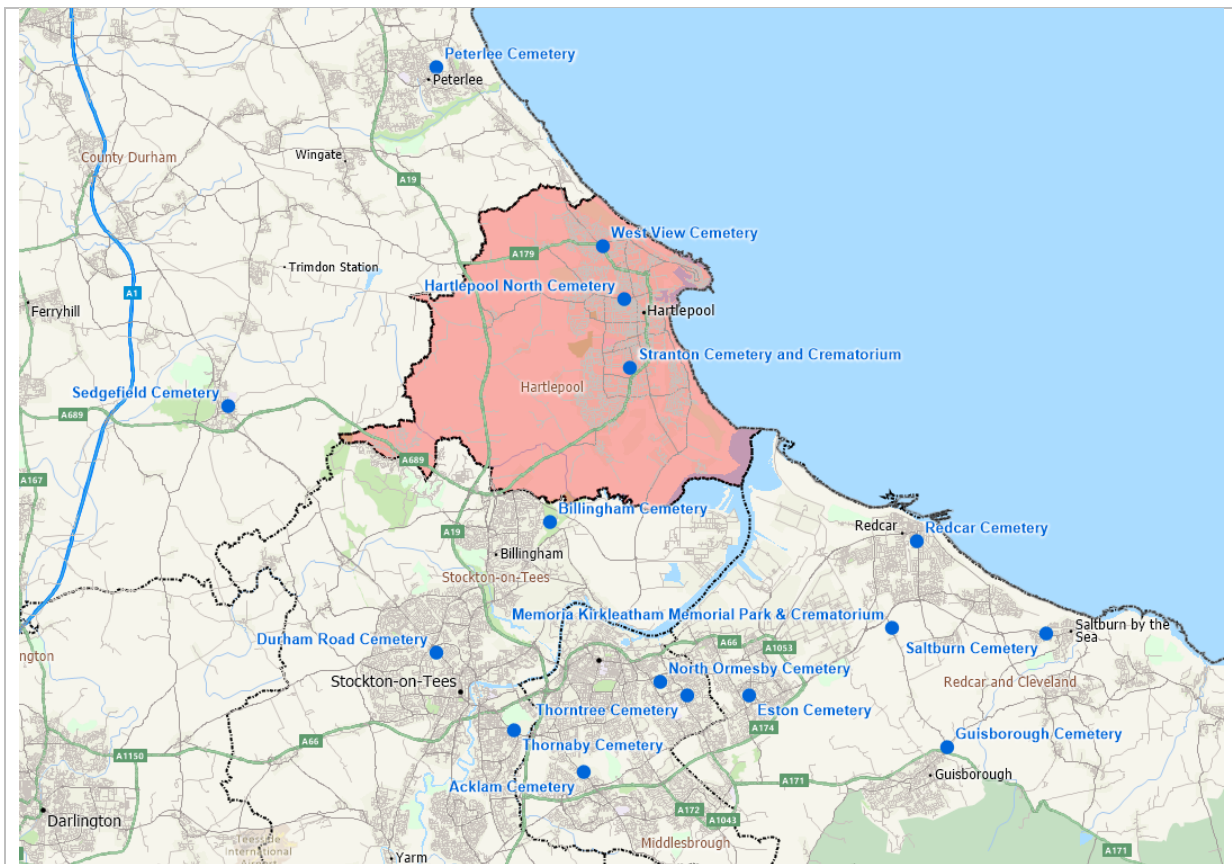


Figure 6. Surrounding Cemeteries (County Durham, Tees Valley, and Hartlepool)

7.1.4 Minimum Drive-Time Catchment Area

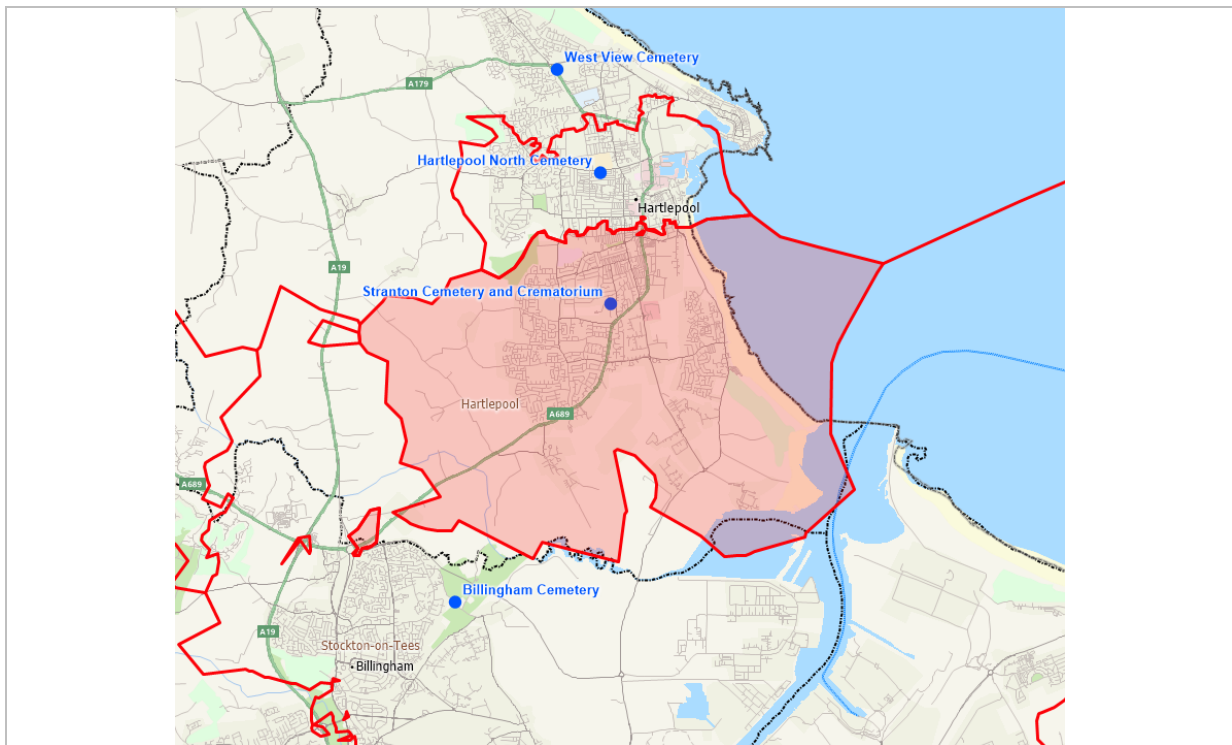


Figure 7. MDC (Minimum Distance Catchment)

101 Figure seven above, and more specifically the area highlighted in pink, depicts the Minimum Distance Catchment (MDC), of Stranton Cemetery and Crematorium. This area largely captures the southern population of Hartlepool.

102 The 'Minimum Distance Catchment' (MDC) is used to forecast anticipated quantitative burial numbers. The MDC is the catchment area which, based on driving distances, would identify the proposed site as their closest cemetery and crematorium; this is performed by using the 'drive time influence area' tool within the software which accordingly considers the road network to generate the MDC. The specialist software assumes that the bereaved are most likely to choose a cemetery that is located closest to their dwelling.

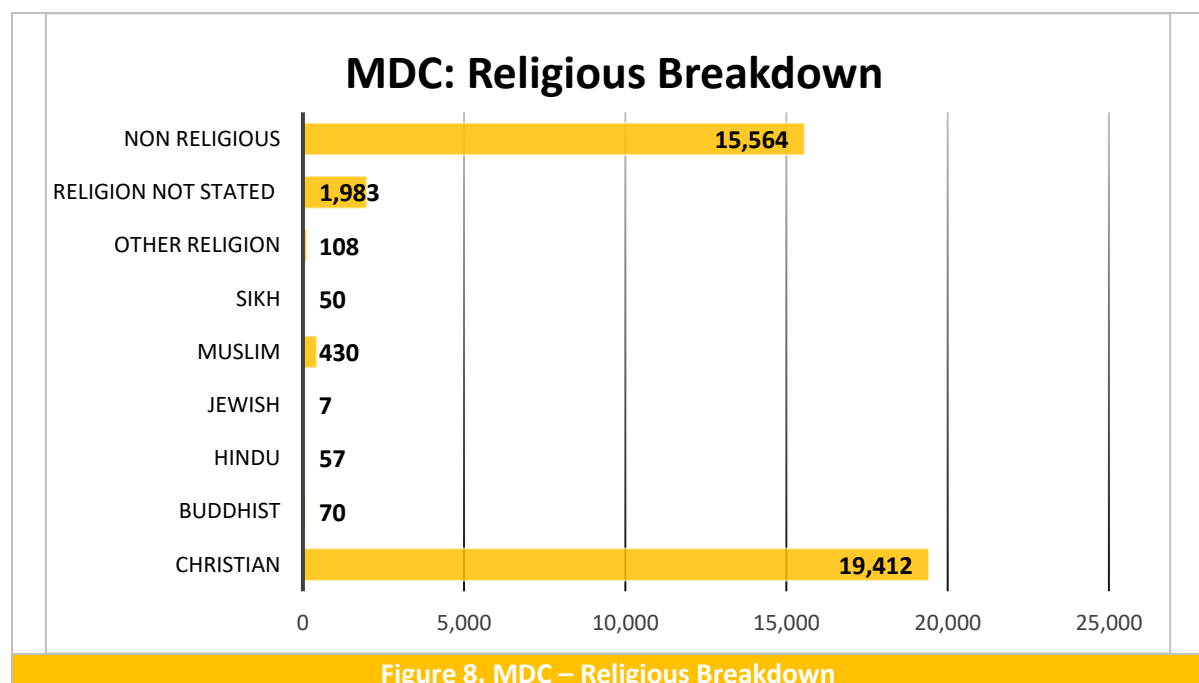
103 Within the shaded area above there is a total population of 37,679 people, based on a regional death rate of 1.15%, the death rate per annum would be 432, this would result in **86 burials per annum** (20% burial rate).

104 The number of burials per annum provided by the MDC does not take into account the qualitative factors that affect the site. For instance, the general upkeep, cost of burial and lead time following the death and before the burial are all factors that can affect an individuals experience at a cemetery. If a cemetery is completing more burials than the quantitative analysis indicates this suggests that the user experience or cost of burial are particularly favourable at the given cemetery.

7.1.5 Minimum Distance Catchment: Religious Breakdown

105 Figure eight below highlights the religious breakdown within the Minimum Distance Catchment. Similar to the data shown in figure five (30 Minute Catchment: Religious Breakdown), the highest percentage falls within the Christian religion.

106 Out of the total anticipated population catchment of Stranton of 37,679, approximately 52% of the population are Christian (19,412 people).



8 Impacts of the Cemetery Redevelopment (Extension)

8.1 Impact of Cemetery Extension 0-5 years

107 The CDS Group views the proposed extension, as a positive addition, as it would secure future burial provision for the community.

108 When assessing the remedial works at the cemetery and any proposed construction works within the site, it is unlikely to impact the daily functionality of the cemetery.

109 Vehicles and machinery can access the land through Kingsley Avenue located west, adjacent to the proposed site, without having to use the cemetery's main entrance. The existing fence could be retained and mended to obscure the construction works within the site, thereby, preserving the visual amenity within the existing Stranton Cemetery and Crematorium Site.

8.2 Impact of Cemetery Extension 5-10 years

110 It is unlikely that construction works within the proposed site would extend beyond the 10-year period. Therefore, it is likely within this period, the proposed cemetery provision would be available, thereby, securing burial provision for the community.

111 Residents are more likely to travel to a burial site in closer proximity to them, therefore, the catchments of the cemeteries are unlikely to alter.

8.3 Impacts of Cemetery Extension 10+ years

112 As aforementioned within the report, a number of cemeteries within the surrounding vicinity do appear to be nearing full capacity, in regard to burial provision. By securing future burial provision at Stranton Cemetery and Crematorium, it is likely that the lifespans of the cemeteries within the surrounding vicinity would be extended. Residents would not need to travel further within the surrounding Districts for a burial plot.

113 For the reasons stated above and qualitative and quantitative data provided, it is concluded that the development of Stranton Cemetery and Crematorium would not have a detrimental impact on cemeteries within the wider community namely West View Cemetery.

Item F: A review of the existing resources within the crematorium i.e. cremators and associated equipment, and a plan for future requirements. Consideration of how the service can reduce its carbon footprint while improving the assets sustainability.

9 Stranton Cemetery and Crematorium Facilities and Capacity

9.1 The Shelton Cremators

114 At present Stranton Cemetery and Crematorium has two Shelton Cremators onsite. These were installed in 2014. The model of the cremators is Shelton Diamond 4 Cremators, and these are no longer in production, as the manufacturer was liquidated in 2014². Given the cremator manufacturer liquidation, spare parts are becoming harder to source, increasing the risk of prolonged or even permanent breakdown.

115 IFZW bought out Shelton Cremators and they currently maintain the remaining cremators, previously owned by Shelton across the country.

116 The cremators are maintained by IFZW and underwent a relining in 2023 and both cremators were also recommissioned with an IFZW control system. It is anticipated that the two existing cremators will need to be 'half relined' in 2028 to continue operating effectively, with works also required to the abatement filtration systems required in 2027. The costs associated with this maintenance are anticipated to be substantial and the bereavement services budget will be required to bear these costs.

117 CDS understand that it is the council's preference to continue to maintain the two existing cremators until they both reach the end of their operational life, this is due to the risk profile attached to the operation of a sole cremator until the cremators reach the end of their operational life. The key risk factors which have influenced this decision include: operational staffing structure, resilience to future possible pandemics, the council have not partnered with other nearby crematoria to continue service provision in unexpected periods of downtime and capacity to cope in peak cremation periods (such as the winter months). (In the future, if working patterns are changed alongside a decision to purchase a new single cremator then the operation of a sole cremator could be feasible).

118 Based on the total use of the cremators, it is anticipated that the lifespan of the cremators will expire in 2030 and as such new cremators will be required at this point.

119 Table 9 below shows the maintenance cost for the financial year of 2023 /2024 and includes the cost until the 4th of March 2024.

Table 9. Maintenance Cost

Maintenance	Financial Year 2023/2024 (March)
Service	£19,216.36
Call out and extra repairs	£10,430.99
Remote Service	£524.70
Total	£30,172.05

120 Whilst the above table explores previous years maintenance costs, it is important to consider the anticipated future costs for the maintenance of the cremators. In particular works which are required to ensure that the cremators and ancillary abatement systems continue to meet the

² [New cremation facility is proposed at Le Foulon - States of Guernsey \(gov.gg\)](https://www.statesofguernsey.gov.gg/News/2023/03/23-New-cremation-facility-is-proposed-at-Le-Foulon)

required operating standards will result in significant spend, above the existing day to day maintenance budgets included within Table 9.

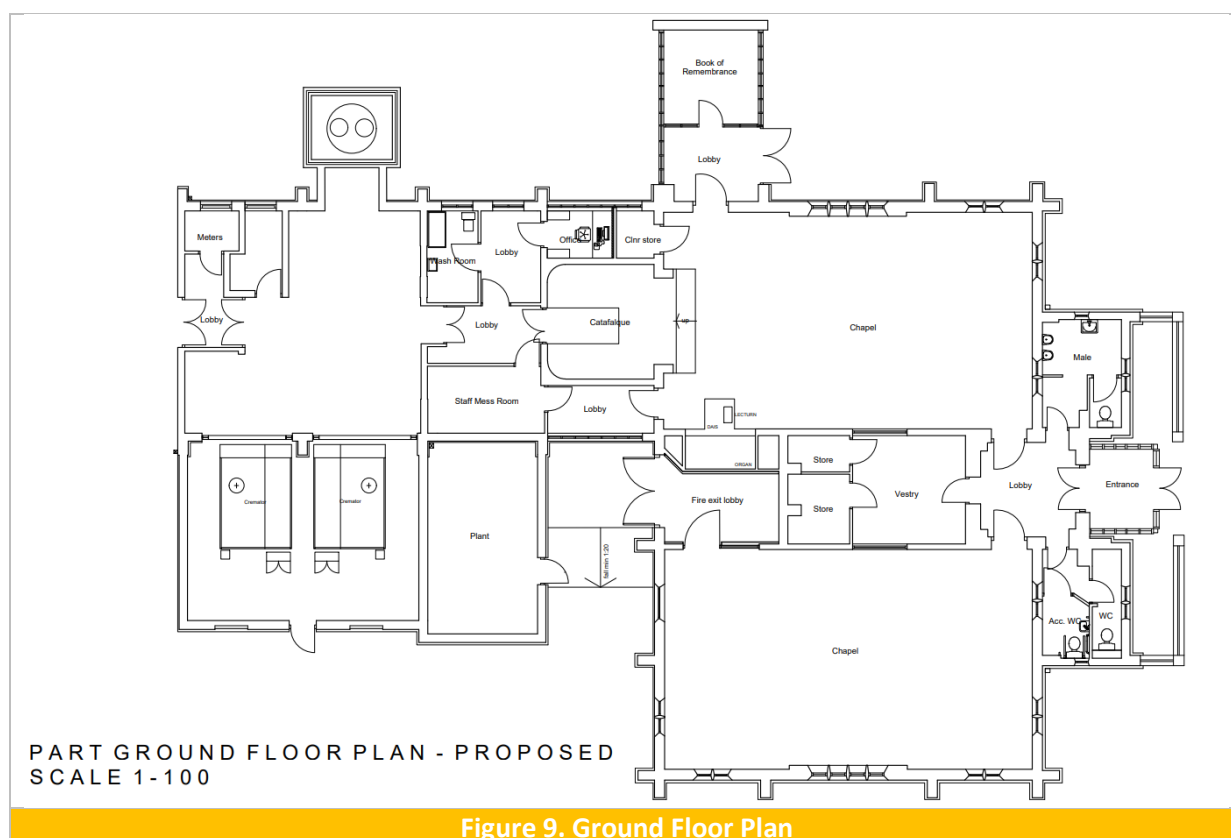
121 Figure nine below shows the building layout of the chapels and crematorium at Straton Cemetery and Crematorium.

122 As shown on the floor plan, the building has two chapels, towards the entrance of the building. Following further correspondence with the team based at Straton, it is confirmed that one chapel is used for burial services and the other chapel is used for cremations. The second chapel is also used as an overflow, with additional seating provided for services. The cremator room is located to the rear of the building, towards the south-west and encloses two gas cremators.

123 There is a second exit from the crematorium chapel which is ordinarily used to the front of the room via a lobby to the side of the book of remembrance.

124 If improvements to Stranton Cemetery and Crematorium, are to be suggested and implemented, it is advised, that the internal layout of the crematorium would require reconfiguration, as the internal functionality would require improvement, in order to implement the suggestions to be stated within this section of the report.

125 This section of the report will also analyse the feasibility of a cremator replacement, as at present the life span of the cremators is until 2030. This report will analyse planning for the future, while advising methods regarding the reduction of carbon emissions at the site.



126 Based on data provided by operational team at Stranton, the below table breaks down the average gas use across the two cremators:

Table 10. Average Gas Use by Hartlepool Cremators

		Gas Used (m ³)	Total Cremations	Average Gas Used Per Cremation (m ³)
Cremator 1	Jan 23 to Dec 23	59,634.9	487*	122.45
	Jan 24	4,875.6	36	135.43
Cremator 2	Jan 23 to Dec 23	48,811.1	415*	117.62
	Jan 24	3,835.1	30	127.84
Total		117,156.7	968	125.835

**In the absence of the requisite information, it has been assumed that as cremator A was used for 54% of cremations in Jan 24, 54% of cremations in 2023 were completed on Cremator 1.*

127 Based on the retained heat effect within a gas cremator, the more cremations completed per day the more energy efficient the cremators are as a result of the retained heat from the previous cremations. The data in the table above contradicts this statement as more cremations were completed in cremator 1 in 2023 compared to cremator 2 but the average gas used per cremation was lower in cremator 1 compared to cremator 2.

128 The data in the table above suggests that cremator 2 has a lower average gas usage level per cremation compared to cremator 1, which theoretically means that this cremator is operating more efficiently. This could be as a result of maintenance associated with the cremators, the layout and positioning of the cremators within the cremator room and operational practices and preferences.

9.2 Qualitative Assessment of Stranton Crematorium and Local Crematoria Capacity

129 The 'Theoretical Capacity' of a crematorium is seen as the number of cremations it could perform if open Monday to Friday throughout the year, excluding bank holidays (giving 252 "Cremation Days") and held cremations from 9:00 am to 5:00 pm. Each cremation service would occupy a period of time known as a "slot". The number of cremations that could theoretically be held each day is therefore dependant on the length of the slot.

130 In calculating the capacity of a crematorium, the standard methodology for establishing capacity (planning case law) utilise 45-minute "slots" for services at crematoria. Based on a slot length of 45 minutes, a crematorium (with two chapels) would theoretically be able to fit 22 services between 09:00 and 17:00. However, several of these slots would require the family and friends to travel at inconvenient times, during rush hour, when trying to keep a cortege intact would be stressful. Therefore, it is "Core Hours" which need to be considered when assessing crematorium capacity. This is based on normal operational experiences of crematoria in the UK as in reality funerals are concentrated in the middle of the day, starting between 10:30 and 15:30, rather than between 09:00 and 17:00. There are good reasons for this pattern:

- Funeral Directors need a certain amount of preparation time on the day of the funeral before the cortege can embark on its journey.
- Extended family and other mourners may be travelling from outside the area and will need time to get to the crematorium, especially if it is a journey with which they are not familiar.
- Mourners usually gather afterwards to hold a funeral tea or wake and so need the funeral to take place in the middle part of the day; and it would be inappropriate for a funeral cortege to be held up for long periods in rush hour traffic.

131 Applying these restrictions, the number of cremations that could practically be held a day in a single chapel crematorium is eight, based on 45-minute slots. See table below.

Table 11. Operating Hours and Practical Capacity of a Single Chapel Crematorium

Hours		45 Minute Slots
Non-Core Hours		9:00
		9:45
Core hours		10:30
		11:15
		12:00
		12:45
		13:30
		14:15
		15:00
		15:45
Non-Core hours		16:30
One chapel crematorium capacity		
Theoretical Capacity	Per day	Per annum
	11	2,772
Core-hour Capacity	8	2,016
Practical Capacity	80%	1,613

132 The relevance of these core hours has been recognised by numerous planning inspectors when considering crematorium capacity, in particular, the appeals at Halstead, Cambourne and Swanwick are pertinent. The appeal inspector in Appeal, APP/M1005/A/2188880 (Swanwick) states the following:

133 “The four existing crematoria have technical capacity when looking at their operation over any particular year but the fact that Chesterfield crematorium, for example, has plenty of availability in the summer months, or at 16:30 hours on a winter’s afternoon is of little comfort or use to those needing to book a funeral at the busiest time of the year at a time of day that would actually allow friends and family to attend. The technical capacity of the 4 crematoria does not bring people who currently live beyond a reasonable distance to a crematorium any closer to that crematorium. Plainly, there is a quantitative and qualitative need in this case.”

134 Memoria’s experience (private operator of 11 crematoriums across England and Wales) shows that 90% of funerals occur within the Core Hours. The Core Hour Capacity of a crematorium can be calculated by multiplying the number of Cremation Days by the number of Core Hour Slots i.e. 2,016. However, crematoria cannot work at 100% of their annual Core Hour Capacity because it is impractical to fill every slot in the core hours, every day of the week and every week of the year. Partly, this is because it is difficult to co-ordinate family, funeral director, celebrant, and crematorium availability in such a way to fill each slot. In addition, deaths are not spread out uniformly across the year and in winter months can be as much as 40% higher than the average.

135 This concept has been recognised in a number of appeal hearings and was more recently noted by Mrs Justice Patterson when considering a claim for Judicial Review of permission for a crematorium in Gedling, Nottinghamshire. The judgement confirmed the correct approach taken by planning officers in applying an annualised figure based on a peak month where demand was 20% higher: **“103 ...As the claimant recognises the capacity of a crematorium is fixed. To provide for sufficient capacity in the peak month or months the crematorium required will have the same capacity throughout the year. The use of an uplift figure was appropriate for the reasons set out above. If a figure for a month of lesser demand is used, then there will be insufficient capacity**

for the peak month of January.” As such it is recognised that the “Practical Capacity” of a crematorium is around 80% of its Core Hour Capacity. For a single chapel crematorium operating with 45-minute slots this would be 1,613 cremations per annum.

136 The impact of insufficient crematorium capacity could be experienced by the bereaved where crematoria seek to meet needs by:

- Reducing slot lengths – with the consequence that the bereaved may feel rushed, and part of a “conveyor belt” as they see other funeral parties on their arrival or departure; and/or
- Operating outside Core Hours – whilst this may be appropriate for a small number of families, holding well attended funerals outside Core Hours can cause extra distress given the conflict with peak hour traffic; and/or
- Allowing backlogs – delaying funerals during periods of high demand can cause additional distress to the bereaved, who may feel “in limbo” and unable to continue the grieving process whilst waiting two, three or even four weeks for a slot to become available.
- The bereaved may have gathered from long distances to support family members immediately after the death. If the funeral is delayed, they may not be able to stay away from home or work, and therefore miss the funeral, or may have to travel those long distances again.
- Those with cultural or religious needs for a cremation to take place soon after the death may not be met in peak times, resulting in further distress to the bereaved.

137 Crematoria should not be criticised for having to adjust to high levels of demand for cremations by taking one or more of the actions listed above. In seeking to serve their communities, they have no choice but to do so. Where such measures are being taken, it is simply a sign that the current provision of cremation is insufficient to serve the local population.

138 With an ageing population, the number of deaths in the UK is climbing, as is the cremation rate. Combined, these will exert even more pressure on crematoria with a consequential and detrimental increase in qualitative impact.

Table 12. Practical Capacity at Stranton Crematorium

Operated by	Hartlepool Borough Council
Built in	1954
Number of chapels	1
Service slot length	60 Minutes
Car park capacity	50
Chapel capacity	100
2018 Cremation Numbers	923
2019 Cremation Numbers	977
2020 Cremation Numbers	1,058
2021 Cremation Numbers	970
2022 Cremation Numbers	899
2023 Cremation Numbers	912
Average Cremation Numbers	957
Practical Capacity	1,613
Practical Capacity Usage	59.3%

139 **Comments:** Stranton Crematorium is operating below its practical capacity; this is likely due to demand-based factors such as catchment (e.g. the number of people dying within the catchment

of Stranton Crematorium). To note, practical capacity is defined as the maximum number of cremations that could be completed at a single chapel crematorium (1,613) in a given year.

140 It is worth noting that 798 cremations were completed at Stranton Crematorium in 2024. This dataset is in line with national data collected by The Cremation Society of Great Britain as there was a fall in total cremations across the UK in 2024 compared to 2023. This is potentially one of the consequential effects of the Covid-19 pandemic.

141 To increase the number of cremations that are completed at the crematorium, the council could explore the provision of offering different audio and visual packages that other nearby crematoria do not offer. CDS are aware of one particular software (Obitus Canvas) which allows personalised text and images to be projected onto the walls inside the crematorium, this type of funeral personalisation is becoming increasingly popular across the UK³.

142 Direct Cremation has become more popular in recent years as it offers a low-cost alternative to a traditional funeral, this is because during this process the deceased are cremated without a funeral ceremony. Stranton Crematorium offer direct cremations at the start of the day, this is advertised on the Hartlepool Borough Council website as direct cremations (no attendance) held Monday to Friday 8:00am – 8:45am and direct cremations (attendance), and they are held between Monday and Friday at 8:30am (one per day).

9.2.1 Cremation Capacity for surrounding crematoria

Table 13. Practical Capacity of Local Facilities

Facility	Chapels	Practical Capacity	Service Slot Length	Distance from Stranton (non-cortege speed)	Average Cremation Numbers	5 Year Average Practical Capacity Percentage
Stranton Crematorium	2	2,420	30mins	-	957	40%
Stockton Crematorium	2	2,420	30mins	20mins	1,212	50%
Kirkleatham Memorial Park	1	1,613	60mins	31mins	2,013	125%
Teeside Crematorium	2	2,420	45mins	30mins	2,117	87%
Darlington Crematorium	1	1,613	25mins	39mins	1,480	92%
Wear Valley	1	1,613	45mins	29mins	1,686	105%
Durham Crematorium (South Road)	1	1,613	30mins	36mins	2,491	154%
Average	-	-	-	-	1,709	93.3%

Stockton-On-Tees Crematorium

143 **Comments:** Stockton-On-Tees is operating well below its practical capacity. The crematorium is reasonably new having been only opened in 2019. Their 30-minute service time is below the 45-

³ Obitus (2025). Available Via: <https://www2.obitus.com/canvas>

minute minimum that is suggested by the ICCM. Following an analysis of their cremation numbers over a period of four years, the average cremation numbers at the site have yet to be established. The crematorium is located in closest proximity to Stranton Cemetery and Crematorium, therefore, is a direct competitor of the site. Given the prime location of the crematorium site, its catchment area is both Stockton-On-Tees and Hartlepool.

Kirkleatham Memorial Park

144 Comments: Kirkleatham Memorial Park and Crematorium is owned and operated by Memoria Group. The crematorium is operating above its practical capacity. Their 60-minute service time meets and exceeds the suggested service time by the ICCM. The crematorium is located within the borough of Redcar and Cleveland in North Yorkshire. Kirkleatham Memorial Park lies a reasonable distance from Stranton Cemetery and Crematorium. Given its location within the neighbouring borough, its primary catchment is within Redcar and Cleveland and given its private ownership, the site is unlikely to be a direct competitor of Stranton Cemetery and Crematorium.

Teeside Crematorium

145 Comments: Teeside Crematorium is operating below its practical capacity, reflective of its ability to run at 45-minute service times. They have a service time of 45-minutes in line with what is suggested by the ICCM. The crematorium is located 30- minutes away from Stranton Cemetery and Crematorium. The crematorium is located outside of Hartlepool, with its main catchment area in Middlesbrough Council.

Darlington Crematorium

146 Comments: Darlington Crematorium became the fifth crematorium to operate in the country in 1901 and has been operating since. The crematorium is operating marginally below its practical capacity. The site has a 25-minute service time which is contrary to the 45-minute minimum suggested by the ICCM. Darlington Crematorium is located 39-minutes away from Stranton Cemetery and Crematorium. Given its generous distance away from Stranton, it is unlikely to be a direct competitor.

Wear Valley

147 Comments: Wear Valley Crematorium is privately owned and operated by The Crematorium and Memorial Group. The crematorium is operating marginally above its practical capacity at 105%, however, they have maintained a service time of 45-minutes, which is in keeping with the suggested service time by ICCM. The crematorium site is located 29-minutes away from Stranton Cemetery and Crematorium and outside of Hartlepool. Therefore, the crematorium is unlikely to be a direct competitor of Stranton.

Durham Crematorium

148 Comments: Durham Crematorium is located within Durham City and is owned and operated by a joint committee of Durham County Council and Gateshead Council. The crematorium is operating well above its practical capacity at 154%. Their service time of 30-minutes is below the 45-minute minimum that is suggested by the ICCM. The crematorium is located 36-minutes away from Stranton Cemetery and Crematorium. Its primary catchment area is Durham City; therefore, it is excluded as a direct competitor of Stranton Cemetery and Crematorium.

9.2.2 Seasonal Variation Effect on Capacity at Stranton Cemetery and Crematorium

149 Capacity is not only specified over a period of time. A further assessment of need is whether local crematoria currently provide services that are considered 'long enough' and are available at preferential times for families and allow a respectful interval between funerals. It should also be noted that crematoria are particularly busy in wintertime. Excess winter deaths cause a heightened need for cremations in a short period of time, local crematoria must have the capacity to cope with this increased need.

150 The data in table 14 below, examines the average number of monthly deaths across a number of years in Borough of Hartlepool. The analysis incorporates data from the months of December, January, and February (winter months) from 2018 to 2023, and available data for the beginning of 2024, and these numbers have been averaged to provide the average winter monthly death rate which is compared to the average monthly death rate for each calendar year period.

Table 14. Average Monthly Deaths at Stranton Cemetery and Crematorium

Average Monthly Deaths at Stranton Cemetery and Crematorium				
Dec-18 74	Jan-19 79	Feb-19 85	Winter 2018-2019 79	Cal Year 2018 77
Dec-19 76	Jan-20 107	Feb-20 75	Winter 2019-2020 258	Cal Year 2019 81
Dec-20 102	Jan-21 117	Feb-21 100	Winter 2020-2021 319	Cal Year 2020 88
Dec-21 101	Jan-22 80	Feb-22 82	Winter 2021-2022 263	Cal Year 2021 81
Dec-22 88	Jan-23 85	Feb-23 96	Winter 2022-2023 269	Cal Year 2022 75
Dec-23 82	Jan-24 64	Feb - 16/02/24 52	Winter 2023-2024 178	Cal Year 2023 76

151 In four of the six years analysed, the average monthly winter death rate is higher than the monthly average for the calendar year. Between 2018 and 2023, the monthly winter deaths rates averaged at 228 per month compared to 78 deaths per month in the calendar year; demonstrating that the winter death rate is approximately 34.2% higher than the calendar year averages in Hartlepool.

152 With more deaths in the winter months, crematoria need to be able to keep abreast of requirements during the winter season, in particular January, which is typically the busiest month. The population in the area is also ageing which increases the risk of excess winter deaths due to the vulnerability of this demographic. According to the ONS population projections the percentage of people over 65+ years in the Hartlepool Borough Council was 17,959 which was 19.3% of the population in the borough in 2018. By 2038 the total population aged over 65+ years is projected to be 24,364 which would be equivalent to 26.0% of the population.

153 The information in Table 15 below, shows the number of cremations completed between the years 2018 and 2023.

Table 15. Total Cremations at Stranton Cemetery and Crematorium between 2018 and 2023

	2018	2019	2020	2021	2022	2023	Average Number of Cremations
Total Cremations Completed	923	977	1058	970	899	912	957

154 Analysis of the average cremations between 2018-2023, show on average the peak months are during winter when the site completes approximately 20 cremations per week, this busy period can last several weeks and usually falls in February. There may be an uplift of this number on certain days, therefore in exceptional circumstances an increase in staffing requirement may be required for any cremation technology installed.

9.2.3 International Energy Supply

155 The international energy supply of natural gas has been the topic of news bulletins across Europe since February 2022 when Russia invaded Ukraine. In 2021 the European Union imported approximately 41 percent of its total natural gas consumption from Russia ^[4]. As the demand for natural gas has stayed constant and is particularly high in the winter months and the aggregate supply of the volume of natural gas has fallen this has led to cost push inflation across the energy sector. In 2021 only 4% of natural gas used in the UK was imported from Russia, but the value of all gas the UK imported in 2021 reached £19.6 billion⁵. The majority of this gas was imported from Norway at 74% and Qatar with 8%. European countries are now purchasing greater levels of natural gas from Norway and Qatar which increases the cost of gas in the UK as well.

156 According to the Department for Business, Energy and Industrial Strategy, non-domestic natural gas prices increased by 98%⁶ between 2021 quarter 2 and 2022 quarter 2. Between 2022 Q1 and 2023 Q1 on average non-domestic energy prices decreased by 17%⁷.

157 It is also important to consider the relationship between gas prices and electricity prices. In the UK the price of electricity is set by the marginal cost of the last generating unit to be turned off to meet demand, which is invariably from a gas power plant with high marginal costs. Research completed by UCL and released in September 2022 stated that *'Natural gas is the main driver of electricity prices across Europe. Despite gas providing under half of the total electricity in the UK, in recent years it set electricity costs 84% of the time.'*⁸. As a result, under the current system even if electric cremators are installed at Stranton Crematorium the electricity tariff that the council operate on will be somewhat determined by the cost and supply of gas.

⁴https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_imports_of_energy_products_-_recent_developments

⁵ <https://researchbriefings.files.parliament.uk/documents/CBP-9523/CBP-9523.pdf>

⁶https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/110749/9/quarterly_energy_prices_uk_september_2022.pdf

⁷https://assets.publishing.service.gov.uk/media/651d7540e4e658000d59d961/Quarterly_Energy_Prices_September_2023.pdf

⁸<https://www.ucl.ac.uk/news/2022/sep/electricity-prices-dictated-gas-producers-who-provide-less-half-uk-electricity#:~:text=6%20September%202022, costs%2084%25%20of%20the%20time.>

10 Improvements to reduce Carbon Emissions (Planning for the Future):

10.1 Hartlepool Borough Council – Climate Change and Net Zero

158 Having reviewed the crematorium and borough council's initiative and policies regarding carbon emissions, there is nothing currently relating to the crematorium and methods to reduce carbon emissions produced by the crematorium.

159 The council is however, taking steps to reduce carbon emissions across the borough. It aims to proactively reduce its greenhouse gas emissions and plans to be a net zero local authority across operations and services.

160 In December 2021, the Borough Council adopted their first climate pledge committing to the delivery of key priorities and they developed a Climate Change Response and Net Zero Strategy and Action Plan which outlined their path to achieving their goals.

161 The Climate Change Response and Net Zero Action Plan was adopted in November 2023, when a motion was passed by the Finance and Policy Committee to adopt the plan.

162 The main aims and objectives of the Net Zero Strategy and Action Plan are summarised below:

- **Reduction of local authority CO2 emissions:** Reduce energy demand and improve energy efficiency, increase sustainable energy capacity, reduce fleet emissions and work with people to inspire change.
- **Resource maximisation and waste reduction:** Sustainable purchasing and procurement of goods and services and improve waste management to maximise use of existing resources.
- **The natural environment:** Maintain good local air quality, protect existing natural habitats and expand and connect natural habitats and increase tree cover.
- **Climate resilience and adaptation:** Adapt the built and natural environment to current and future climate change impacts, review progress on net zero and work towards sustainable development.
- **Domestic energy and sustainable warmth:** Improve domestic energy efficiency to reduce energy demand and support shifts towards sustainable energy in the domestic sector⁹.

163 The following section considers the methods the crematorium can implement in order to reduce carbon emissions.

10.1.1 Cold Storage

164 As aforementioned, presently the crematorium operates two gas cremators. Completing on average as calculated within Table 16, 957 cremations per annum. Divided across the two cremators, these averages to approximately two cremations per cremator per day.

165 Following consultation with the client, the crematorium does not have a cold storage facility. Having cold storage at a crematorium site can potentially offer carbon footprint benefits, although the extent of these benefits may vary depending on factors such as the energy source used for cooling and the efficiency of the refrigeration system. Some potential carbon footprint benefits include:

- **Energy Efficiency:** Cold storage systems are constructed to be energy-efficient, utilising advanced technology such as high-efficiency, insulation materials, and temperature control systems. This

⁹ [HBC Net Zero Strategy and Action Plan.pdf](#)

can result in lower energy consumption compared to traditional storage methods, leading to reduced carbon emissions associated with energy use.

166 The crematorium would require internal alterations. The current internal floor layout hinders the functionality of the crematorium, given the disjointed layout, this is due to the age of the building. If the crematorium were to undergo further alterations, in order to improve the internal functionality, it is possible that a cold storage could potentially be integrated within the existing structure. A suitably qualified architect that has experience with crematoria should consider a possible internal alteration to the building to accommodate a cold store.

167 Companies currently offering potential cold storage solutions for that would allow the crematorium to explore all the suggested options at present would be Colsec Ltd and LEEC Ltd.

168 While there are a number of carbon footprint benefits of having cold storage at the cemetery and crematorium, it is essential to consider the wider environmental impacts of cremation as a whole, including factors such as energy sources used for cremation, emissions from cremation processes, and the potential for carbon offsetting initiatives, such as the use of a singular gas, renewable energy usage and the potential installation of electric cremators. The cost of a cold storage unit for a 6 bay fridge (6 coffin store) is anticipated to be in the region of £20,000 to £30,000.

10.2 Gas Cremation (Natural Gas)

10.2.1 An Outline of the Technology

169 Stranton Cemetery and Crematorium has two operational gas cremators which use natural gas as their fuel source.

170 Gas cremation is used by >95% of existing crematoria in the UK, primarily sourced by natural gas but some crematoria are sourced by LPG tanks due to lack of natural gas supply in the area. Across all the available fuel sources and technologies analysed in this report gas cremation has the quickest cremation times.

171 Gas cremation requires a continuous supply of natural gas throughout a cremation, the highest consumption of gas is used at the beginning of each day/ week when the machines require more gas to reach the required temperature, as at the start of the day the residual heat from the previous days cremations is relatively low. The most efficient way to run a gas cremator is to reduce the time in between each cremation to reduce the heat loss. The fluctuation of heat between operational and rest periods, causes higher maintenance costs due to the contraction and expansion in the brickwork of the cremator.

Table 16. An Outline of Gas Cremators

Variable	Result
Capital Cost (Average)	£550,000 - £600,000 (<i>dependant on package and manufacturer, capital cost of cremators has risen in the last year with higher rates of inflation and supply chain shortages caused by the Covid-19 pandemic</i>)
Maintenance Costs (Average)	£45,000 per 2 cremators
Lifetime	15-20 years
Cremation Time	90 minutes
Lead times from purchase	0-3 months
Manufacturers	FT, DFW Europe, IFZW and Matthews Environmental Ltd.
Dimensions	9.8m x 6.0m (<i>includes charging machine but excludes clearance for coffin charging</i>)

10.2.2 Initial Review for the Feasibility of the Technology

172 Gas cremation is the most common source of cremation in the UK. Several manufacturers sell gas cremators in the UK including FT and Mathews Environmental Solutions amongst other companies. Although the global market for gas has been in fluctuation there is still good availability of natural gas, but the price of natural gas has increased notably since the beginning of 2022.

173 Currently there isn't legislation from the UK government on emissions produced from cremation, however, there are regulations on general emissions through Progress Guidance Note 5/2 (12) which is the Statutory Guidance for Crematoria¹⁰. The guidance does not prohibit the use of Natural Gas; therefore, the continued use of the technology would be feasible at Stranton Cemetery and Crematorium.

174 As the existing gas cremators are nearing the end of their lifespan with approximately 8 years remaining. Once the gas cremators have reached the end of their lifespan, a like for like replacement would not be advised. If the council choose to replace the existing cremators with new natural gas cremators the costs outlined in this section are likely to increase due to inflation. Given advancements in cremation technology and abatement equipment, since the previous cremators were installed, it is likely that the cremators and abatement equipment could be situated within the existing footprint of the current equipment, however, this would require further investigation both structurally and logistically.

10.2.3 Capital and Operational Costs

175 On average gas cremators cost £550,000 - £600,000, the cost is dependent on package and manufacture. CDS architects have completed an initial review of the existing layout and design of the crematory and have confirmed that it is the most effective use of space based on the area available in the cremator room (without extending the footprint of the building).

¹⁰ [1 \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/91111/Statutory-Guidance-for-Crematoria.pdf)

176 The average cost for the maintenance of a gas cremator is approximately £22,500 per annum, but this is largely dependent on its level of use, the breaking of parts and operational difficulties such as complications with the cremation process.

177 The efficiency of gas cremators is highlighted in the table below, this dataset shows that the more cremations completed per cremator per day the more cost effective the cremation process becomes.

Table 17. Cost per Day and Energy Use for Gas Cremators

Cremations Per Day	Gas Per Cremation (kWh)	Electricity Consumption Per Cremation [inc. rest] (kWh)	Cost per Cremation (to the nearest pound)
1	1359	77	£100.80
2	763	47	£57.72
3	564	38	£43.65
4	483	33	£37.51
5	424	30	£33.24
6	348	28	£28.29

Table 18. Cost / kWh p

Energy Source	Cost in pence per kWh
Gas ¹¹	5.72
Electric	29.96

178 The operational cost for operating 2 gas cremators is broken down below:

- 2 gas cremators completing 957 cremations per annum which is approximately 4 cremations per day, equates to £215.60 per day.

179 The data presented above in Table 18, further proves that the more a single cremator is used within the day to cremate, the less energy is required. This is essentially, due to the fact that less catalyst energy is required, and less heat is lost when the cremator is used more frequently. This in turn would result in a reduce carbon emission for the crematorium.

¹¹ [Quarterly Energy Prices September 2023 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

10.2.4 SWOT Analysis of Natural Gas Cremation

Table 19. SWOT Analysis of Natural Gas Cremators

Strengths	Weaknesses
Existing technology used for cremation; minimal staff training required. The existing lifetime remaining on the current cremators mean that if the cremators were to be replaced with natural gas this could be completed in approximately 2-5 years' time.	High CO ₂ emissions from gas combustion.
Cremation time is somewhat consistent and takes 90 minutes.	High NO _x emissions from gas combustion.
Re-use of energy through each process, in other areas of the building (for heating) as gas cremators are not as efficient as electric cremators.	Maintenance costs for the machines can be costly over time.
Can install on site without the removal of all cremators, can retain some of the existing infrastructure (subject to condition survey) and some cremators during installation, therefore reducing downtime to a minimum.	
Opportunities	Threats
If the technology is compatible, the site may be able to reuse the existing abatement system, which would lower costs. (Subject to condition survey).	Uncertainty regarding the future of global gas supply.
Potential to switch to hydrogen or BIO LPG on the same cremators in the future.	Uncertainty regarding the future of national gas prices.
Low lead time (several months) from purchase to installation.	Threat of future carbon taxes (from national government) on natural gas nationally to promote electrification.

10.3 Electric Cremation

10.3.1 An Outline of the Technology

180 European manufacturers (DFW Europe and IFZW) have developed new types of electric cremation plants (second generation) that remove the requirement for a gas connection and the technology has the potential to decarbonise the cremation industry and reduce nitrogen oxide emissions. Cremation equipment has a longevity of 15-20 years; therefore, it is essential that the council should make an informed decision. Across the UK, there are a handful of crematoria with electric cremators in operation (North Oxfordshire Memorial Park, Huntingdon, Hambleton, and Lambeth).

181 At present maintenance cost for electric cremators has not yet been established, due to the variances in data collated. This variation in data is mainly due to the age of the cremator technology, which is approximately six to seven years old.

182 Research has calculated that electric cremation produces 50-80% less CO₂ emissions than gas, this range is controlled by the energy tariff and number of cremations per day. The electric cremator reduces NO_x emissions by c. 33%, without selective non-catalytic reduction (SNCR). An electric cremator, on a green energy tariff, with SCR installed, would reduce CO₂ emissions by c. 80% and NO_x emissions by >99%. The electric cremators are larger in size compared to the natural gas cremators, the DFW Electric single ended cremator measures 4.285 x 2.48 x 3.3 meters (lwxh). The DFW double-end cremator measures 4.185 x 2.5 x 3.3 meters (lwxh).

183 Additionally, the electric cremators are heavier than gas cremators, for instance the DFW electric cremator weighs 22,000 kg, which is significantly higher than the weight of a gas cremator. The current foundations and structural constraints of the crematorium should be considered before a decision on electric cremator procurement is made.

184 A new generation of electric cremators is emerging, and this new generation of cremators will focus on the size, installation method and performance of the cremator.

185 Table 20 below summarises all the information provided by cremator manufacturers as of January 2024.

10.3.2 Electric Cremators Summary (January 2024)

Table 20. Electric Cremator Manufacturer Summary

<i>All information provided by Cremator Manufacturers (Jan 2024)</i>	DFW Electric Cremator	IFZW Electric Cremator	Crematech Electric Cremator	FT Hybrid Cremator	Alternative UK Based Manufacturer
HQ/ Factory Location	Alkmaar - Netherlands	HQ - Zwickau – Germany	Gorinchem - Netherlands	Leeds - UK	<i>More information on this manufacturer's cremators can be provided once a NDA is signed.</i>
Maintenance Contractor	Subcontracted to Combustion Solutions	IFZW	<i>To be Confirmed</i>	FT	
Capital Cost per Cremator (£) exc VAT [€: £ Jan 2024]	Single End: £778,000 Double End: £806,000	£900,000 - £1,000,000 (Newer Model)	£640,000 - £650,000	£667,500	
Modular Installation	No	Yes	No	Yes	
Average Time Taken for a Single Cremation	110 minutes	90 to 120 (105) minutes	120 minutes	120 minutes	
Weight of Cremator (kg)	21,000	25,000	22,000	Unconfirmed	
Peak Electrical Load	3 x 200A (400V)	3 x 160A (100KW)	3 x 160A	150A	
Dimensions of a Cremator (m²)	Single End is 4285 (L) x 2480 (W) x 3300 (H)	80-110 m ²	10.2m x 7m	Same footprint as FT III and FTG	
Estimated Timescales for Delivery (as of Jan 2024)	9 to 12 months from order	6 months	9 months from order	4 to 5 months	
UK Case Study	Yes	No	No	Unknown	

10.3.3 Green Electricity Tariff

186 When utilising electric cremators, it is possible to employ a green electricity tariff to further reduce the greenhouse gas emissions associated with the production of the electricity. Energy companies have devised a number of workarounds to offer green tariffs:

- 1) The first is by investing in renewable energy projects such as wind turbines and solar farms. By pumping renewable energy into the grid equivalent to that consumed by green customers, suppliers can legitimately claim they are making a tangible, positive impact on the UK's energy mix.
- 2) Signing contracts with renewable energy producers, agreeing to buy the power they produce.
- 3) It does not involve buying or investing directly in energy from renewable sources. Instead, the suppliers purchase certificates in recognition of renewable energy produced somewhere at some point in the UK. It is this strategy which experts are most critical of.

187 Certificates, known as Regos (Renewable Energy Guarantee of Origin), are issued every time a unit of renewable energy is produced. One Rego is worth one megawatt-hour of energy. Producers can sell these certificates to anyone. Suppliers buy them to match the energy consumed by their customers on green tariffs. That way, they can say that while their customers may be using non-green energy, they are supporting renewable energy production. Suppliers with green tariffs backed purely by Regos include Outfox the Market and Utility Warehouse.

10.3.4 Carbon Dioxide Emissions

188 An electric cremator operating on a green energy tariff emits the same amount of CO₂ per cremation regardless of the number of cremations per day. Crematoria sourcing electricity from green energy tariffs would expect an average 80% decrease in CO₂ emissions in comparison to a conventional gas cremator, with CO₂ emissions attributed to the body and coffin only. The assertion of '100% renewable electricity' from green electricity tariffs is contested, however, there are energy companies that do generate renewable energy funded by consumer energy tariffs initiating contracts to kickstart new renewable generation, such as Ecotricity and Good Energy (Which 2019). To ensure that cremators are 100% renewable, the crematoria could install further solar panels or wind turbines that would offset site consumption.

189 Table 21 below is a theoretical demonstration that as the number of cremations completed per cremator a day increases, the rate of CO₂ produced through the cremation process is significantly reduced for electric cremators. By using an electric cremator which operates on a green energy tariff the amount of CO₂ released stays at a constant rate at 26.9kg as this is the amount of CO₂ released when burning an average cadaver and standard chipboard coffin, no additional CO₂ is produced from the burning of the fuel source. The energy used in the kWh Per Hour column above are much lower than those for the gas cremators. But as the machines are always on and kept operational for 24 hours a day, their energy use per day can be multiplied by a factor of 24.

Table 21. DFW Electric Cremator Estimated CO₂ per Cremation

Cremations Per Day (Per cremator)	kWh Per Hour	CO ₂ Per Cremation (Grid Electricity, inc. Body and Coffin)	CO ₂ Per Cremation (Green Electricity Tariff, inc. Body and Coffin)
1	20	137.9kg	26.9kg
2	18	76.9kg	26.9kg
3	15	54.9kg	26.9kg
4	14	45.9kg	26.9kg
5	13	40.9kg	26.9kg
6	12	37.9kg	26.9kg

190 Table 22 below shows the CO₂ released in accordance with the number of cremations per day for a gas cremator. The information below will be utilised to inform the data presented in Table 23.

Table 22. CO₂ Per Cremation for Gas Cremators

Cremations Per Day	CO ₂ /Cremation (Inc. Body and Coffin)
1	294.9kg
2	177.9kg
3	139.9kg
4	122.9kg
5	111.9kg
6	97.9kg

Table 23. CO₂ Emissions of Different Cremator Fuel Sources

	2 Gas Cremators (kg of CO ₂)	2 Electric Cremators (kg of CO ₂) [Grid]	2 Electric Cremators (kg of CO ₂) [Green]
Per Day (4 cremations in total)	711.6 kg of CO ₂	307.6kg of CO ₂	107.6kg of CO ₂
Overall Savings	N/A	528kg of CO ₂	604kg of CO ₂
Per Year (957 cremations)	170,250.3 kg of CO ₂	73,593.3 kg of CO ₂	25,743.3 kg of CO ₂
	1 Gas Cremators (kg of CO ₂)	1 Electric Cremators (kg of CO ₂) [Grid]	1 Electric Cremators (kg of CO ₂) [Green]
Per Day (4 cremations in total)	491.6kg of CO ₂	183.6kg of CO ₂	107.6kg of CO ₂
Overall Savings	N/A	308kg of CO ₂	384kg of CO ₂
Per Year (957 cremations)	117,615.3kg of CO ₂	43,926.3 kg of CO ₂	25,743.3 kg of CO ₂

- 191 CO₂ emissions from a gas cremator are noticeably higher. Table 23 above highlights the variations in kg of CO₂ produced using a variety of fuel sources, the calculations assume that each of the two cremators would be completing 2 cremations per day each which would total 4 cremations. The below figures are theoretical based on extensive information provided by a range of gas and electric cremator providers. In practice these emissions would vary dependant on cremator provider, operational usage, and installation.
- 192 The implementation of electric cremators would theoretically cut CO₂ emissions by 74.2% (528kg) per day, or by 84.9% (604kg) a day if green electricity is used. Over a year, the switch to electric cremators would reduce emissions by 126,324 tonnes or by 144,507 tonnes if green electricity is used.
- 193 CDS have used theoretical energy usage per cremator, as there have been reports to CDS's knowledge that some of the new gas cremators being installed use higher energy usage than their predecessors. Therefore, theoretical figures based on extensive research from gas and electric cremator manufacturers provides a fairer analysis.
- 194 Table 23 above also shows the CO₂ emissions of different cremator fuel sources if the crematorium were to only utilise a singular cremator. The table above highlights that if the crematorium were to opt for the usage of a single cremator this would be more efficient in regard to energy retention, and it would also reduce the CO₂ emission from the crematorium significantly.
- 195 As shown in Table 23 there is a comparison between a single gas cremator and two gas cremators, if Stranton Cemetery and Crematorium were to switch from the use of two gas cremators to one, the amount of CO₂ emitted from a single gas cremator would be reduce by 30.9%.
- 196 If the crematorium were to opt for the installation of a singular electric cremator the CO₂ emissions would be 40.32% less than installing two cremators.
- 197 Please note that two electric cremators were used to better analyse the current CO₂ emissions at the crematorium, as at present Stranton Cemetery and Crematorium has two gas cremators. However, it is the advice of the CDS Group, that one electric cremator, at the crematorium would be a more feasible option, as it would require less intrusive alterations to the existing structure, and a single cremator would be able to sustain the capacity at the crematorium, as evidenced in Appendix A.

10.3.5 Cremator Requirement

- 198 Electric cremators have a longer operating time of 110 minutes on average (based on current generation DFW electric cremators), therefore the likely cremating hours required must be calculated against the existing operational hours. For gas cremations, the typical average time is 90 minutes per cremation. This analysis assumes that 4 cremations are required on an average day and 5 cremations on a winter's day.
- 199 By analysing the two most practical sources of cremation namely electric and gas, the cremator requirement can be analysed to calculate the most efficient configuration of cremators.
- 200 Electric cremation operation differs from gas cremation in the context that they are 'hot inserts', whereby the electric cremator operates consistently, and the body fuels the cremation, therefore the more cremations processed the less overall energy consumption. This must be considered when considering the number of cremators to install.
- 201 Practical cremating hours is the most important consideration as it allows for 15 minutes between each cremation for removal, the raking down of ashes and insertion of the next cremation, which

the theoretical capacity does not account for. The following tables represent the estimated cremation capacity based on the operating time of electric cremators and gas cremators:

Table 24. Cremator Capacity (Annual Average)

Cremators	Maximum Cremations / Day / Cremator	Cremating Hours/ Cremator	Cremating Hours (Practical)
1 Electric	4	7 hr 20 min	8 hr 20 min
2 Electric	2	3 hr 40 min	4 hr 10 min
1 Gas	4	6 hr	7 hr
2 Gas	2	3 hr	3 hr 30 min

Table 25. Cremator Capacity (Winter Average)

Cremators	Maximum Cremations / Day / Cremator	Cremating Hours/ Cremator	Cremating Hours (Practical)
1 Electric	5	9 hr 10 min	10 hr 25min
2 Electric	Cremator A – 3 Cremator B -2	5 hr 30 min	6 hr 15 min
1 Gas	5	7 hr 30 min	8 hr 45 min
2 Gas	Cremator A – 3 Cremator B -2	4hr 30 min	5 hr 15 min

202 Upon review of the analysis above The CDS Group would recommend the installation of one natural gas cremator would be sufficient even in Winter periods, with some extreme days requiring longer operational hours or carry over. One electric cremator in winter periods would require extended operational hours, therefore if one electric cremator is decided upon, the council would need to extend operational hours within the winter. Two electric cremators would provide sufficient capacity for even the winter period; however, they would be more inefficient both in terms of cost and carbon emissions.

203 It is noted that electric cremators do require a larger floor area than gas cremators, therefore if a second electric cremator is required, a building extension may be required to facilitate this.

204 As presented in Table 24 and 25, the cremating practical hours would be longer, in turn leading to longer working days for the crematorium. The following suggestions are stated in regard to tackle this issue:

Option 1 - The crematorium could look into altering their work schedules to shift patterns, having a morning team and an evening team. This would mean that the crematorium would only need to install one cremator, however, they may need to look into expanding their staff. They could also facilitate carry over through the installation of a cold store.

Option 2 - The crematorium could purchase two cremators in order to minimise the impact to the working force.

Option 3 – Review the new generation electric cremators on the market.

Option 4 – Install only one gas cremator, however this may not meet the council's green agenda targets.

10.3.6 Carbon and Cost Savings

- 205 Based on the current number of cremations completed at the crematorium if the cremators were to be replaced to electric cremations, a single electric cremator would suffice (as they are currently averaging 957 cremations per annum, which is equivalent to less than 4 cremations in a single cremator per day).
- 206 The internal layout of the crematorium would potentially restrict the addition of another electric cremator, therefore, if the crematorium was to seek the addition of a secondary cremator it is likely that internal alterations would be required or the addition of an extension to the west (rear) elevation of the crematorium.
- 207 Servicing electric cremator requires the machine to be shutdown. This can take a minimum amount of a week, as with electric cremators heat is stored in the bricks not the air, it takes a while to cool down before an engineer can begin works on the machine.
- 208 Stranton Cemetery and Crematorium has a fairly low number of cremations per annum averaging approximately 957 cadavers per annum. The service period for the electric cremators would shut-down the crematorium for a time, however, it is unlikely to significantly impact business. However, the installation of cold storage would be advisable in order to further solidify this point. This in turn would either require the reconfiguration of the building layout or an extension to the structure.

10.3.7 SWOT Analysis of Electric Cremators

Table 26. SWOT Analysis of Electric Cremation

Strengths	Weaknesses
Electric cremation reduces CO ₂ emissions by c. 50% if on grid electricity and up to 80% if on a green electricity tariff (theoretical reductions)	Electric cremators have a much higher unit cost.
Electric cremation releases 33% less NO _x emissions.	The current generation of electric cremators require more space due to the requirement for the separate filters and fans and abatement system.
Because of the combustion technique, there is a smaller risk of fires due to the operation of the machine.	The length of cremation times is longer for electric approximately 1 hr 50 min to 2 hr 30 mins.
If future legislation is to change where all crematoria must switch away from gas or switch to a greener gas, then Hartlepool would have already overcome this issue by switching to electric.	The lead times for purchasing electric cremators are estimated to be >7 months (Although this is unlikely to be a significant factor for Hartlepool as the existing cremators have some lifespan remaining and wouldn't need to be replaced for several years).
Maintenance costs of electric cremators are considered to be lower, than gas cremators, in the long term due to the reduction in heat fluctuation which reduces stress on the refractory lining of the brickwork.	Electric cremators have less effective heat recovery systems to be used in heating the building or heating other buildings due to the efficiency of the electric cremators in retaining heat.
Opportunities	Threats
There is an opportunity to go onto a green electricity tariff.	A STATS upgrade will likely be required, which may require the digging up of roads, causing disruption. The upgrade may also come at a high financial cost – which is set to be confirmed in Phase 2 of the works.
The council could develop their own solar or wind energy to offset some of the electricity usage of the cremators.	Due to the weight of the electric cremators, the foundations of the building may need to be surveyed to analyse if new foundations would be required.
The future UK gas prices are expected to increase due to the reduced availability of gas in global markets. Gas prices are increasing at a higher rate than electricity.	

10.4 'Do Nothing'

209 It is important to acknowledge that there is a final option for consideration by the local authority, which is 'Doing Nothing'. The 'Do Nothing' option involves the following:

- When the existing cemetery at Stranton reaches its burial capacity and no further new burials can be accommodated on site, this options confirms that no cemetery extension will be developed.
- In the short term this will increase the number of burials at West View Cemetery, which will subsequently mean that the expected operational lifespan of West View is reduced.
- When the cremators reach the end of their operational life (approximately eight years after the proposed maintenance in 26/27), if the local authority decides to not replace their cremators the operational cost of maintaining their cremators will increase as time progresses. In time the cost of repairing the cremators and the sourcing of relevant parts may mean that the cremators become ineffective to operate and thus all cremation operations will cease.

210 With the do-nothing option, the local authority will not only incur the operational cost of maintaining Stranton and West View cemeteries but will also incur the increased operational cost of maintaining and sourcing replacement parts for the cremators. In time, it is likely that the cremators will become ineffective to operate and operations may cease all together.

211 This will eliminate revenue from the bereavement services team and the operational cost of maintaining the cemeteries will continue. This will mean that there will be a net expenditure from the Hartlepool Borough Council on bereavement service operations. As a result, the do-nothing option should not be considered as a credible option for the bereavement services team.

10.5 Summary

212 Following a comprehensive analysis of Stanton Crematorium a number of points are summarised below:

- Stanton Crematorium was established in 1954. The existing structure consist of few alterations from the original structure; however, no significant changes have been made. The internal layout of the building, at present poses a hindrance in the efficient functionality of a modern crematorium (e.g. chapel usage and available space for particularly well attended funerals). It is advised that the internal layout would require alteration; in order to improve the operational and logistical processes at the crematorium (items such as the flow of people and flow of coffins should be considered as part of any architectural re-design).
- The crematorium would require cold storage facilities in the long run, as cadavers cannot be held over at the crematorium currently, meaning that cremations have to be completed on the day of arrival. Without cold storage on a day where cremation numbers are low, the cremators would still need to be started, thereby leading to higher carbon emissions at the crematorium.
- As aforementioned within the report, the crematorium should explore options, such as conversion of internal space, an extension to the structure, a standalone container cold storage facility within the curtilage of the cemetery and crematorium or conversion of the previous café area.
- At present the crematorium is working below its capacity, and this has been analysed over a number of years with the anomaly of 2020, which was mainly due to Covid-19, the cremation number have remained below 1,000 cadavers per annum. The average number of cremations between 2018 – 2023 is 957.

- Having analysed a number of options and catering to the needs of the crematorium, it is advised that council should revert to the use of a single gas cremator or switch to the use of a single electric cremator, in order to lower the carbon emissions at the site.
- If Stranton Cemetery and Crematorium were to switch from the use of two gas cremators to one, the amount of carbon dioxide (CO₂) emitted would be reduced by 30.9%.
- If the crematorium were to opt for the use of an electric cremator, the crematorium would be advised to install either one or two electric cremators. A single electric cremator would be able to support the existing capacity, however, if the crematorium were to install one cremator, they would have to take into account longer operational hours for this generation of electric cremators. This could be accommodated by commencing split shifts with staff to operate the cremators over a longer period.
- HBC should liaise with key local stakeholders to determine the key priorities of these stakeholders (e.g. longer services, time of services, days which services are offered etc.).
- However, if they were to install two the operational hours would remain in a similar region as operating a gas cremator, however, the cost of installing two electric cremators would be higher and the subsequent carbon emissions.
- The implementation of electric cremators would theoretically cut CO₂ emissions by 74.2% (528kg) per day, or by 84.9% (604kg) a day if green electricity is used.

Item G: A review of the existing resources used to support the office functions and proposals for an integrated system.

11 Office Functions and System Integration

11.1 Systems Available at Stranton Cemetery and Crematorium at Present

213 Presently, Stranton Cemetery and Crematorium use a council run system to store all information and files.

214 Booking is completed via telephone with Microsoft calendars used to schedule in cremations and burials. The bookings are colour coded once completed to indicate if cremations, burials and the location of the service Red for Cremation and Cemetery Chapel before burial.

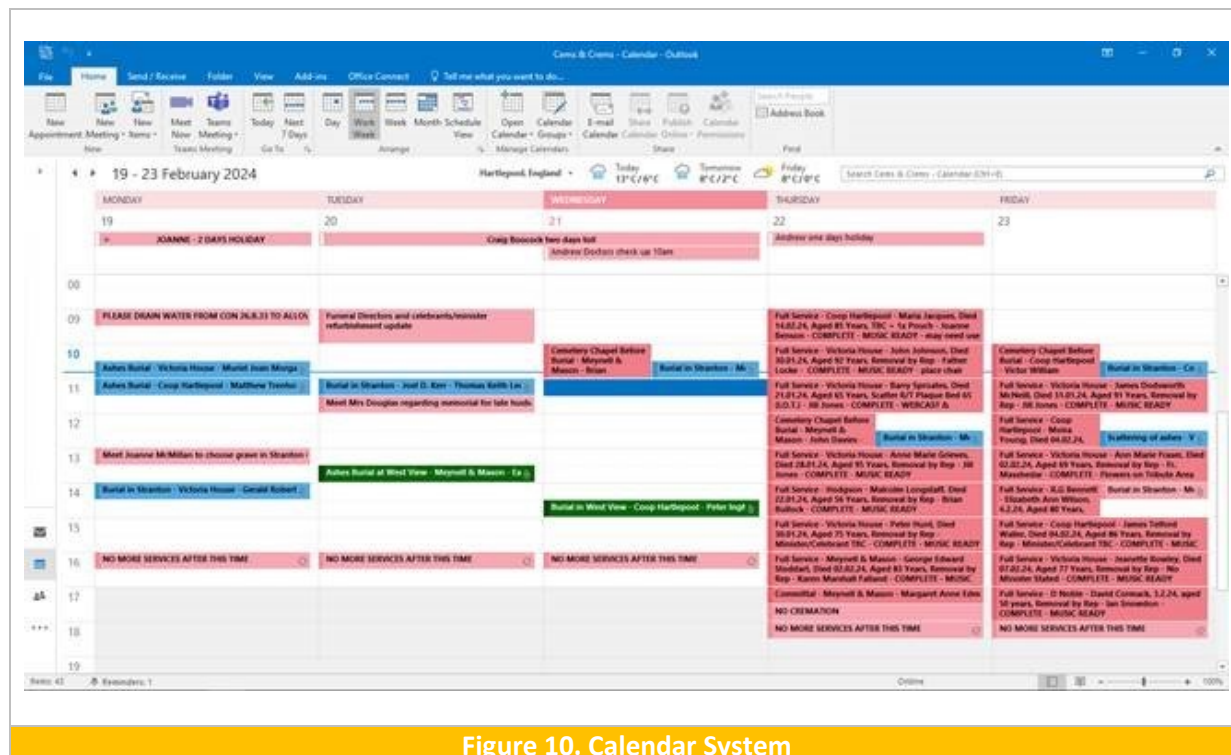


Figure 10. Calendar System

215 The gravedigger/ground maintenance team are equipped with Samsung tablets in order to view the calendar to create a work programme, and the grounds team have access to the Microsoft calendar, however it is set to view only for them.

216 The council has a search engine set up for the bereavement team, where they can search for graves and cremations by name, date and cemetery or cremations. Figure 11 below shows the internal documentation and record search system currently utilised by the cemeteries and crematorium.

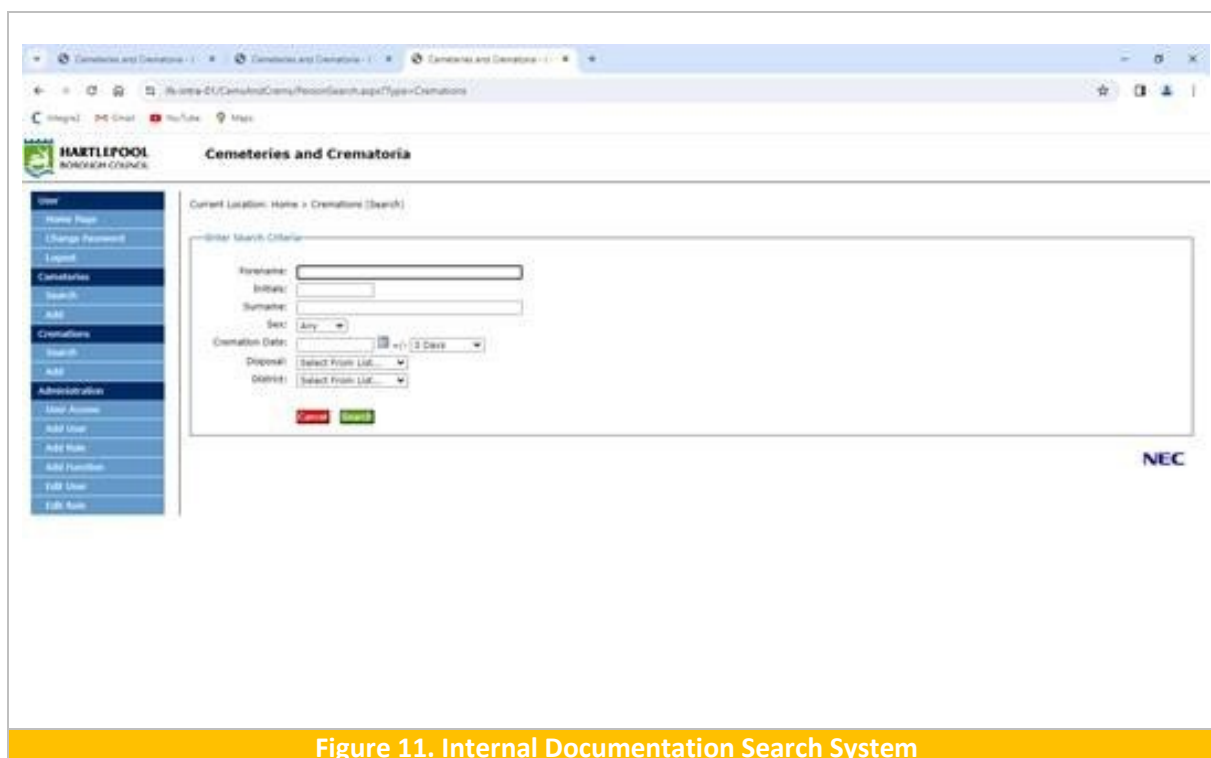


Figure 11. Internal Documentation Search System

217 All paperwork is scanned onto the system manually as a PDF and saved either under grave reference or the cremation number. Electronic files which showcase the cemetery records are saved on HBC's internal file explorer/server.

218 The records that are input on the system are for information pertaining to purchase of burial plots/cremations, burial information, cremation registrars and memorial testing. These are all saved in both excel and word on the council's system and can be searched manually.

219 Current cemetery management software available on the market has been reviewed and functionality compared to the existing systems used in Hartlepool. It is recommended that a dedicate system could be used which covers but is not limited to a plot management/ record keeping system, booking and scheduling of cremations and burials and integrating the financial management of core bereavement services in order to enhance and streamline the current working practices.

220 A breakdown of the various types of cemetery management software can be found as a separate appendices of this report due to the commercial nature of its content.

11.2 Summary

221 A comprehensive review has been undertaken of cemetery and crematorium management software currently available from UK based and international suppliers. This evaluation involved a detailed comparison of available platforms, against the existing systems currently in use by Hartlepool Borough Council. The objective was to identify opportunities to improve the efficiency of the bereavement services teams operations.

222 Based on the findings of this review, it is recommended that the Council consider procuring a dedicated, integrated cemetery and crematorium management system. Such a system would significantly enhance existing functionality. Key features in this software should primarily include plot and grave space online mapping and management, digital record-keeping for burials and

cremations, a centralised booking function for both burials and cremations, and integration with financial and invoicing systems relevant to bereavement services.

223 By implementing a dedicated system, the Council would be well positioned to streamline internal processes, reduce administrative duplication and improve the accessibility of data.

Item H: A review of the operating model of both the crematorium and cemeteries, and a plan outlining staffing requirements to support the future development of the site.

12 Hartlepool Bereavement Services: Current Employment Structure

224 A review of the operating model of both Stranton Cemetery and Crematorium and West View Cemetery has been carried out to consider staffing requirements to support future development of the site.

225 At present both Stranton Cemetery and Crematorium, as well as West View Cemetery are managed by one Bereavement Services Team Leader.

12.1 Stranton Cemetery and Crematorium

226 Stranton Cemetery and Crematorium currently has two bereavement services assistants, whose main duties are office based.

227 There is currently one Crematorium Technician whose main duties are front of house acting as a chapel attendant. The Bereavement Services Team Leader also cover the front of house, as there are no other available staff to cover the front of house.

228 Stranton Cemetery is currently covered by two gravediggers, with some seasonal staff also available. Having analysed the existing staff structure at both Stranton Cemetery and Crematorium and West View Cemetery, it is advised that Hartlepool Council may want to explore either having two separate teams one at West View and the other at Stranton, or a single dedicated team at Stranton Cemetery and Crematorium.

12.2 West View Cemetery

229 The cemetery currently has two members of staff who cover gravedigging and the maintenance of the grounds at West View. They are part of the Neighbourhood Services Team.

12.3 Staffing Requirements

12.3.1 Two Separate Teams

230 The operating model above would require the addition of a new member of staff to the team, as well as making the existing job roles within the team more versatile.

231 If the service were to implement this model there would be a total of eight members of staff at Stranton Cemetery and Crematorium and West View Cemetery would have two dedicated members of staff, with the manager and deputy manager both based at Stranton Cemetery and Crematorium.

232 An additional member of staff would support requirements around chapel attendance, as well as graveside / committal ceremonies.

233 The model would provide more flexibility around posts, creating resilience within the service to cover everyday operations without disruption

234 Regarding graveside/committal ceremonies, as the roles of the members of staff required would mainly pertain to graveside operations it is only feasible for the existing gravediggers/garden technicians to cover this, as well as the deputy administrator. This would allow operations to ensue without causing major disruptions to existing staff model. By having the deputy administrator also cover this, it would essentially cover the team in case members of staff require time off or if any other extenuating circumstances were to present themselves.

12.3.2 Dedicated Team

235 The operating model above would still advise the addition of a new team member and making the existing job roles more versatile. However, it would also advise integrating the team at both Stranton Cemetery and Crematorium and West View Cemetery.

236 By creating an integrated single team, it would ensure, that there would be cover for all the potential tasks to be carried out within the cemeteries and crematorium.

237 The team numbers would not change if the council were to explore the implementation of the staff model above. However, the whole team would be based at Stranton Cemetery and Crematorium.

238 By implementing the model above, the service would be able to cover the roles and responsibilities pertaining to chapel attendants and graveside/committal ceremonies without needing to outsource or hire additional members of staff.

239 In regard to chapel attendants, the model above would account for five members of staff that would be able to cover this role, while ensuring everyday operations at the cemeteries and crematorium operate with disruption. Essentially, the manager, deputy administrator, crematorium technician and neighbourhood team should be able to cover this job role with a proper formalised booking system.

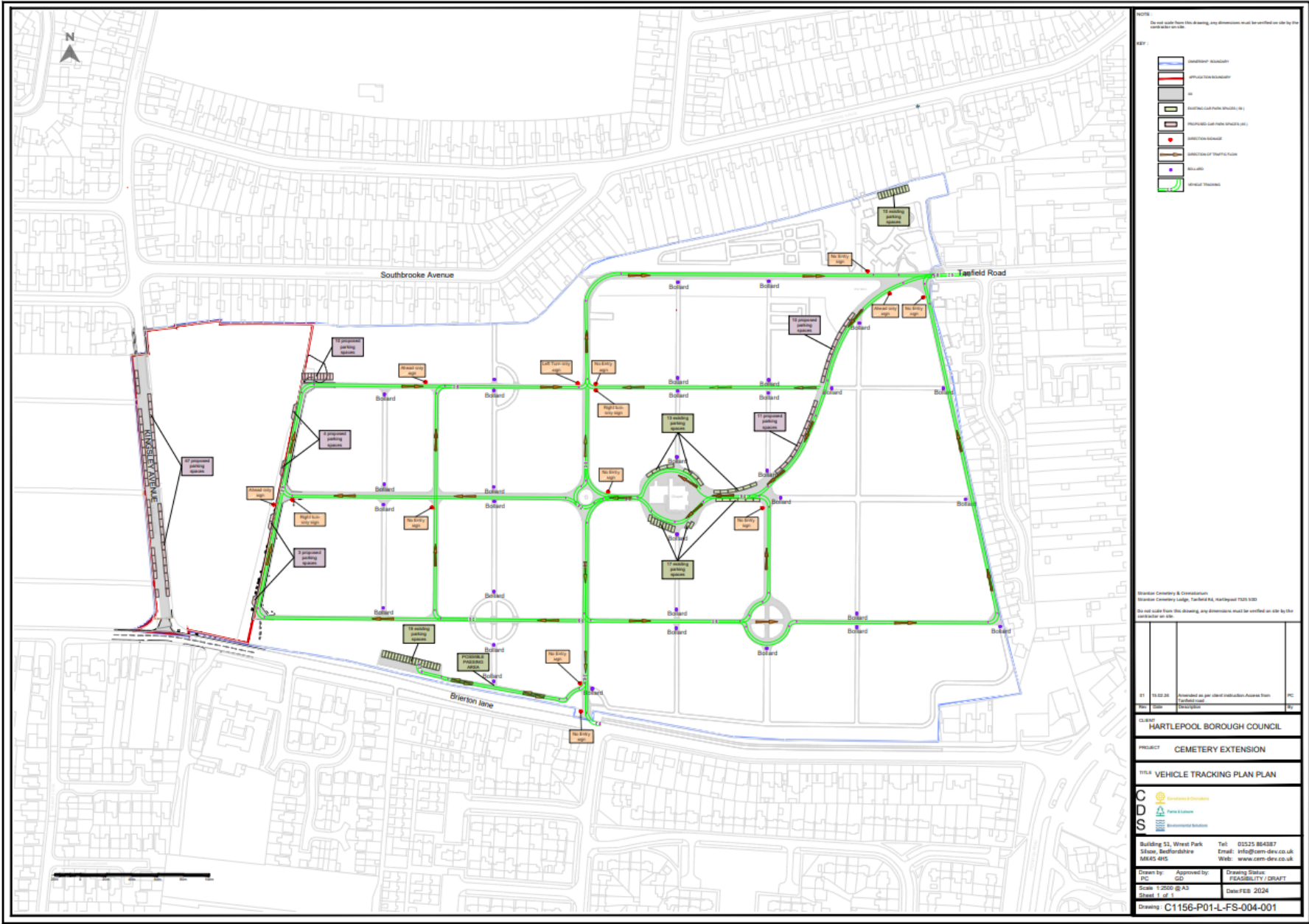
12.4 Conclusion

240 Currently, both sites are managed by one Bereavement Services Team Leader, with Stranton Cemetery and Crematorium having office-based bereavement services assistants, a crematorium technician, and gravediggers, while West View Cemetery is maintained by two Neighbourhood Services Team members.

241 Two staffing models were proposed, including:

1. **Two Separate Teams** – This would require hiring an additional staff member and making roles more versatile. Stranton Cemetery and Crematorium would have eight staff members, and West View Cemetery would have two. This model would provide more flexibility, ensuring coverage for chapel attendance and graveside ceremonies without disruption.
2. **A Dedicated Team** – This would integrate staff across both sites under a single team based at Stranton Cemetery and Crematorium. The team size would remain unchanged, but tasks would be distributed to ensure coverage for all operations, reducing the need for outsourcing. Five staff members would be able to cover chapel attendant duties using a structured booking system.

Item I: A proposal for traffic and transport infrastructure on site including parking.



Item J: Consideration of how the service can reduce its carbon footprint while improving the assets sustainability.

13 Sustainability of Assets and Carbon Emissions Reduction

13.1 Introduction

242 This section of the report reviews how the cemetery and crematorium service can aim to reduce its carbon footprint, with a particular focus on the Stranton Cemetery, while improving the assets sustainability.

243 The existing buildings on the site will be retained, however they have recently undergone restoration works in order to repair the fabric of the structure and improve the internal appearance.

13.2 Hartlepool Borough Council: Relevant Policies and Guidance

244 The Climate Change Response and Net Zero Action Plan was adopted in November 2023, when a motion was passed by the Finance and Policy Committee to adopt the plan.

245 The main aims and objectives of the Net Zero Strategy and Action Plan are summarised below:

- **Reduction of local authority CO2 emissions:** Reduce energy demand and improve energy efficiency, increase sustainable energy capacity, reduce fleet emissions and work with people to inspire change.
- **Resource maximisation and waste reduction:** Sustainable purchasing and procurement of goods and services and improve waste management to maximise use of existing resources.
- **The natural environment:** Maintain good local air quality, protect existing natural habitats, and expand and connect natural habitats and increase tree cover.
- **Climate resilience and adaptation:** Adapt the built and natural environment to current and future climate change impacts, review progress on net zero and work towards sustainable development.
- **Domestic energy and sustainable warmth:** Improve domestic energy efficiency to reduce energy demand and support shifts towards sustainable energy in the domestic sector¹².

13.3 Energy Statement

246 Hartlepool Borough Council seeks to reduce the impact on natural resources and reduce carbon dioxide emissions by implementing the principles of sustainable design and construction to meet the national standards for building and infrastructure performance.

247 In order to reduce the reliance on unsustainable energy sources and reduce the demand on the energy infrastructure. The CDS Group has been tasked with exploring methods the Cemeteries and Crematorium can implement in order to improve their assets sustainability while reducing the carbon footprint.

248 This section of the report will cover construction methods to reduce carbon, policies the council could implement to reduce on site carbon emissions, waste disposal methods and crematorium linked emissions savings, while aiming to maintain alignment with the Council's objectives.

¹² [HBC Net Zero Strategy and Action Plan.pdf](#)

13.3.1 Construction Methods to Reduce Carbon

249 The cremation process produces residual heat that is wasted following the cremation process. If the crematorium were to recover this heat it could be used provide comfort to the building occupants. The heat could be recovered by a Plate Heat Exchanger. The council should also ensure that high-performance insulation, as well as good ventilation methods are integrated throughout the structure, to ensure energy efficiency.

250 The council could potentially look at adding roof-integrated PV generation plant to reduce demand on the electricity network.

251 In regard to cemetery developments, the council should explore the use of locally sourced materials in regard to hardstanding and potential infrastructure within the proposed site area, such as headstones, plaques, etc. By sourcing materials locally, the council would in turn be reducing transport related emissions.

252 If Hartlepool Borough Council were to explore implementing these construction methods and adopting a holistic approach to sustainability, this would significantly reduce carbon emissions produced during the construction period and contribute to mitigating climate change while creating healthier and more environmentally friendly built environments, in compliance with Hartlepool Borough Council's Policies, as well as national requirements.

13.3.2 Policies the Council could implement to reduce on site carbon

253 Hartlepool Borough Council is actively working towards implementing their Climate Change Response and Net Zero Action Plan, which sets clear objectives for reducing the borough council's carbon emissions. This agenda to reduce the borough's carbon emissions is also reflected within the local plan ensuring new development adheres to the council's objectives.

254 Hartlepool Borough Council Bereavement Services are looking to follow suit and implement improvements and potentially policies to reduce the carbon emissions produced by the bereavement sector. Key policies the sector could implement are summarised as follows:

- Stranton Cemetery and the crematorium building is currently in the process of having renovations to the chapel and crematorium building. The council should establish policies that mandate or encourage developers to pursue green building certifications, such as BREEAM (Building Research Establishment Environmental Assessment Method) or LEED (Leadership in Energy and Environmental Design). Ensuring that buildings meet rigorous sustainability criteria, concurrently prioritising carbon emission reduction.
- Implementation of procurement policies that emphasise the use of low carbon building materials, sustainably sourced materials, and low carbon concrete, in council funded projects, in order to reduce embodied carbon in building materials.
- Headstones are locally sourced (e.g. local UK based granite).
- In regard to coffins used, the council could look to implement a guideline promoting the use of sustainable coffins.

13.3.3 Medium Term (5 -10 years)

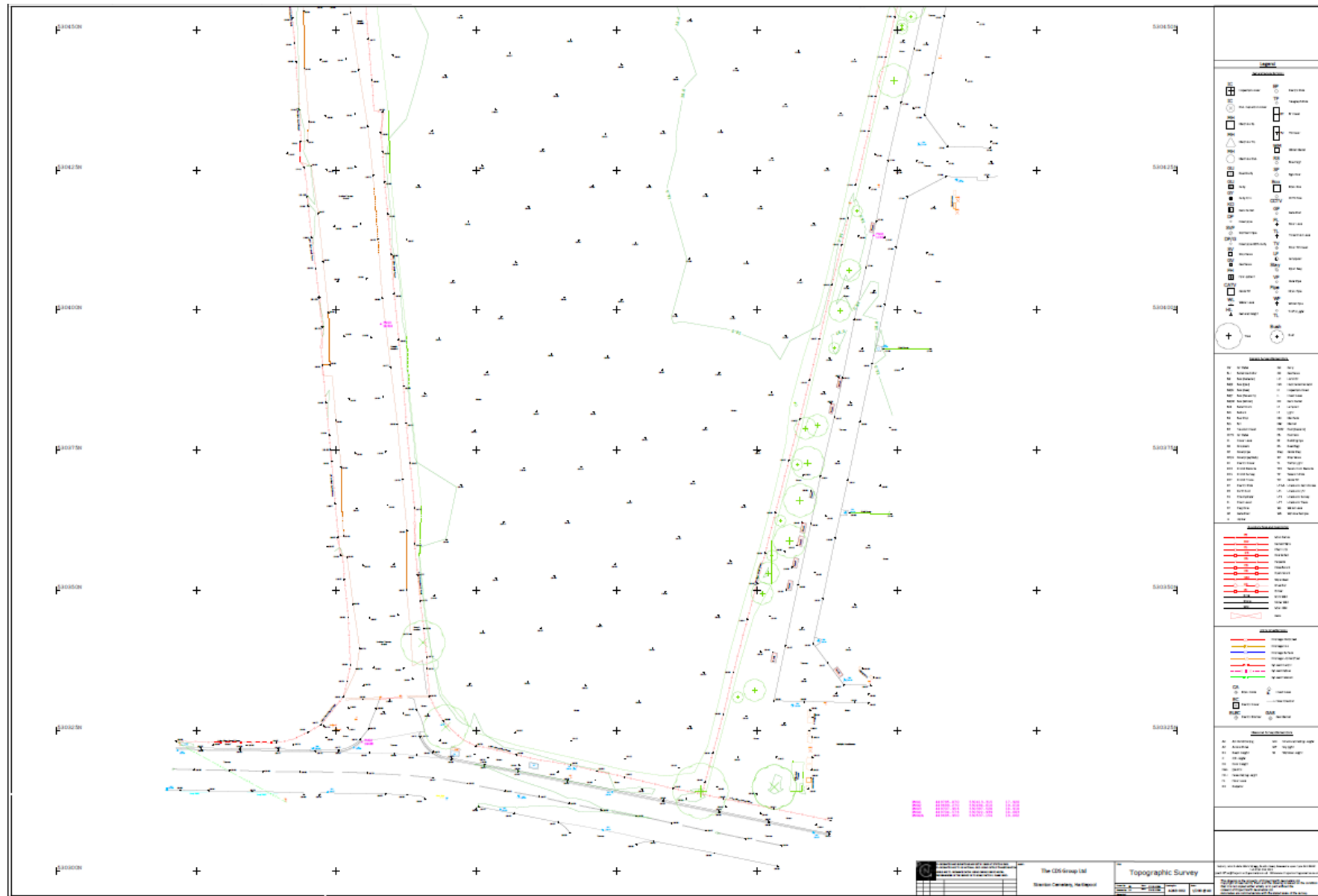
255 The council is looking to extend the burial capacity at Stranton Cemetery and Crematorium, as well as extend the longevity of existing assets at the cemetery, in a sustainable manner that reduces the carbon emissions.

- 256 The cemetery and crematorium is deemed to be a community assets, therefore, it is advised that in order to ensure engagement and compliance with sustainable changes at the site, community engagement is essential.
- 257 The cemetery and crematorium sites should explore the implementation of policies relating to headstones brought on site, as well as the use of sustainable coffins. By locally sourcing headstones, the council would be encouraging the growth of the domestic economy, while concurrently tackling issues associated with imported granite, such as, transport emissions, environmental impacts of quarrying, social responsibility, ethical sourcing, quality control, cultural heritage impacts and economic considerations.
- 258 The council should actively endeavour to reduce paper usage, this could be done by switching to electronic devices when working remotely. Further to this other measures should be introduced such as waste segregation to ensure where possible materials are recycled.
- 259 To ensure efficient use of water, the council is advised to explore the usage of greywater or water harvesting methods to use on the ground maintenance of the cemeteries, the use of low flushing toilets, self-closing taps and flow restricting valves.
- 260 Suitable training and education should be provided for staff and the cremators should be regularly maintained, in order to ensure efficiency and emission standard compliance.

13.3.4 Long Term (10+ years)

- 261 If the council were to opt to retain the use of gas cremators, it is advised that the council should explore the use of alternative fuels, such as natural gas, biogas or renewable fuel from either biomass or waste sources. This would lower carbon intensity and reduce emissions in comparison to the use of fossil fuels.
- 262 It is advised that monitoring procedures are implemented to ensure compliance with waste management regulations and provide information in regard to waste management practices, such as waste generation, recycling rates, and efforts to minimise environmental impacts.

Additional Document:
Topographical Survey



Appendix

Appendix A

Huntingdon Cemetery and Crematorium

The site is located off Kings Ripton Road approximately 1km to the northeast of Huntingdon. Huntingdon Cemetery and Crematorium is accessible via Sapley Road to the east of the site. The cemetery and crematorium falls within the Parishes of Huntingdon, Wyton-On-The-Hill, and Kings Ripton.



Figure 12. Huntingdon Cemetery and Crematorium Location Plan

Project Delivery:

Planning permission for the cemetery and crematorium was granted on the 8th of February 2019. The project as a whole began in 2017 and was completed in 2021, therefore, it took four years for the scheme to be completed. The scheme had a budget of £10 million. The CDS Group were commissioned to undertake the development of the cemetery and crematorium for all RIBA Stages 0-7, providing the following services: Planning, Design, Project Management, Principal Designing, Quantity Surveying and Contract Administration.



Service Impacts of Decarbonisation:

As aforementioned the cemetery and crematorium was only completed in 2021, therefore, all equipment and machinery within the facility was new at the time of construction. The cemetery and crematorium completes 5 to 6 cremations per day across 2 cremators. Using the assumption that, the crematorium is open 252 working day per year, the crematorium performs approximately 1500 cremations per annum. Across, the two cremators it is assumed that each cremator completes approx. 750 cremations per annum.

In comparison to Memoria North Oxford Crematorium and Cemetery, Huntingdon Cemetery and Crematorium, completes fewer cremations per annum, therefore, the cremators require less maintenance, and the machinery does not have as many issues in regard to overheating of the bricks, due to overuse, as the cremations are divided between the two cremators. The cremators sit side by side; however, their electrical main frames are not connected to each other, therefore maintenance works can be carried out on one machine without having to shut down the other. It is important to note that although this is possible, electric cremators store residual heat more effectively than gas cremators, therefore, given the placement of the cremators next to each, there is heat transference between the two, therefore, caution needs to be exercised or both machines may need to be shut off. As aforementioned by the operations director at Memoria North Oxford Crematorium and Cemetery, if the cremator completes 500-600 cremations within a four-month period, it will require servicing. As Huntingdon completes fewer cremations per annum in comparison to Memoria North across the two cremators it is not as regularly serviced.

Although, Huntingdon Cemetery and Crematorium completes less cremations over the two cremators in comparison to Memoria North Oxford Crematorium and Cemetery, certain extenuating circumstances can cause an increase in the cremation times such as, cancerous tumours/bariatric coffins, etc.

The cemetery and crematorium, has two cremators unlike a number of electric crematoriums across England. Due to this, they have the flexibility of leaving some of these cremations last in the day and potentially leaving the cremators on overnight, to avoid any impacts on the staff during the rest of the working day.

Maple Park Hambleton Crematorium

The site is situated generally central to the District of Hambleton. The crematorium is accessible directly from the A61 road, 5km west of Thirsk and 5km west of Thirsk and 5.3km east of the A1 and 7.5km northwest of the A168 dual carriageway.



Figure 14. Hambleton Crematorium Location Plan

Service Impacts of Decarbonisation:

Hambleton Crematorium performs 4 ceremonies per working day, approximately 252 days of the year. It is estimated that the crematorium, cremates approx. 1000 cadavers per annum and approx. 333 cremations every four months. Therefore, the electric cremator, does not have as much build-up of pressure inside the cremator, as with Memoria North Oxford Crematorium and Cemetery, therefore, it requires less maintenance.

Servicing the electric cremator requires the machine to be shutdown. This can take a minimum amount of a week, as with electric cremators heat is stored in the bricks not the air, it takes a while to cool down before an engineer can begin works on the machine. The crematorium has a fairly low number of cremations per annum, therefore, although, the service period would shut-down the crematorium for a time, it is unlikely to significantly impact business.

The crematorium build was completed 2020, and as this was new project, all equipment and facilities were installed at the time.

Similar to all electric cremators, extenuating circumstances can cause cremations to last longer. However, as the crematorium completes a significantly low number of cremations in comparison to the other crematoria case studies within this report, it is likely that, the strain to staff is significantly lower and the crematoria, has no need to hire out of hours staff. The machines could be left on during out of hours, to avoid any impact on the staff during the day.

Reporting Details

Report Author: Rebekah Chishaya Assistant Planner

Report Verification: Adam Muspratt Ba (Hons) Assistant Planner

Final sign-off: Ben Copeland BSc (Hons) Senior Planning Project Manager

Version Number: v1.8

Date of Version: July 2025

Guidance for completing this form is available in the “Single Impact Assessment: Toolkit for Officers”, available from the Single Impact Assessment page on the intranet at <https://hbcintranet/Pages/Single-Impact-Assessments.aspx>.

Section 1 – Details of the proposed action being considered

1.1 Lead Department:	Adult and Community Based Services
1.2 Lead Division:	Preventative and Community Based Services
1.3 Title of the proposed action:	
Master plan for Stranton Cemetery and changing working practices comprising, • Introduction of a recycling metal scheme at Stranton crematorium, and • Reclaiming the cost of services provided in association with funerals for those under 18.	
1.4 Brief description of the proposed action:	
A master plan has been developed proposing how Stranton Cemetery can be extended to provide additional burial space to extend the life-time of the site. Other site arrangements have also been considered such as above ground ashes burials, re-routing traffic to separate vehicles and pedestrians on the site and changes that can be made to reduce the services impact on the environment. Working practices have also been reviewed as part of this project including the current booking systems used by the service and staffing resources, although it is acknowledged that further work is required on these matters.	

Hartlepool Borough Council – Single Impact Assessment Form

6.1 APPENDIX 2

1.5 Who else is involved:

Neighbourhood Services (Grounds Maintenance) provide workforce support to the service.

1.6 Who will make the final decision about the proposed action:

Adult & Community Based Services Committee

1.7 Which wards will be affected by the proposed action? Tick all that apply

All wards	☒	Hart	☐	Seaton	☐
Burn Valley	☐	Headland & Harbour	☐	Throston	☐
De Bruce	☐	Manor House	☐	Victoria	☐
Fens & Greatham	☐	Rossmere	☐	N/A - Internal council activities	☐
Foggy Furze	☐	Rural West	☐		

1.8 Completed By:

Name	Job Title	Date Completed
Sarah Scarr	Head of Service (Heritage & Open Spaces)	15/08/25

1.9 Version	Author	Summary of Changes	Date

Section 2 – Explaining the impact of the proposed action

2.1 What data and evidence has informed this impact assessment?

A desk-based assessment a of information relating to the existing site, in person visits and benchmarking against comparable sites in the region has taken place to inform the proposed arrangements for the extension of the site and future developments.

Industry best practice and case studies have been used to inform proposed changes in working practices.

2.2 If there are gaps in evidence or not enough information to assess the impact, how have you addressed this or how will you address it?

Gap(s) Identified	How it / they have or will be addressed
It is acknowledged that further work is required on, - Choice of future cremators, - Changing to an integrated software system, and - Changes to operating processes.	These are long term decisions and as the need to make these draws closer further work will be carried out to, - understand the most up to date technology available to inform any choice of new cremators, - run a detailed procurement process with support from ICT prior to changing any software, and

	consult with the workforce to look for opportunities in operating processes
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2.3 Risk Score

Impact	Negative Impact Score	Explanation – what is the impact?
Age		
☐ Positive Impact ☐ Negative Impact ☒ No Impact	Likelihood score: Impact score: Overall score:	
Disability		
☐ Positive Impact ☒ Negative Impact ☐ No Impact	Likelihood score: Possible 2 Impact score: Negligible 1 Overall score: Green 2	The current arrangement at Stranton Cemetery where vehicles and pedestrians share all routes within the cemetery has resulted in potential hazards for pedestrians as traffic moves at speed within the site and damage to graves as cars park on grassed areas close to burial plots. The introduction of a one-way system and closing off some routes to cars, will mean reduced vehicle access across the site. This may impact on those with reduced mobility being able to access graves as they will no longer be able to draw up alongside them, however the proposed design has limited the areas which are pedestrian only and provided parking places which mitigates to ensure that the distance required to walk is as short as possible. Research from cemeteries elsewhere in the region indicates that this arrangement with dedicated car routes and pedestrian spaces is common practice elsewhere.
Gender Reassignment		

Hartlepool Borough Council – Single Impact Assessment Form

6.1 APPENDIX 2

Impact	Negative Impact Score	Explanation – what is the impact?
☐ Positive Impact ☐ Negative Impact ☒ No Impact	Likelihood score: Impact score: Overall score:	
Marriage and Civil Partnership		
☐ Positive Impact ☐ Negative Impact ☒ No Impact	Likelihood score: Impact score: Overall score:	
Pregnancy and Maternity		
☐ Positive Impact ☐ Negative Impact ☒ No Impact	Likelihood score: Impact score: Overall score:	
Race (Ethnicity)		
☐ Positive Impact ☐ Negative Impact ☒ No Impact	Likelihood score: Impact score: Overall score:	
Religion or Belief		

Hartlepool Borough Council – Single Impact Assessment Form

6.1 APPENDIX 2

☒ Positive ☐ Negative Impact ☐ No Impact	Likelihood score: Impact score: Overall score:	The proposed master plan provides an outline for how Stranton Cemetery could be extended. This will provide a continued supply of burial land which will ensure that there is sufficient space for burials within the site, catering for the needs of residents of different religious beliefs.
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Sex

☐ Positive Impact ☐ Negative Impact ☒ No Impact	Likelihood score: Impact score: Overall score:	
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Impact	Negative Impact Score	Explanation – what is the impact?
Sexual Orientation		
☐ Positive Impact ☐ Negative Impact ☒ No Impact	Likelihood score: Impact score: Overall score:	
Care Leavers (Local)		
☐ Positive Impact ☐ Negative Impact ☒ No Impact	Likelihood score: Impact score: Overall score:	
Armed Forces (Local)		
☐ Positive Impact	Likelihood score: Impact score: Overall score:	

☐ Negative Impact ☒ No Impact		
Poverty and Disadvantage (Local)		
☐ Positive Impact ☐ Negative Impact ☒ No Impact	Likelihood score: Impact score: Overall score:	

Section 3 - Mitigation Action Plan or Justification

Group(s) impacted	Proposed mitigation	How this mitigation will make a difference	By when	Responsible Officer

Justification If you need to justify your proposed action explain this here The current traffic arrangements in Stranton Cemetery have been highlighted as a Health and Safety concern as vehicles and pedestrians are not separated. Traffic sometimes travels at speed which is a danger to pedestrians and cars parking close to grave sides causes damage to these areas and distress to individuals who's loved ones are buried close by. The proposed introduction of a one-way system, with some routes limited to traffic, will mitigate against the issues that have been seen on site, providing for a safer spaces for uses of the cemetery. The minimum required no car access areas would be introduced to reduce the impact on those with mobility issues.
--

Section 4 - Sign Off

Responsible Officer sign off:	
Name	Sarah Scarr
Job title	Head of Service (Heritage & Open Spaces)
Assistant Director / Director sign off:	
Name	Gemma Ptak
Job title	Assistant Director, Preventive and Community Based Services

Once the Single Impact Assessment is completed please send to impactassessments@hartlepool.gov.uk.

Section 5 - Review (To be completed after implementation)

5.1 Review completed by:		
Name	Job Title	Date review completed

5.2 Did the impact turned out as expected?

5.3 Were the proposed mitigations the correct ones and were they successful in reducing any negative impacts?

5.4 Were there any unexpected outcomes?

5.5 Following the review please identify next steps here (Select one)

- ☐ Additional mitigation required (give details below - 5.6)
- ☐ Original proposed course of action needs to be revisited
- ☐ No further action required

5.6 Additional mitigation(s) or justification

Group(s) impacted	Proposed mitigation	How this mitigation will make a difference	By when	Responsible Officer

Justification If you need to justify your proposed action explain this here

Submit form with completed review to impactassessments@hartlepool.gov.uk