



National Treatment Centre Grampian

Proposed Site Option National Treatment Centre Grampian

Briefing for the NHS Grampian Board Meeting 6 October 2022

Author:

Paul Bachoo, Executive Lead, and Portfolio Executive Lead

Gary Mortimer, Senior Responsible Officer

Cathy Young, Head of Transformation

Update on Identification of Preferred Site Option

1.0 Introduction

The National Treatment Centre – Grampian (NTC-G) project team presented to the NHS Grampian Board 07/07/2022 the current position of the NTC-G. On the basis of the update the NHSG Board were able to:

Endorse the Final Report – Clinical led scope review.

Support:

The position to exclude the Reference Site from further consideration as a viable option for the NTC-G.

Further evaluation of site zones as an alternative to the reference site previously approved by the Board.

Work to evaluate two new build options: one within the Foresterhill Zone; and one at a location to be agreed. The preferred option would then progress to Business Case (BC).

Expenditure capped at £4.5m (conditional upon agreement to the allocation of funding by the Scottish Government) on design fees and other enabling expenditure necessary to progress the preferred option to Business Case (BC).

Agreed to delegate authority to the Board Chair and Chief Executive to appoint and enter into a contract with a Principal Supply Chain Partner under the Frameworks Scotland Construction Contract Arrangements and to progress all of the design and pre-construction work necessary to complete the Business Case (within the agreed cap on funding of £4.5m).

The Project Team now present the recommendation that the NTC-G be constructed on the preferred site referred to as the “Estates Site” on the Foresterhill Health Campus. This paper includes the detail of the work we have done since 7 July 2022 on which we base our recommendation to the NHS-G Board. Although, work is on-going reference to the financial position and timeline for next steps are included.

2.0 Process

The NTC Project Board constituted a “Site Cell” to consider all possible site options and based on agreed criteria and risk assessment, generate a final list of 3 sites.

Key criteria:

- Geographical: Aberdeen City, Western Peripheral Route - commuting suburbs and Elgin.
- Size:
 - Suitable for a two storey new build of 8,000m².
 - Has future expansion space.
 - Has space for car parking.
 - 4-7 acres.
- Access:
 - Good transport linkage.
- Takes into account inequalities.

The final three selected sites were further evaluated in three specific stages:

Stage 1: A detailed option appraisal process by a wide ranging stakeholder group. Analysis of the data from this process produced an overall weighted score for each of the Three Options and therefore the final Option rankings.

Stage 2: Non quantifiable risk ranking (including technical feasibility).

Stage 3: A Cost/Benefit ranking.

It is from this process a preferred option is being recommended to the NHS-G Board today. Each stage of the process is described in detail below and summarised in a flow chart in Annex A – NTC-G: Process for Proposed Site Identification.

2.1 Identification of long list and shortlisting of it

The governance and process undertaken by the group in evaluating potential sites and recommending those for further detailed option appraisal, can be reviewed in Annex B – NTC-Grampian Additional Site Search.

Shepherd Commercials were commissioned by Property & Asset Development to carry out a site search of available sites meeting NHS G requirements, as outlined above in Section 2.0. A copy of their search findings in report format is included in Annex B – NTC-Grampian Additional Site Search: Appendix A - Site Search on Behalf of NHS. In addition to this the NTC-G Site Cell decided to add the Foresterhill Campus, Raeden, and Greenferns which is under Aberdeen City Council ownership zoned for health use. The Foresterhill Campus sites for consideration were in line with the strategic direction for the whole site. This led to 32 sites (including the reference design that was included for benchmarking) being considered on the long list included in Annex C and shown on a map in figure 1 below. Please note the map does not include the site located at the east side of Elgin.



Figure 1: Map of Sites (NB excludes site in east side of Elgin that was also included)

Each site was scored against a pre-determined set of weighted criteria. Initial scoring was undertaken by individuals in the NTC-G Site Cell before consensus of the group was reached. Any site failing to meet one or more objective criteria would be discounted, irrespective of its total score. The scoring detail is included in Annex B – NTC-Grampian Additional Site Search: Appendix B Scoring Data.

The site options were considered in relation to deprivation. Figure 2 below shows the areas of 20% most deprived areas in Grampian with lighter grey and red showing the most deprived.

Index of Multiple Deprivation – 20% most deprived



Figure 2 – Index of Multiple Deprivation Across Grampian

Figure 2 above shows there are areas of deprivation throughout Grampian but more so in larger towns, with what appears to be a correlation between size of settlement and the amount of deprivation. Therefore the Project Team did not identify a preferred site to address inequalities in access to services.

On conclusion of the scoring process the highest scoring sites were:

- Estates Site.
- Raeden.
- Gateway Drive, Aberdeen Airport (adjacent to TECA).

2.2 Shortlist to preferred option

The option appraisal process considers the costs, benefits and risks of a short-list of implementation options illustrating how NHS Grampian (NHSG) has selected the implementation solution to be taken forward to the next stages of planning.

2.2.1 Benefit Appraisal

AA Projects, Healthcare Sector, have been supporting NHS Grampian in an Options Appraisal process to determine the preferred site for the National Treatment Centre, Grampian. Benefits for the project were developed and aligned to the priorities of key stakeholder objectives and Options for appraisal were subjected to a SWOT analysis against these benefits. Two workshops have been conducted, an initial benefit weighting workshop was held on the 24th February 2022 and a subsequent Options scoring workshop was held on the 7th September 2022, where three standalone new build Options were assessed revealing an indicative preferred way forward. The outputs of these workshops have been tested for sensitivity against a range of criteria in order to establish whether the process, findings and prioritised ranks of Options are robust and free from material error. Following the successful delivery of these workshops, the collation of results and the sensitivity analysis, an indicative Preferred Option as well as a viable alternative Option have been identified for the National Treatment Centre which can now be tested for economic and financial viability. The scoring is shown below in Table 1.

Workshop Results			
	Option 9 Raeden	Option 10 Gateway	Option 11 Estates
Weighted	3.21	3.44	3.41
Rank	3	1	2

Table 1: Beach Ballroom Workshop Results

The full report is included in Annex D – National Treatment Centre Grampian: Options Appraisal Report – Process, Findings and Sensitivity Analysis. The conclusion was that both

the Gateway Drive, Aberdeen Airport (adjacent to TECA) and Estates Site should be taken forward for further review as described above.

2.2.2 Risk Appraisal

The majority of risks associated with the short-listed options have been measured and quantified in costs used for the economic appraisal. Not all risks can be quantified in monetary terms and an exercise to appraise the non-financial risks was undertaken by the group who had developed the short list of options. Table 2, below, shows the non-quantifiable risk ranking.

	Gateway Site	Estates Site	Raeden Site
Non Quantifiable Risk Score (Including Technical Feasibility)	99	85	113
Non Quantifiable Risk Ranking	2	1	3

Table 2: Non-Quantifiable Risk Ranking

2.2.3 Economic Appraisal

The economic appraisal considers the relative value for money of the chosen option in delivering the required outcomes and services. Whole life cost of the preferred solution are considered inclusive of initial investment and operating costs. Table 3 below sets this out for the three preferred sites.

	Gateway Site	Estates Site	Raeden Site
Whole Life Cost (WLC) - 60 Years (£ms)	322	301	304
WLC Per Benefit (£ms)	93.7	88.3	94.8
Cost/Benefit Ranking	2	1	3

Table 3: Whole Life Costs and Cost Benefit Ratio

The costs that have informed this appraisal are shown in Table 4 below, the variances relate to land acquisition costs, site conditions and parking arrangements:

	Gateway Site	Estates Site	Raeden Site
Total Investment (£ms)	116.43	111.80	107.16
Annual Revenue Costs (£ms)	14.86	13.56	13.97

Table 4: Costs for each Site

2.2.4 Confirming the Proposed Option

Following consideration of Benefit ranking from the Stakeholder Event, Non-Quantifiable Risk Ranking including technical feasibility, and Cost / Benefit ranking, the “Estates Site” came out as the preferred site overall.

The site is shown in Figure 3 below, highlighted in red.



Figure 3: Location of Estates Offices

As shown in the map below the site is located at the East end of the campus and covers 4.1 acres. This is towards the bottom end of site size requirement, however there is additional space on the East End campus that may be suitable for additional expansion in the future. There are changing levels across the site, but this is unlikely to significantly compromise design options. A two storey build can be accommodated with high-level drawings of how the site could be used for the building and carpark shown in Figure 4a and 4b below.

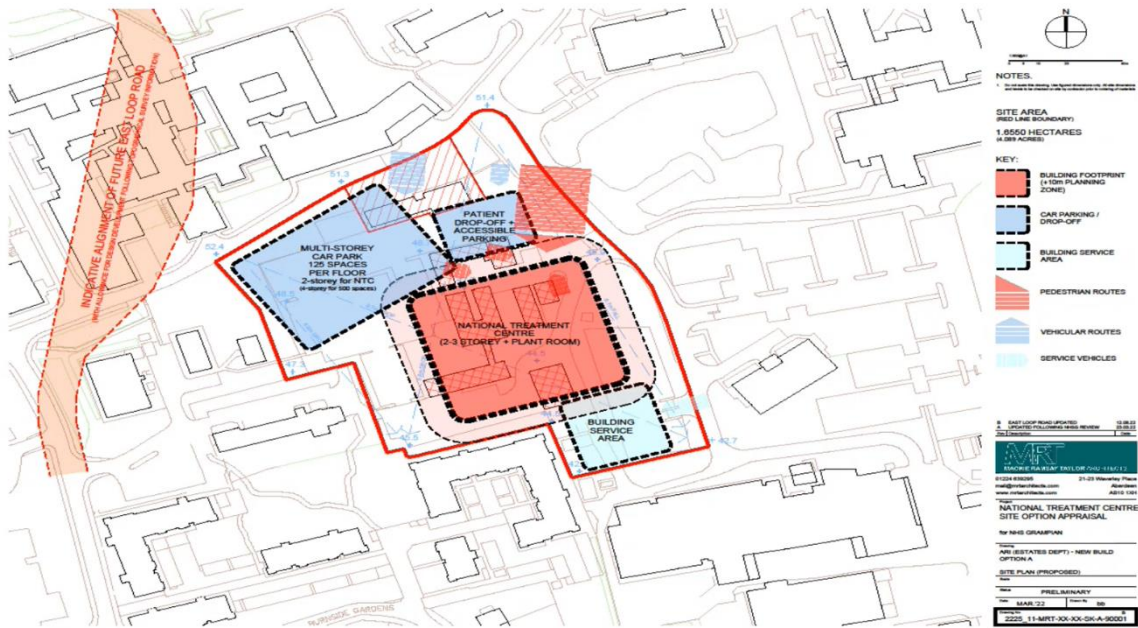


Figure 4a: High-level Drawing of Site Use Option 1

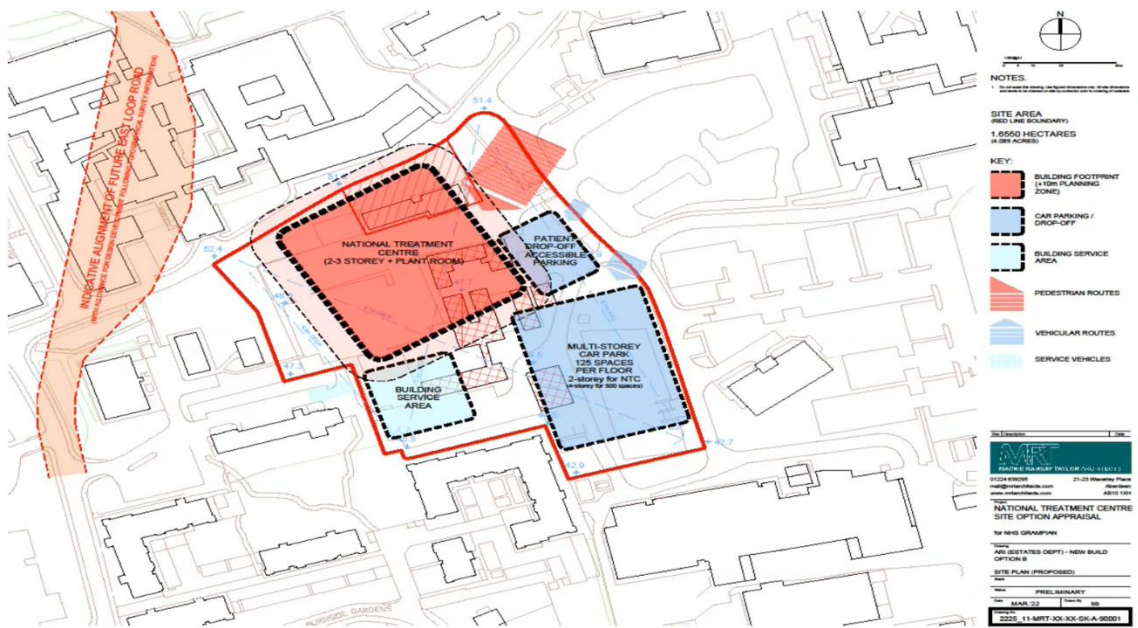


Figure 4b: High-level Drawing of Site Use Option 2

Some of the benefits of this site are that:

- It is already in NHS Grampian ownership.
- Little or no additional support accommodation such as staff welfare and catering are required as it is on the main Foresterhill Campus.
- Proximity to ARI for additional clinical support in emergencies.
- Access to existing ARI infrastructure (e.g. Medical Gas Plant).
- There are good transport links to the Foresterhill Site Campus in general with nearest being on Cornhill Road.

- Hotel accommodation is available nearby.

Enabling works are required as the “Estates Offices Site” is the current location of the Estates Offices, Grampian Hospital Radio and Graham Construction/Baird and Anchor Offices. There is a high degree of confidence that suitable alternative accommodation can be offered to these services, with work already underway to move the Estates Offices out of this location. The Graham Construction/Baird and Anchor Offices have been under-utilised since the pandemic therefore their requirements have changed. There are options available for the Grampian Hospital Radio. These enabling moves could take place in tandem with seeking planning consent, therefore, would not cause any delay to the project.

High level sketches are shown above in Figures 4 a, and 4 b as to how the site could be used for a building that supports the NTC-G needs.

3.0 Finance Update

Since the last NTC-G Project Update to the NHS Grampian Board (July 2022) the Project Team have continued to have regular dialogue with the Scottish Government in relation to the projected funding requirement to deliver the project.

Both the requirements for capital investment to support construction and the estimated ongoing running costs of the facility once operational have been refined further in response to each of the options. Projected capital costs are estimated in the region of £120m - £130m although there is some risk to these estimated costs from the continued volatility in the construction market. Estimated recurring revenue costs range from £14m - £15m.

4.0 Project Time Line

Target months for completion of key stages of Capital Investment Programme from approval of proposed site option through further business case development and Stage 3 Full Business Case (FBC) to Stage 4, Construction is shown below in Table 5.

Milestone Headings / Description	Target Month for Completion
NHS Grampian Board approval of proposed site option.	October 2022
PSCP & Framework Consultants in place to support development of Outline Business Case (OBC)	October 2022
Public Engagement of Preferred Option.	October onwards
¹ RIBA 1 – Developing the Brief i.e. 1:500 Site Plans and Site Surveys – Site Feasibility.	December 2022
RIBA 2 – Concept design “Fit” with Strategic Vision. 1:200 Floor Plans / Mechanical & Electrical (M&E) and Sustainability Strategy. Design Frozen. Cost Plan.	June 2023
NHS Scotland ASSURE / NDAP ² / SDaC ³ / KSAR ⁴ – Quality Check on developed concept design / processes / governance.	November 2023
NHS Grampian Board approval of Outline Business Case	December 2023
Capital Investment Group approval of OBC	January 2024
RIBA 3 – Spatial co-ordination. 1:50 room level plans. Architectural / M&E co-ordination. Cost Plan.	April 2024
RIBA 4 – Technical Design. Develop the design for manufacturing and construction. Testing of the market for pricing. Target Price.	September 2024
NHS Scotland ASURE / NDAP / SDaC/ KSAR – Quality Check on developed concept design / processes / governance.	November 2024
NHS Grampian Board approval of Full Business Case (FBC) and Financial Close.	December 2024
Capital Investment Group approval of FBC	January 2025
RIBA 5 – Construction Stage Design. Mobilisation / Site preparation / Construction / Technical Commissioning / Handover (circa. 2 Years)	February 2027
NTC – Grampian Operational	May 2027

Table 5 – Key Stages of Capital Investment Programme for NTC – Grampian Development

¹ Royal Institute of British Architects

² NHS Scotland Design Assessment Process

³ Sustainable Design and Construction

⁴ Key Stage Assurance Review

6.0 Summary

The NHS G Board are asked to endorse the proposed site of current Estates Site as the proposed site location for developing the NTC-G.

Annexes

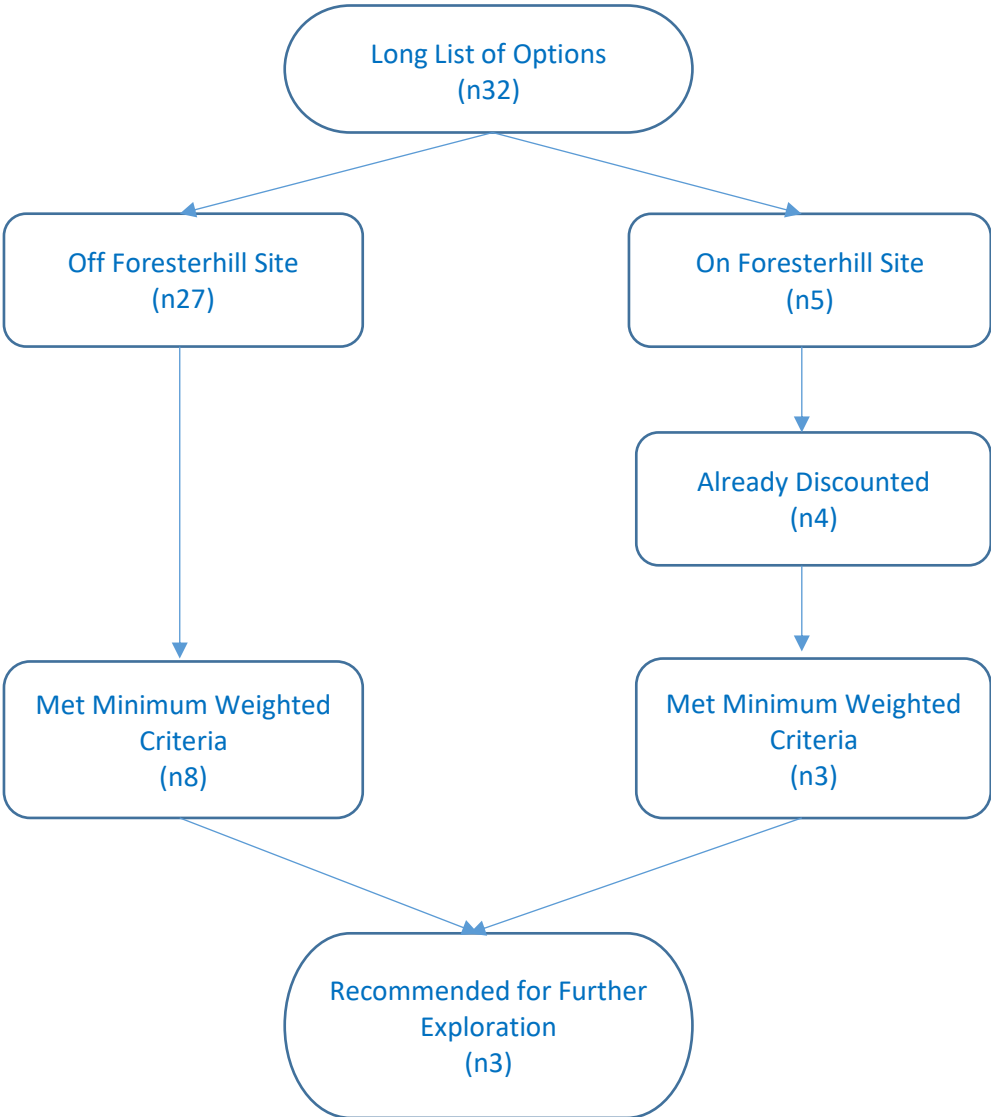
[Annex A – NTC-G: Process for Proposed Site Identification](#)

[Annex B – NTC-Grampian Additional Site Search](#)

[Annex C – Long List of Options](#)

[Annex D – National Treatment Centre Grampian: Options Appraisal Report – Process, Findings and Sensitivity Analysis](#)

Shortlisting Long List of Options



Annex B to NTC- G Proposed Site Option
NTC Grampian – Additional Site Search

Summary of the governance arrangements undertaken in the search for, and evaluation of additional identified sites for a proposed NTC Grampian

1. Governance

Following a decision taken by the NHSG Board to discount repurposing the former John Lewis building (as one of the potential options to host a proposed NTC Grampian), the NTC Project Board constituted a “Site Cell” to consider further site options and associated risks, and to carry out a further detailed search of available/suitable sites.

The NTC Site Cell (herein referred to as the “group”) reports its recommendations directly to the NTC Review Group and onto the Project Board.

This paper records details of the process undertaken by the group in recommending (from a long list) 3 additional sites for further detailed option appraisal by a wide-ranging stakeholder Group, similar to the one undertaken previously on the 2nd March 2022 at the P+J Live, when the former John Lewis Store was identified as the front runner based on the non-financial benefits.

2. Cell Group - Membership

Gerry Donald (chair)	Louise Mckessock
Graeme Legge	Stan Mathieson
Craig Slessor	Bruce Ballance

3. Long list site search pre evaluation remit

- Sites must be capable of accommodating a building to suit the most optimal predetermined clinical model of 2 storey/8000m² GFA
- Sites need to include appropriate allowance for car parking and future expansion space. - Mackie Ramsay Chalmers (MRT) defined this optimum site to be a minimum of 4-7 acres in size.
- Location search to include Aberdeen City and Aberdeenshire around the Western Peripheral Route, particularly from the Kingswells/Westhill junction with the WPR to the airport and round to the north of Aberdeen.
- Greenfield and brownfield sites considered.
- Shepherd Commercial were instructed by Property & Asset Development (PAD) to carry out a site search of available sites meeting NHSG requirements. A copy of their search findings in report format is included as **Appendix A**.
- The group collectively decided to add the Foresterhill Campus (an exact location to be determined under separate evaluation from multi option considerations), a site on the NHS owned Raeden, and Greenferns which is

Annex B to NTC- G Proposed Site Option NTC Grampian – Additional Site Search

under the control of Aberdeen City Council (ACC) zoned for health use. During the evaluation a development opportunity site was offered by the operators of the Bon Accord Shopping Centre site in George Street, and the John Lewis Partnership reverted with an offer to demolish the current vacated store also on George Street and all of these were added to the list compiled by Shepherds to form consideration of 28 sites in total (albeit there is not 1 but 5 sites in addition at Foresterhill that required evaluation) which was also added to the long list under consideration totalling 32 sites.

- The group pre-determined a set of criteria objectives on which each site was to be evaluated/scored. **Appendix B (spreadsheet tab titled Site Options Summary)** details the full list of objectives, their weightings in terms of importance and the scoring criteria applicable to each site. The group also determined that the 3 highest scoring sites would be taken forward to the NTC Review Group/Project Board as the shortlist option
 - a. Initial scoring would be carried out by individuals but the final score would be agreed by consensus of the whole group at virtual workshops
 - b. Any site not meeting one or more objective criteria would be discounted, irrespective of its total score in meeting all the other objectives.
- Public Health/Health Intelligence provided data on staff and patient addresses, to support the group scoring elements of the objective criteria against each site. This data has been summary copied into **Appendix B (spreadsheet tabs “NTC Staffing Graph and Data” and “Elective Patient addresses”)**.
- PAD provided supplementary data on site locations including mapping and travel distances from ARI/Airport/Train Station etc. to support the group with scoring elements of the objective criteria against each site.
- The shortlist 3 sites would be further scored in respect of a non-quantifiable site risk appraisal, measured against the list of benefits criteria identified within the OBC. **See Appendix C (spreadsheet NTC Risk Scoring – Site Option Appraisal Non Quantifiable Risk) for details of each site risk score for incorporation within the OBC economic case**

4. Summary of Evaluation/Scoring Long List Process

- A total of 28 sites were considered – note the ARI Campus was considered as a single site with its exact location (5 options being reviewed separately).
- The group carried out a review & validation of the scoring of each site, matched to each individual criteria before agreeing a consensus final score at virtual workshops. The highest scoring sites were as follows – **see Appendix B (Spreadsheet tab titled “Site Options Summary” for the full breakdown of all site scores)**
 - a. Foresterhill Campus
 - b. Raeden
 - c. Former John Lewis (on a cleared site)
 - d. George Street (on a cleared site)

Annex B to NTC- G Proposed Site Option
NTC Grampian – Additional Site Search

- e. Gateway Drive, Aberdeen Airport (adjacent TECA)
- The John Lewis site and the George Street site were discounted on the basis that they respectively failed to meet two and three of the assessed criteria (scored the minimum score of 2 on more than one criteria. 2 being the minimum score possible), as a pre-determined set.
- Sites scoring close to the 600 score, effectively the top 3 and those close to the 3rd placed ranking were further validated with a degree of sensitivity analysis applied - this exercise resulted in small number of revisions to the scores of some sites but did not influence the overall order of ranking or position as previously determined.
- The highest scoring sites, reconciled as meeting all the minimum criteria were as follows – **see Appendix B (Spreadsheet tab titled “Site Options Summary” for the full breakdown of all site scores)**
 - a. Foresterhill Campus
 - b. Raeden
 - c. Gateway Drive, Aberdeen Airport (adjacent TECA)
- The Foresterhill Campus site option was further evaluated & scored from the perspective of 5 separate locations, with respective criteria and weightings applicable to the Campus applied. Block plans of each location in terms of the site meeting NTC requirements were also prepared by MRT to assist the evaluation. The highest scoring locations, consensus agreed as meeting all the minimum criteria were as follows – **see Appendix B (Spreadsheet tab titled “Foresterhill options Summary” for the full breakdown of all 5 site location scores)**
 - a. Current Estates Offices/car park area (east)
 - b. Current Shale Car Park (west)
 - c. Former Maternity site (east)

5. Short List Recommendations

The group consensus recommendations are that the following 3 highest scored sites be taken forward for further consideration by the NTC Review Group and thereafter the Project Board for consideration at a final stakeholder event:

- Current Estates Offices, Foresterhill Campus
- Raeden
- Gateway Drive, Aberdeen Airport (adjacent TECA)

6. NTG Grampian – Workshop 7th September

The 3 shortlisted sites were scored against a set of benefits criteria by a wide ranging stakeholder participation.

The site selected was Option 11, Current Estates Offices/car park area (east)

Paper prepared by Stan Mathieson – 8th August 2022, updated 15th August following further evaluation of Foresterhill Campus option, 6th September

Annex B to NTC- G Proposed Site Option
NTC Grampian – Additional Site Search

following scoring of the 3 shortlisted non quantifiable risks, and 14th September following the outcome of the NTC Grampian Workshop held on 7th September.

Annex B - NTC Grampian – Additional Site Search
Appendix A



**SITE SEARCH ON BEHALF
OF – NHS**

DATE – 22ND JULY 2022

SITE SEARCH

CONTACT: Chris Grinyer, c.grinyer@shepherd.co.uk, 01224 202800 www.shepherd.co.uk



Annex B - NTC Grampian – Additional Site Search
Appendix A

SITE REQUIREMENT



SHEPHERD CHARTERED SURVEYORS

Established in 1880, J & E Shepherd form one of the largest independent chartered surveying firms within Scotland, benefiting from national coverage via a network of 34 offices throughout the country.

Our local & national market knowledge provides our clients with a large network of dedicated professionals who provide a wide range of experience, expertise and resources.

The partnership offers a multi-disciplinary property service including; Sales And Lettings, Valuation, Rent Reviews, Development And Investment, Consultancy, Rating, Property Management, Project Management, & Building Consultancy.

Shepherd Commercial won the Estates Gazettes Edinburgh Deal Maker of the Year in 2018, 2019 & 2020 respectively.

In 2017, 2019 & 2020 we were the only firm to appear within the top five performers across all five commercial property sectors in the EGI awards, including office, investment, retail, industrial and leisure/ hotels. In 2019, we were the regional winner within the Retail, Investment, & Leisure/ Hotels sectors (EGI, 2019).

The firm currently has over 1,500 properties on the market throughout Scotland. As highlighted by the market leadings database company, CoStar, we have the largest market share of commercial property in Scotland (Costar, 2021).

REQUIREMENT

Thank you for inviting Shepherd Chartered Surveyors to provide you with a property search report in respect of The NHS's Site requirement. The contents of this report firstly provides a summary of the options that closely match the below description, which will be followed be a list of the sites in more detail. This report has been prepared by Chris Grinyer. Should you have any questions please do not hesitate to contact the writer on 01224 202 800 or alternatively via email on c.grinyer@shepherd.co.uk

Summary of Requirement

Type: Land

Size: 3 -5 Acres

Location: Aberdeen & Aberdeenshire. Elgin also considered.

Specification: Greenfield and Brownfield both considered.

Other Comments: Sites close to the AWPR, including Westhill. Good transport links are essential.

SITE REQUIREMENT



Summary of Options

Address	Size	Location	Price	Additional Comment/Specification	Agent
Black Dog, Aberdeen, AB23 8PA	70 Acres, Mixed Use Area Available.	North	On Application	The site is located with access from the A90 and AWPR.	Savills
ABZ Business Park	54 Acre, Business Park	North	On Application	ABZ Business Park is a major international commercial development	Savills / Ryden
Wellheads Place, AB21 7GD	2 - 4.03 Acres	North	£800,000	Various buying opportunities available	Graham and Sibbald / DM Hall
D2 Business Park, AB21 0BQ	Plots available from 4.32 Acres	North	On Application	There are two plots available on the site. The sites are advertised to be developed in accordance with the occupiers requirement.	CBRE
Crichie Farm, Inverurie	More details to be requested	North	Approx. £600,00 Per Acre.	More details to be requested.	Knight Frank
The Core, Bridge of Don	5,000 SQFT – 10,000 SQFT	North	On Application	Core is a modern business location benefiting from excellent transportation links and local amenity services, offers a modern business location to the north of Aberdeen with access to a wide range of existing facilities minutes from the development	Shepherds
Gateway Drive, Dyce	20.28 Acres	North	On Application	Commercial Development, comprises mainly of a level undeveloped area of ground.	Shepherds
TECA, Stoneywood, AB21 9SB	Sites from 2.5 Acres to 9.9 Acres	North	On Application	Range of site options available.	Shepherds
Aberdeen Energy & Innovation Park	Sites from 0.86 Acres	North	On Application	Design & Building and turnkey packages available site from upwards of 0.86 Acres.	Ryden / Knight Frank
Rowett South	229 Acres	North	On Application	Comprise agricultural land which has been laid to both grazing and crops. As a result, some sections of the site are elevated affording views over the surrounding area.	Shepherds
Hareness Road, Altens AB12 3LB	6 Acres (total)	South	On Application	Prominent location in Altens industrial estate. Site totals 6 acres with a few options available.	Graham and Sibbald
Craigshaw Drive, AB12 3XB	4.27 Acres	South	On Application	The site is available as a whole or in part and is designated for Business and Industrial Land (B1) in the Aberdeen Local Development Plan 2017.	Knight Frank
Loirston Loch, Cove	Muir Site (more details to be requested)	South	£300,000 Per Acre	Business land adjacent the Loch -- More details to be requested.	Knight Frank

Annex B - NTC Grampian – Additional Site Search
Appendix A

SITE REQUIREMENT



Address	Size	Location	Price	Additional Comment/Specification	Agent
Aberdeen Gateway, South	Muir Site (more details to be requested)	South	On Application	More details to be requested.	Knight Frank
Crawpeel Road, Altens	More details to be requested	South	Approx. £350,000 Per Acre.	More details to be requested.	Knight Frank
Countesswells Site	175 Acres	South	On Application	Countesswells will offer a new mixed-use community for around 7,000 people, with in excess of 3000 homes, as well as retail, commercial & community uses.	Shepherds
Malcolm Road, Petercutler	18.1 Acres	South	On Application	The site is currently generally to grass land. Access into the site is provided from Malcolm Road by way of the road serving Culter Boys Cub or alternatively from Cornyhaugh Road.	Shepherds
Wellington Street/Esplanade	Extends approx. 6.5 Acres or thereby	South	TBC	Currently Grassland. It is part of the Common Good Fund so owned by ACC. The site is located adjacent to the Nord Centre.	Knight Frank
Froghall Terrace, AB24 3JP	4.14 Acres	Central	On Application	City Centre Location. Allocated as an 'Opportunity Site' in the Aberdeen Development Plan,	Graham and Sibbald
Former Double Tree, Links Road, Aberdeen	Extends approx. 4.2 Acres or thereby	Central	TBC	The hotel sits on lease held on a ground lease by ACC. The site forms part of the Esplanade redevelopment area including the relocation of AFC.	Shepherds
South Esplanade West	4.2 Acres	Central	TBC	The site is owned by Aberdeen Port, and has consent for around 270 apartments. The site is well connected and was included within the City Centre Masterplan as a City Centre site	Shepherds
Broadfold Works	Extends to approx. 10 Acres.	Central	TBC	This is a cleared site but note there are some listed building which exist.	Shepherds
Elgin Business Park	Various sites ranging from 1 Acre.	Elgin	On Application	1,3,4 & 6 Acres sites available. The park is in the east of Elgin, just off the A96.	Allan Esson

SITE REQUIREMENT



Options: Aberdeen, North

SITE REQUIREMENT



Black Dog, Aberdeen, AB23 8PA

ACCOMMODATION

70 Acres of mixed development land is available.

DESCRIPTION

Black Dog is located approximately 5 miles north of Aberdeen City Centre. "Blackdog is set over 70 acres, and at its core is a modern retail and leisure hub with state-of-the-art facilities. The masterplan aims to breathe new life into the existing village by creating a brand-new dynamic destination."

PRICE

On application.

SPECIFICATION

The site is ideally located with access from the A90 and AWPR and is also in close proximity to Aberdeen International Airport.

BROCHURE: Updated brochure available on request.



SITE REQUIREMENT



ABZ Business Park

ACCOMMODATION

54-acre business park, adjacent to Aberdeen International Airport

DESCRIPTION

ABZ Business Park is a major international commercial development, providing an attractive variety of modern, high-quality offices, functional industrial accommodation, ample yard areas, as well as hotel and restaurant uses

PRICE

On application.

SPECIFICATION

Located North of Aberdeen.

BROCHURE: Click [Here](#).



SITE REQUIREMENT



Wellheads Place, Dyce, Aberdeen, AB21 7GD

ACCOMMODATION

2-4.03 Acres.

DESCRIPTION

The subjects comprise a large rectangular site with existing accesses from Wellheads Place. The site has now been cleared of all former buildings and is level, providing an opportunity for immediate development, with a range of uses envisaged.

PRICE

Guide Price: £800,000

SPECIFICATION

Located North of Aberdeen.

The site is contained in an area designated B1 Business and Industrial Land in the Aberdeen Local Development Plan 2017, appealing to both industrial and office uses. Other uses shall be considered on their own merits.

BROCHURE: Click [Here](#).



SITE REQUIREMENT



D2 Business Park, AB21 0BQ

ACCOMMODATION

Plots available from 4.32 acres.

D2 Plot Sizes
Plot 1 - 4.69 Acres
Plot 2 - 4.32 Acres

DESCRIPTION

There are two plots available on the site – see diagram to the right. The sites are advertised to be developed in accordance with the occupiers requirement.

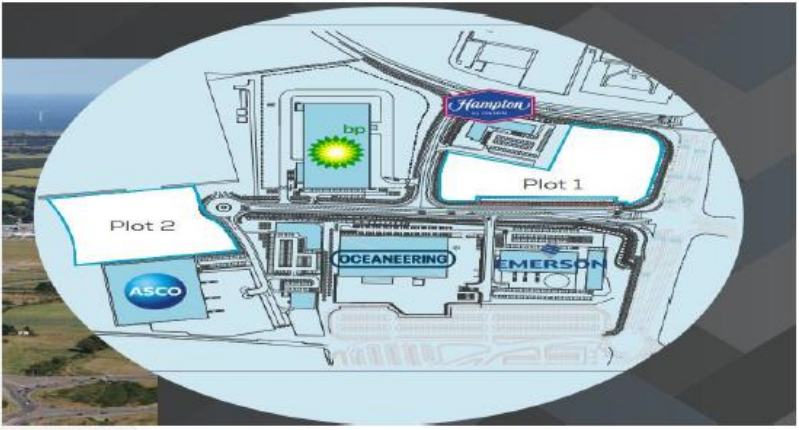
PRICE

On application.

SPECIFICATION

Located to the north of Aberdeen, The subjects are within close proximity of Aberdeen International Airport and the city's newly completed exhibition and conference centre, P&J Live.

BROCHURE: Click [here](#).



SITE REQUIREMENT



Crichie Farm, Inverurie

ACCOMMODATION

More details available on request

DESCRIPTION

More details available on request

PRICE

£600,000 per acre

BROCHURE: Further details via Knight Frank.

SITE REQUIREMENT



The Core, Bridge of Don

ACCOMMODATION

Up to 20 acres.

DESCRIPTION

Core is a modern business location benefiting from excellent transportation links and local amenity services, offers a modern business location to the north of Aberdeen with access to a wide range of existing facilities minutes from the development

PRICE

On application.

SPECIFICATION

Located in Bridge of Don 5 miles to the city centre, quick access to harbour, accessed from A92 and adjacent to AWPR – adjacent to Denmore industrial estate.

BROCHURE: Click [Here](#).



SITE REQUIREMENT



Gateway Drive, Dyce

ACCOMMODATION

20.28 Acres (8.208 HA)

DESCRIPTION

Commercial Development, comprises mainly of a level undeveloped area of ground.

PRICE

On application

SPECIFICATION

Visible location, Dyce, Adjacent to TECA, Access to the site is via an internal road which is accessed via Dyce Drive of Wellheads Road.

BROCHURE: Click [here](#)



SITE REQUIREMENT



TECA, Stoneywood, AB21 9SB

ACCOMMODATION

SITE 1	4.5 ACRES
SITE 2	2.5 ACRES
SITE 3	4.1 ACRES
SITE 4	9.9 ACRES

DESCRIPTION

Range of sites available, see diagram to right.

PRICE

On Application.

SPECIFICATION

Located beside Aberdeen's new multi-million pound event complex P&J Live and the Aloft and Hilton hotels. Outline planning permission for hotel, business space and leisure

BROCHURE: Click [here](#).



SITE REQUIREMENT



Aberdeen Energy & Innovation Park

ACCOMMODATION

Site A	0.94 acres	0.38 ha
Site B	1.81 acres	0.73 ha
Site C	1.00 acres	0.404 ha
Site D	0.86 acres	0.348 ha
Site E	2.13 acres	0.86 ha
Site F	1.17 acres	0.473 ha

DESCRIPTION

The Aberdeen Innovation Park is well established in an attractive parkland environment providing companies with the business support and technology to facilitate growth

PRICE

Upon application.

SPECIFICATION

"Developments can be tailored to suit individual requirements, subject to agreeing terms and the building specification. Alternatively, our client will consider selling off individual plots of land, subject to long ground leases, with no ties to design and build."

BROCHURE: Available on request.



SITE REQUIREMENT



Rowett South

ACCOMMODATION

229 Acres (93 Ha).

DESCRIPTION

Comprise agricultural land which has been laid to both grazing and crops. As a result, some sections of the site are elevated affording views over the

PRICE

On application.

SPECIFICATION

Situated adjacent to Bucksburn on the northwest periphery of the city, immediate access to the A96 dual carriageway.

BROCHURE: No brochure available but further details are available.



SITE REQUIREMENT



Options: Aberdeen, South

SITE REQUIREMENT



Hareness Road, Altens AB12 3LB

ACCOMMODATION

See site plan to right.

DESCRIPTION

- Prominent location in Altens industrial estate (South East of the city)
- The development land is the red and blue sites, totalling circa 6 acres
- The orange site could either be retained or included

PRICE

On Application.

BROCHURE: No brochure available, Agents: Graham + Sibbald.



HARENESS ROAD, ALTENS, ABERDEEN, AB12 3LD



SITE REQUIREMENT



Craigshaw Drive, AB12 3XB

ACCOMMODATION

4.27Acres.

DESCRIPTION

The subjects comprises a large 4.27 Acre (1.73 Hectare) site, accessed via Craigshaw Drive. The site will shortly be cleared, at which stage it will provide a cleared site ready for future development with a variety of suitable uses envisaged

PRICE

On application.

SPECIFICATION

The site is available as a whole or in part and is designated for Business and Industrial Land (B1) in the Aberdeen Local Development Plan 2017. This allows for Class 4 (Business), Class 5 (General Industrial) and Class 6 (Storage & Distribution), while other uses, which may be suited to a business and industrial location, such as a car showroom, will be treated on their own merits. Interested parties are encouraged to make their own enquiries with Aberdeen City Council Planning Department.

BROCHURE: Click [here](#)



SITE REQUIREMENT



Loirston Loch, Cove

ACCOMMODATION

More details to be requested.

DESCRIPTION

Muir site with business land adjacent the Loch.

PRICE

£300,000 per acre

BROCHURE: No brochure available, more details via Knight Frank.



SITE REQUIREMENT



Aberdeen Gateway, South

ACCOMMODATION

Muir site, more details available on request

DESCRIPTION

See Location to the right.

PRICE

On Application

BROCHURE: More details via Knight Frank.



SITE REQUIREMENT



Crawpeel Road, Altens

ACCOMMODATION

More details available on request.

DESCRIPTION

See Location to the right.

PRICE

£350,000 per acre

BROCHURE: More details via Knight Frank.



SITE REQUIREMENT



Countesswells

ACCOMMODATION

175 Acres (gross) (71 HA).

DESCRIPTION

Countesswells will offer a new mixed-use community for around 7,000 people, with in excess of 3000 homes, as well as retail, commercial & community uses.

PRICE

On application.

SPECIFICATION

The area is located 2.3 km (1.4 miles) to the west of Aberdeen, attractive, semi-rural setting.

BROCHURE: Click [here](#).



SITE REQUIREMENT



Malcolm Road, Peterculter

ACCOMMODATION

18.1 Acres (7.3 HA)

DESCRIPTION

The site is currently generally to grass land. Access into the site is provided from Malcolm Road by way of the road serving Culter Boys Cub or alternatively from Cornyhaugh Road.

PRICE

On application.

SPECIFICATION

Peterculter is located approximately 7 miles west of Aberdeen City Centre. amenities including Primary Health Care, Retail and Leisure facilities can be found within Peterculter. The Aberdeen Western Peripheral Route can also be found approximately 1.5 miles to the east.

BROCHURE: Click [here](#).



SITE REQUIREMENT



Options: Other (Central & Other Locations)

SITE REQUIREMENT



Froghall Terrace, AB24 3JP

ACCOMMODATION

4.14 Acres

DESCRIPTION

The subjects comprise a large rectangular site bounded on all elevations by secure fencing/walls. There are two points of access to the South of the site from Froghall Terrace and a further access is available to the North of the site from Sunnybank Road.

PRICE

Offers invited.

SPECIFICATION

Located in the City Centre the accommodation provides a levelled clear site.

The subjects have been allocated as an 'Opportunity Site' in the Aberdeen Development Plan, located within an area identified as Mixed Use Area [H2].

BROCHURE: Click [here](#).



SITE REQUIREMENT



Former Double Tree, Links Road, Aberdeen

ACCOMMODATION

Extends approx. 4.2 Acres or thereby

PRICE

TBC

SPECIFICATION

The hotel sits on lease held on a ground lease by ACC. The site forms part of the Esplanade redevelopment area including the relocation of AFC.

BROCHURE: No brochure but further detail can be sought.

SITE REQUIREMENT



South Esplanade West

ACCOMMODATION

4.2 Acres

PRICE

TBC

SPECIFICATION

The site is owned by Aberdeen Port, and has consent for around 270 apartments. The site is well connected and was included within the City Centre Masterplan as a City Centre site

BROCHURE:

No brochure but further detail can be sought.

SITE REQUIREMENT



Broadfold Works

ACCOMMODATION

Extends to approx. 10 Acres.

PRICE

TBC

SPECIFICATION

This is a cleared site but note there are some listed building which exist.

BROCHURE:

No brochure but further detail can be sought.

Elgin Business Park

ACCOMMODATION

1, 3, 4 and 6 acre sites available.

DESCRIPTION

Various sites available (see diagram).

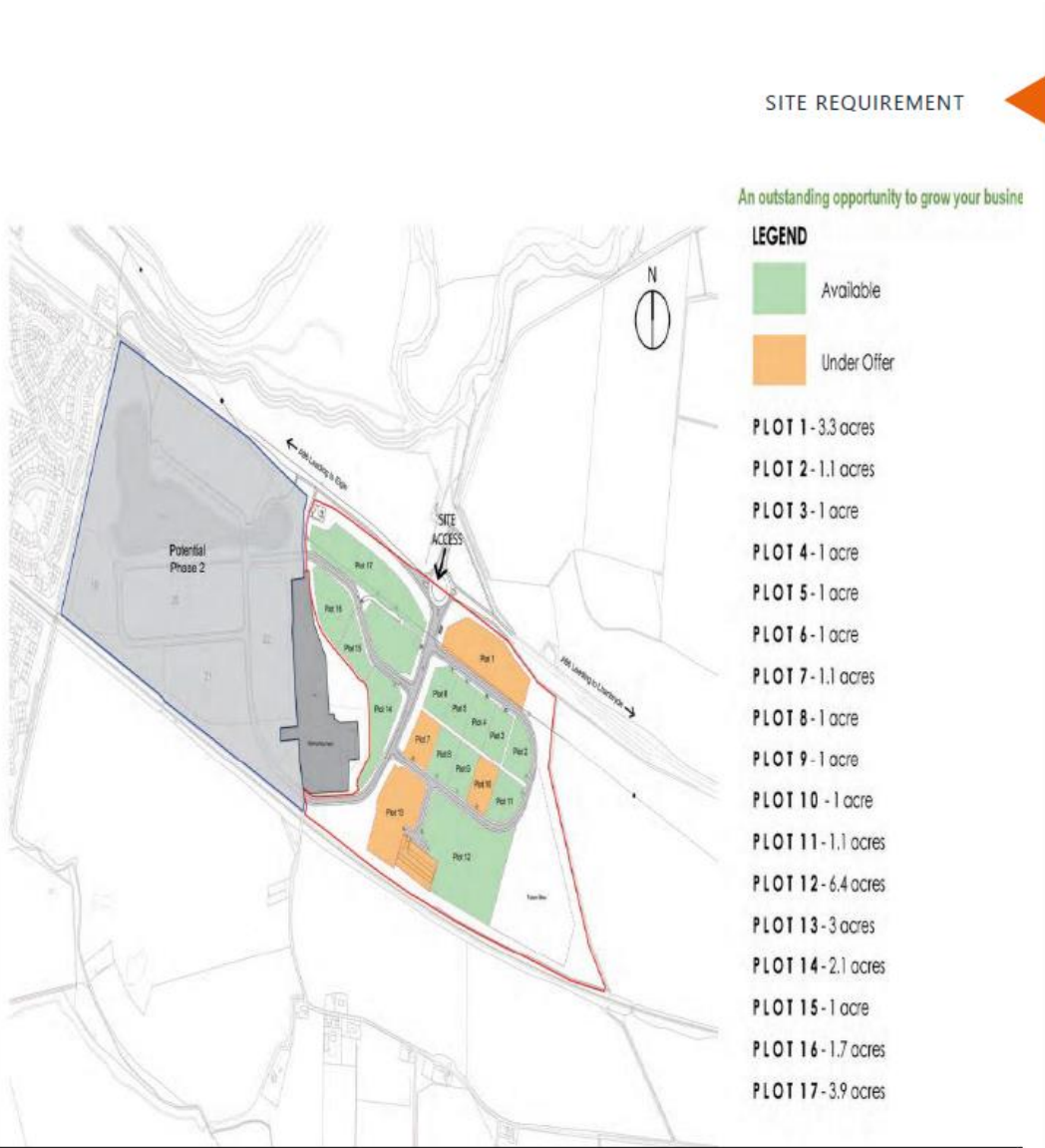
PRICE

On Application.

SPECIFICATION

The park is in the east of Elgin, just off the A96. Elgin is the regional centre for Moray with a population of over 23,000 and the catchment population in the region over 93,000.

BROCHURE: Click [here](#).



**NTC Grampian – Additional Site Search
Appendix B**

SITE OPTION APPRAISAL OF POTENTIAL SITES FOR NTC GRAMPIAN

		site particulars												
		Address	Foresterhill Campus	Raeden Park	Blackdog	ABZ Business Park	Wellheads Place, ind park	D2 Business Park	Crichie farm	The Core	Gateway Drive	TECA stoneywood	Aberdeen Energy & Inov Park	
		size in acres	3-5 acres, undefined	5.6 acres	70 acres	54 acres	2-4 acres	2 x 4.32 acre plots	N/A	up to 20 Acres	20 Acres nr Dyce Airport/next to TECA	2.5, 4.1, 4.5 & 9.9 acre plots nr Dyce Airport/behind to TECA	multi small plots	
		location	off Westburn Rd	off Westburn Rd	North of BoD	nr Dyce Airport	nr Dyce Airport	nr Dyce Airport	Inverurie	Bridge of Don	Business	Business	Business	
		price	NHS owned	NHS owned	£250k p/acre	£250k p/acre	£200k p/acre	£350k p/acre	£600k p/acre	£250k p/acre	£400k p/acre	£400k p/acre	£350k p/acre	
Weighting	Objectives ranking to be applied to address options	notes	initial scoring by											
6	site aquisition cost(s)	lowest cost to Board of site incl clearing site, remedials, topography & planning etc	stan	10	10	8	8	8	6	4	8	6	6	6
6	site size in terms of shape & form	lowest buildability cost/site constraint factors	stan	4	6	8	8	2	2	8	8	8	6	2
4	site compatibility with adjacent/close proximity of neighbouring use	use/type/nature of surrounding site, IPC concerns ie dust, noise	Gerry	10	8	6	4	2	4	2	2	8	6	4
8	site sustainability	i.e. renewable energy source, net zero, carbon footprint	Craig	8	6	8	4	4	4	2	4	6	6	6
10	site size in terms of accommodating future expansion space and car parking	sufficient space 4-7 acres identified as optimum size	Bruce	8	4	10	10	4	6	10	10	10	10	4
8	time to acquire site(s) i.e. ownerships, planning distance & time from ARI for emergency transport/blue light	can be delivered within OBC programme	Bruce	10	6	6	4	4	6	4	8	6	6	2
4	distance from Aberdeen train station/ferry	emergency transfers	Graeme	10	8	4	6	6	6	4	6	6	6	6
2	distance from Airport	how many patients use?	Graeme	8	8	8	10	10	10	8	8	10	10	8
8	accessability from /on bus route(s)	notional number of buses req from main centres and/or train/airport	Graeme	10	8	4	6	6	6	6	2	6	6	4
6	ANCHOR organisation	benefits and supports the community(s)	Gerry	4	6	6	2	2	2	2	2	4	4	2
4	community facilities nearby	what supports the NTC being located there	Graeme	8	8	4	6	6	6	4	8	6	6	4
6	supports health inequalities/areas of deprivation	from main population centres	Graeme	8	8	4	4	4	4	4	4	4	4	6
6	supports recruitment & retention of staff	data available from NTC staffing graphs - travel times - see tabs	Louise	10	10	4	6	6	6	2	4	6	6	6
6	patient travel to access services/ease of transport options/cost to patient	data from main H&SCP localities for elective & day cases - see tabs	Stan/Louise	10	10	6	6	6	6	2	6	6	6	6
Total Score with weightings applied				800	692	580	560	448	490	424	552	608	588	436
Ranking position (including discounted sites) - top 5 highlighted in yellow				1	2	8	11=	24	23	26	13=	5	7	25
Ranking position of sites meeting all criteria - top 5 highlighted in yellow				1	2	6	8	Discounted	Discounted	Discounted	Discounted	3	5	Discounted

Weightings to be applied to objectives:
 10 is mandatory
 8 is very important
 6 is important but not absolutely essential
 4 is highly desirable
 2 is negligible or just desirable

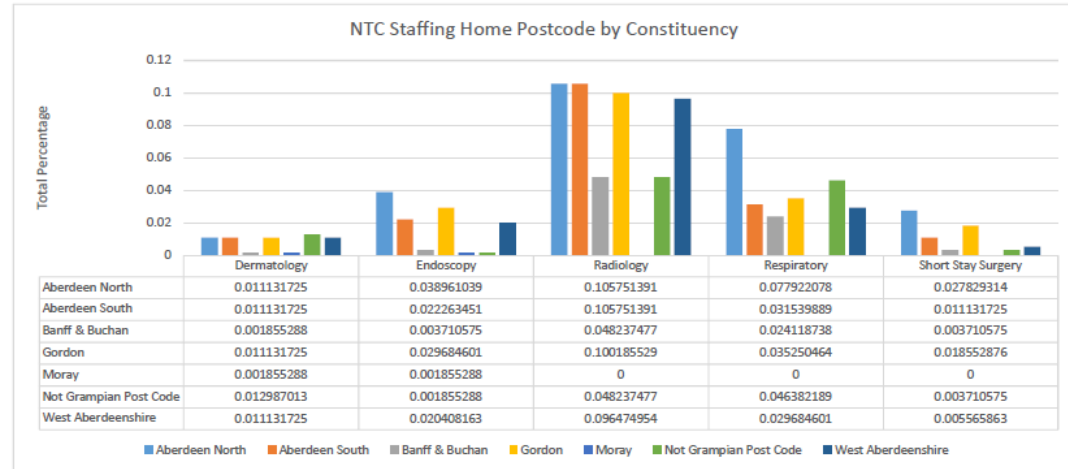
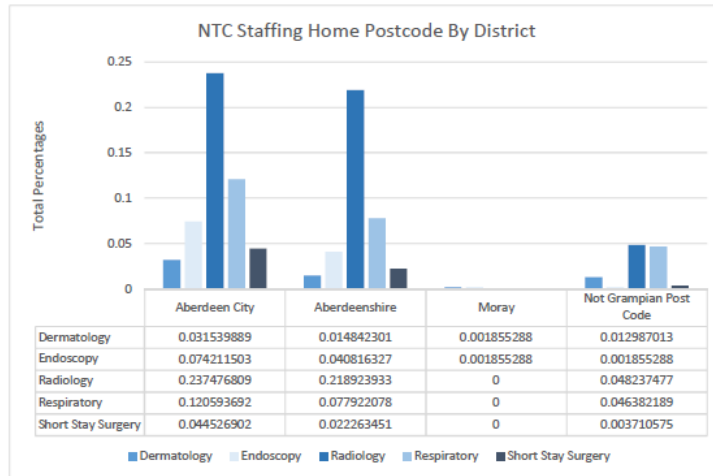
Site option score - meets objective:
 10 completely
 8 substantially, but not quite in full ie 75%
 6 partly, but not conclusively ie 50-50
 4 marginally, but only just ie 25%
 2 does not meet any of the criteria

footnote
 1.sites not meeting the minimum score in any single criteria is automatically discounted, regardless of total score in other criteria

**NTC Grampian – Additional Site Search
Appendix B**

Long list of Sites																	
Rowatt South	Hareness Road	Craigshaw Dv	Loriston Loch	Abdn Gateway South	Crawpeel Road, former Total	Countesswells	Malcolm Rd	Froghall Terrace	Former Double Tree - beach	south esplanade west	Broadfold Works	Elgin Business Park	Former JL site	George St, adjacent to JL	Wellington Street/ Esplanade	Greenferns, Northfield	
229 acres	2.19, 3.74 & 3.78 plots	4.27 acres	N/a	N/a	N/a	175 acres	18.1 acre	4.14 acres	4.2 acres	4.2 acres	up to 10 acres	1, 3,4 & 6 acre plots	1 to 2 acres?	1/2 to 1 acre?	6.5 acres	? acres - site can be accommodated	
North of Bucksburn residential	Altens South Abdn business/ind	Altens South Abdn Industrial	Cove South Abdn zoned for Residential	Altens South Abdn mixed use	Altens South Abdn nx to Fire St business/ind	West of Hazelhead mixed use	Peterculter zoned for Residential	central Abdn zoned Mixed Use	central Abdn	nr Bridge of Don zoned for Residential	central Abdn	Elgin Business Park	central Abdn	central Abdn	Wellington Rd Abdn grassland owned by ACC	north Abdn mixed use	
£450k p/acre	£250k p/acre	£250k p/acre	£300k p/acre	£250k p/acre	£350k p/acre	£500k p/acre	£500k p/acre	£600k p/acre	£500k p/acre	£500k p/acre	£700k p/acre	£200k p/acre	£1.3m + question about site clearance	£1.3m ? TBC + costs of demolition	£900k p/acre	£400k p/acre	
6	8	8	8	8	8	6	4	4	4	4	4	2	8	2	2	2	6
8	2	4	4	4	6	2	8	4	4	4	2	4	6	2	2	2	6
4	2	2	4	2	2	2	4	4	4	6	2	6	4	8	8	2	4
2	2	2	6	8	4	4	6	4	4	6	4	4	6	6	6	4	4
10	6	4	10	8	8	10	10	6	4	4	2	2	4	4	2	10	8
6	4	4	2	6	8	8	6	2	4	4	4	4	2	8	6	2	6
6	6	6	6	6	6	6	8	4	8	6	6	8	2	8	8	6	8
6	8	8	8	8	8	8	4	4	8	8	10	8	2	10	10	8	6
10	8	8	8	8	8	8	10	8	8	8	8	8	2	8	8	8	6
4	10	10	4	4	4	6	6	6	8	8	10	10	4	10	10	6	6
2	2	2	2	2	4	2	6	6	6	6	4	8	2	10	10	4	6
4	4	4	4	4	2	8	4	2	2	6	6	4	4	10	10	6	4
4	6	6	4	4	4	6	4	2	6	4	8	4	4	6	6	4	6
6	6	6	6	6	6	6	6	4	8	6	8	8	2	10	10	8	6
6	6	6	6	6	6	6	6	4	8	8	8	8	2	10	10	8	6
524	500	492	516	552	560	596	396	536	532	516	536	344	600	644	504	572	
17	21	22	19=	13=	11=	6	27	15=	16	19=	15=	28	3	4	20	9	
Discounted	Discounted	Discounted	Discounted	Discounted	Discounted	4	Discounted	Discounted	9	Discounted	Discounted	Discounted	Discounted	Discounted	Discounted	7	

NTC Grampian – Additional Site Search Appendix B



	<u>Aberdeen</u> <u>City</u>	<u>Aberdeen</u> <u>shire</u>	<u>Moray</u>	<u>Not</u> <u>Grampian</u> <u>Post Code</u>	
Dermatology	3.15%	1.48%	0.19%	1.30%	6.12%
Endoscopy	7.42%	4.08%	0.19%	0.19%	11.87%
Radiology	23.75%	21.89%	0.00%	4.82%	50.46%
Respiratory	12.06%	7.79%	0.00%	4.64%	24.49%
Short Stay Surgery	4.45%	2.23%	0.00%	0.37%	7.05%
	50.83%	37.48%	0.37%	11.32%	100.00%

	<u>Aberdeen</u> <u>North</u>	<u>Aberdeen</u> <u>South</u>	<u>Banff &</u> <u>Buchan</u>	<u>Gordon</u>	<u>Moray</u>	<u>Not</u> <u>Grampian</u> <u>Post Code</u>	<u>West</u> <u>Aberdeenshire</u>	
Dermatology	1.11%	1.11%	0.19%	1.11%	0.19%	1.30%	1.11%	6.12%
Endoscopy	3.90%	2.23%	0.37%	2.97%	0.19%	0.19%	2.04%	11.87%
Radiology	10.58%	10.58%	4.82%	10.02%	0.00%	4.82%	9.65%	50.46%
Respiratory	7.79%	3.15%	2.41%	3.53%	0.00%	4.64%	2.97%	24.49%
Short Stay Surg	2.78%	1.11%	0.37%	1.86%	0.00%	0.37%	0.56%	7.05%
	26.16%	18.18%	8.16%	19.48%	0.37%	11.32%	16.33%	100.00%

SITE OPTION APPRAISAL OF POTENTIAL SITES FOR NTC GRAMPIAN

General Notes to accompany site search of further sites that can accommodate an NTC Grampian

- NHS Board instructed Property & Asset Development (PAD) to carry out a further search of available/suitable sites; shortlisting for consideration by
- 1 Board to be no more than 3 sites
Remit provided by Board - site must be capable of accommodating a building to suit the most optimal 2 storey/8000m2 GFA staffing model; including allowance for future expansion space and car parking - this is defined by MRT
 - 2 Architects as optimal/circa 4-7 acres.
Site search of available sites meeting defined criteria carried out by Shepherd Commercial - dated 22 July 2022 - site search of Aberdeen City, Aberdeenshire
 - 3 with proximity to AWPR route considered & Elgin.
 - 4 Greenfield and brownfield sites considered
in addition to Shepherd site search, a site on the Foresterhill Campus is included as one of the site options - accepting that the exact location of this site from 5 possible options has yet to be determined plus the NHS owned site
 - 5 at Raeden added
Post search by Shepherds, a development opportunity identified by Bon Accord in George Street, the former John Lewis building site and Greenferns
 - 6 added to site option appraisal
- Evaluation & shortlisting of sites carried out by Gerry Donald, Stan Mathieson, Graeme Legge, Craig Slessor &, Louise McKessock - external input received
- 7 from Bruce Balance MRT Architects on site considerations - see summary tab
- Evaluation & shortlisting of sites carried out by Gerry Donald, Stan Mathieson, Graeme Legge, Craig Slessor &, Louise McKessock - external input received
- 8 from Bruce Balance MRT Architects on site considerations - see summary tab
 - 9 any site not meeting a single criteria will automatically be discounted
 - 10 3 highest scored sites carried forward to Board evaluation
 - 11 scoring by consensus

Annex B to NTC-G Proposed Site Option
 NTC Grampian – Additional Site Search

Number of Elective Inpatient and Day Case Admissions

* Patients with postcode in Grampian

** All NHS Grampian Hospital Sites

Admission Year	Partnership_(Postcode)_at _Adm	LOCAL_HSCP_LOCALITY_N AME_at_Adms	Number of Admissions
2016	Aberdeen City	Aberdeen Central	5160
2017	Aberdeen City	Aberdeen Central	4250
2018	Aberdeen City	Aberdeen Central	4473
2019	Aberdeen City	Aberdeen Central	4991
2020	Aberdeen City	Aberdeen Central	2648
2021	Aberdeen City	Aberdeen Central	3033
2022	Aberdeen City	Aberdeen Central	1901
2016	Aberdeen City	Aberdeen North	6615
2017	Aberdeen City	Aberdeen North	5633
2018	Aberdeen City	Aberdeen North	5688
2019	Aberdeen City	Aberdeen North	6550
2020	Aberdeen City	Aberdeen North	3496
2021	Aberdeen City	Aberdeen North	3920
2022	Aberdeen City	Aberdeen North	2499
2016	Aberdeen City	Aberdeen South	6113
2017	Aberdeen City	Aberdeen South	5214
2018	Aberdeen City	Aberdeen South	5180
2019	Aberdeen City	Aberdeen South	5829
2020	Aberdeen City	Aberdeen South	3167
2021	Aberdeen City	Aberdeen South	3868
2022	Aberdeen City	Aberdeen South	2332
2016	Aberdeenshire	Banff & Buchan	3315
2017	Aberdeenshire	Banff & Buchan	3092
2018	Aberdeenshire	Banff & Buchan	3126
2019	Aberdeenshire	Banff & Buchan	3672
2020	Aberdeenshire	Banff & Buchan	2008
2021	Aberdeenshire	Banff & Buchan	2091
2022	Aberdeenshire	Banff & Buchan	1435
2016	Aberdeenshire	Buchan	3758
2017	Aberdeenshire	Buchan	3398
2018	Aberdeenshire	Buchan	3287
2019	Aberdeenshire	Buchan	3826
2020	Aberdeenshire	Buchan	1906
2021	Aberdeenshire	Buchan	2387
2022	Aberdeenshire	Buchan	1563
2016	Aberdeenshire	Formartine	3562
2017	Aberdeenshire	Formartine	3229
2018	Aberdeenshire	Formartine	3246
2019	Aberdeenshire	Formartine	3456
2020	Aberdeenshire	Formartine	2150
2021	Aberdeenshire	Formartine	2183
2022	Aberdeenshire	Formartine	1509
2016	Aberdeenshire	Garioch	3982
2017	Aberdeenshire	Garioch	3571
2018	Aberdeenshire	Garioch	3915

Annex B to NTC-G Proposed Site Option
NTC Grampian – Additional Site Search

2019	Aberdeenshire	Garioch	4105
2020	Aberdeenshire	Garioch	2374
2021	Aberdeenshire	Garioch	2636
2022	Aberdeenshire	Garioch	1721
2016	Aberdeenshire	Kincardine & Mearns	3363
2017	Aberdeenshire	Kincardine & Mearns	2922
2018	Aberdeenshire	Kincardine & Mearns	2988
2019	Aberdeenshire	Kincardine & Mearns	3365
2020	Aberdeenshire	Kincardine & Mearns	1861
2021	Aberdeenshire	Kincardine & Mearns	2288
2022	Aberdeenshire	Kincardine & Mearns	1464
2016	Aberdeenshire	Marr	3403
2017	Aberdeenshire	Marr	2962
2018	Aberdeenshire	Marr	3189
2019	Aberdeenshire	Marr	3489
2020	Aberdeenshire	Marr	1914
2021	Aberdeenshire	Marr	2128
2022	Aberdeenshire	Marr	1436
2016	Moray	East	3086
2017	Moray	East	3060
2018	Moray	East	3070
2019	Moray	East	3399
2020	Moray	East	2075
2021	Moray	East	2194
2022	Moray	East	1421
2016	Moray	West	4931
2017	Moray	West	4754
2018	Moray	West	4955
2019	Moray	West	5315
2020	Moray	West	3201
2021	Moray	West	3485
2022	Moray	West	2136
		Total	256917
		Average	36702

SUMMARY			
LOCAL HSCP LOCALITY	Average Nr of admissions over 5 years	% of total	
Aberdeen Central	3779		10
Aberdeen North	4914		13
Aberdeen South	4529		12
Banff & Buchan	2677		7
Buchan	2875		8
Formartine	2762		8
Garioch	3186		9
Kincardine & Mearns	2607		7
Marr	2646		7
Moray East	2615		7
Moray West	4111		11
total	36702		100

Long List of Options

1. Aberdeen Energy and Innovation Park
2. Aberdeen Gateway South
3. Aberdeen Maternity Hospital
4. ABZ Business Park
5. Black Dog, Aberdeen, Aberdeen
6. Broadfolds Works
7. Countesswells
8. Craigshaw Drive, Aberdeen
9. Crawpeel Road, Altens
10. Crichton Farm, Inverurie
11. Current Shale Carpark, Foresterhill
12. D2 Business Park, Aberdeen
13. Elgin Business park
14. Estates Site, Foresterhill
15. Foresterhill House, Foresterhill
16. Former Double Tree, Links Road Aberdeen
17. Former John Lewis Site, Aberdeen
18. Froghall Terrace
19. Gateway Drive, Dyce
20. George Street, Aberdeen
21. Greeferns, Mastrick, Aberdeen
22. Hareness Road, Altens , Aberdeen
23. Loriston Loch, Cove
24. Malcolm Road, Peterculter
25. Raeden, Aberdeen
26. Reference Site, Foresterhill (discounted but included for benchmarking reference)
27. Rowett, South
28. South Esplanade West
29. TECA, Stoneywood, Aberdeen
30. The Core, Bridge of Don
31. Wellheads Place, Aberdeen
32. Wellington Street/Esplanade



National Treatment Centre Grampian

Options Appraisal Report- Process, Findings and Sensitivity Analysis.

NHS Grampian
September 2022

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Foreword to Report

In March 2022, an options appraisal workshop took place at P&J Live. At this workshop, six sites were appraised against the agreed project benefits, to determine a preferred way forward. Upon completion of the workshop, these six options were subjected to an economic appraisal to determine their relevant risks, benefits and cost in order to justify value for money and to identify the preferred option for the National Treatment Centre, Grampian.

Through the economic evaluation and overarching clinical led scope review, it became apparent that the options emerging from the appraisal were no longer feasible to progress. This decision was in recognition of the inherent technical compliance risks associated with refurbishment as well as to take account of learning from the Covid-19 pandemic, learning from other national healthcare buildings and to achieve Net Zero Carbon on day one of opening. In light of this, it was agreed by the NTC Grampian Board that further refinement of site options would be explored with the new requirement that the National Treatment Centre would have to be developed as a new standalone purpose-built facility in order to meet the critical success factors and investment objectives for the project.

The workshop event at P&J Live was therefore superseded by the feasibility studies carried out to further test the options. Following a separate commission to identify suitable site alternatives, a further three new build site options were identified and appraised. As the former options were no longer able to meet the critical success factors or provide suitable value for money, they are effectively retrospectively discounted. This report assumes therefore that they were discounted as part of the initial long-listing exercise and are not referenced throughout. The narrative herein focuses only on the three new build options and should be read as such.

Due process has been followed in order to ensure that the robustness of the approach followed at P&J Live was carried through to the subsequent options appraisal workshop and the methodology for appraisal, scoring and sensitivity analysis have been maintained. The outcomes of the benefit and second option workshop are contained within this report.



Executive Summary

This report sets out the Options Appraisal process adopted in support of the investment into the National Treatment Centre, Grampian and demonstrates the robustness of the method employed and the outputs derived from the appraisal. The process for development of the benefits is outlined, as is the structure and outputs of the two workshops held in February 2022 and September 2022 to derive the final Option rankings. The report is concluded with a statistical trend analysis conducted on the Options Appraisal outputs in order to test the sensitivity and robustness of the conclusions reached.

Following extensive engagement, a list of twelve benefits were identified for the National Treatment Centre. These benefits accurately capture the key objectives and priorities to enable the effective delivery of the vision for care for the project and are aligned to key stakeholder goals and objectives. Prior to the workshops, each of the proposed Options for the development were subjected to a SWOT analysis against each of the benefits, thus enabling the creation of a set of objective statements capturing proposed advantages and disadvantages of each Option. These statements were shared with the delegates prior to the workshops to ensure robustness and consistency across group scores.

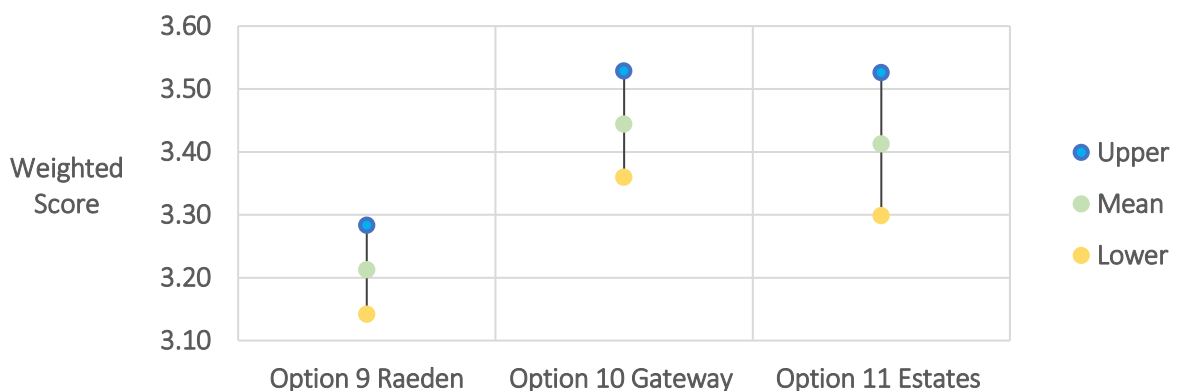
In the first workshop, benefits outlined for the development were weighted, using a value management tool, known as 'Paired Objectives', whereby each benefit derived was ranked against the others to determine their relative level of importance. Attendees were brought together in nine groups on the 24th February 2022 to score all benefits against each other, and the output of this, the weighting of each benefit, was carried through to the Options scoring workshop.

At the second workshop, Options for the development were scored against their relative ability to satisfy each of the proposed benefits. A 1-5 Scale was adopted and each of the nine groups in attendance were asked to score each Option against each benefit. The completed exercise from each group was then collated and entered into the model developed by AA Projects. This model calculated the individual group scores and multiplied by the weighting derived from the first workshop to arrive at a weighted benefit score per Option. From this, a mean score of each Option across all groups was derived. The conclusion of this exercise, demonstrated the overall weighted score for each Option and therefore the final Option rankings, as seen below.

	Option 9 - Raeden	Option - 10 Gateway	Option - 11 Estates
Weighted Score	3.21	3.44	3.41
Rank	3	1	2

In order to test the robustness of the conclusions reached through the Options Appraisal process, sensitivity analysis was conducted to identify and understand how much variation in the input values for any given variable have impacted the results. This was completed to determine whether the conclusions of the Options Appraisal were robust or in any way ‘sensitive’ to particular assumptions. Standard deviation was explored to determine the reason behind significant variance between Options and benefits, and the effect that the exclusion of this variance had in terms of overall weighting of benefits and ranking of Options. Anomaly analysis was conducted to determine individual instances of variation and/or discrepancy in scoring and to establish whether these anomalies are material to the overall outputs. Finally, scenario testing explored what effect a range of independent variables had on the overall ranking of Options.

On conclusion of this sensitivity analysis, our findings are that whilst Option 10 - Gateway was revealed as the Preferred Option through the Options scoring workshop, the Preferred Option is highly sensitive to changes to certain variables in terms of switching effects in relation to Option 11 - Estates. The analysis also demonstrates that the Option 9 - Raeden is unable to deliver a similar level of benefits when compared to the other two options. Confidence intervals were established for the three Options to further test this conclusion, using a confidence level of 90% and applying the full sample size and emerging standard deviation amongst each group. The purpose of this analysis was to understand the statistically reasonable range of scores that would likely be achieved should the workshop be repeated. The confidence intervals, or upper and lower bound range of expected scores for each Option are found below.



This analysis further confirms the lack of clear differentiation between the top two ranked Options with the same upper bound expected score being demonstrated and a slightly higher lower bound score outlined for Option 10 - Gateway. This analysis also confirms the comparative weakness of Option 9 - Raeden. Taking the higher bound score for this Option and the lower bound scores for the other two, Option 9 - Raeden is still outscored by both Options.



We are able to conclude therefore, and to provide reasonable assurance to NHS Grampian that both Options 10 - Gateway and Option 11 – Estates, provide a suitable site and solution for the National Treatment Centre and should be appraised financially and economically to determine the final Preferred option.

1.0 Introduction

AA Projects have been supporting NHS Grampian in an Options Appraisal process to determine the preferred site for the National Treatment Centre, Grampian. Benefits for the project were developed and aligned to the priorities of key stakeholder objectives and Options for appraisal were subjected to a SWOT analysis against these benefits. Two workshops have been conducted, an initial benefit weighting and scoring workshop was held on the 24th February 2022 and a subsequent Options scoring and appraisal workshop on the 7th September 2022, where three standalone new build Options were assessed revealing an indicative preferred way forward. The outputs of these workshops have been tested for sensitivity against a range of criteria in order to establish whether the process, findings and prioritised ranks of Options are robust and free from material error. Following the successful delivery of these workshops, the collation of results and the sensitivity analysis, an indicative Preferred Option as well as a viable alternative Option have been identified for the National Treatment Centre which can now be tested for economic and financial viability.

This report sets out the overall process adopted to develop the benefits, the purpose and outputs of the two workshops, as well as a summary of the sensitivity analysis conducted against these outputs.

2.0 Development of Benefits

Prior to the delivery of the benefits scoring and Options Appraisal workshops, a comprehensive benefit development and consolidation exercise was undertaken. The development and creation of benefits that most accurately capture the vision for care for the National Treatment Centre was paramount to enabling the effective delivery of the workshops, in terms of ensuring robustness and consistency amongst group scoring but also to ensure that the prioritised list of Options most accurately reflected the objectives behind the proposed investment into the National Treatment Centre.

Building on previous work, AA Projects completed an exercise to consolidate and align a range of benefits and objectives to arrive at a final list of benefits to be appraised against at the workshops. This work, involving engagement with the Project Team and Core Reference Group built on the initial spending objectives and Outline Business Case for the project and aligned these to NHS Grampian, Local Authority, Scottish Government and Elective Care Principles in order to arrive at a revised and comprehensive list of benefits for appraisal. This alignment exercise is detailed in Appendix A and

resulted in the production of twelve benefits that capture the key objectives that the development must deliver against in order to enable the vision for care.

Following this, each of the proposed Options was subjected to a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis against each of the benefits. Strengths and Weaknesses for each Option against each benefit then became 'Advantages' and Weaknesses and Threats became 'Disadvantages' thus enabling the creation of objective statements created by the Project Team that captured the relative merits and weaknesses of each Option. These statements were shared with delegates prior to the workshops to minimise the use of conjecture and subjectivity in the appraisal of the Options and to ensure that the process for scoring was robust and consistent across groups. The SWOT analysis for each benefit is detailed in Appendix B.

3.0 Workshop One – Benefits Weighting and Scoring

In Workshop One, a benefit weighting and scoring exercise was undertaken. Benefits outlined for the development were weighted, using a value management tool, known as 'Paired Objectives'. This is an objective evaluation undertaken through a facilitated value management technique to determine objective (benefit) prioritisation. This effectively and transparently separates out superfluous aspirations allowing groups to focus on prioritised key benefits.

This is an auditable weighting system, prioritising criteria by pairing each criterion off against all others. The exercise takes a list of benefits for group assessment against the others to determine the relative level of importance. The frequency of occurrence of each criterion as 'most important' is converted into a percentage weighting, thus providing a list of prioritised criteria with an assessed weighted figure. The completed exercise from each group is then collated and entered into the model developed by AA Projects. This then calculates a mean (average) weighting across the group's responses and assesses any standard deviation for consideration. A summary of this process is found at Appendix C.

Adopting the paired objectives approach, attendees were brought together in nine groups on the 24th February 2022 to score all benefits against each other, and the outputs of this exercise are found below. It is important to note that the output of this exercise was not shared with attendees prior to the Options Scoring Workshop so as not to influence the scoring of Options against benefits with known higher or lower weighting.



Benefit Ref	Benefits	Weighting (for context)	Rank
BEN 5	Promotes workforce sustainability. Promotes Training & Education. Delivers right care, right place, right time via dedicated NTC staff	13.31%	1
BEN 1	Promotes service improvement through service redesign, pathway flexibility and optimises planning (including improved use of technology). Creates a supportive patient environment	11.30%	2
BEN 3	Improved access to diagnostics and treatment; supports the implementation of realistic medicine	11.18%	3
BEN 10	Physical access to the building for patients' visitors, relatives, carers of patients by public transport/by car including parking spaces/accessibility, good connectivity with optimal natural surroundings and access to supporting facilities (hospitality).	10.14%	4
BEN 8	The timely delivery of a facility that supports the net carbon zero principles and achieves with ease the required standards for minimisation of Healthcare Associated Infection (HAI) risk.	9.57%	5
BEN 12	Flexibility/Future Proofing with reference development of service need and expansion to other services	8.59%	6
BEN 4	Optimises investment to support meeting the clinical needs over the life of the facilities	7.17%	7
BEN 7	Improved patient care pathways ensuring equity of local access to treatment as far as possible and regionally where required, with harmonised access agreements across NoS Boards.	6.58%	8
BEN 2	Site location and delivery best supports strategic objective of development of an integrated planned health & social care solution, not at risk from unscheduled flow.	6.45%	9
BEN 11	Access to facilities (hospitality) for staff.	6.28%	10
BEN 9	Maximum separation of elective and unscheduled patient flows	6.00%	11
BEN 6	Optimal investment to promote socio/economic wellbeing of the region	3.43%	12



4.0 Workshop Two - Options Scoring

A SWOT (Strength, Weaknesses, Opportunities and Threats) analysis was completed prior to the workshop for each Option, this is outlined in Section 2.0 of this report. This SWOT analysis was provided to delegates to be reviewed and inform the scoring of the Options against their relative ability to satisfy each benefit. A 1-5 Scale was adopted as summarised below and individuals were asked to discuss the merits and shortcomings of each option in relation to each benefit, using the SWOT analysis to inform this discussion, before providing individual scores using the 1-5 Scale. The individual scores from each of the groups were then collated and a mean established for that group.

Score:	1	2	3	4	5
Definition:	Not at all	Not very well	Moderately	Well	Very well

The completed exercise from each group was then collated and entered into the model developed by AA Projects. The model calculated the individual group scores and multiplied by the weighting derived from Workshop One to arrive at a Weighted Benefit Score per Option. This was then carried forward into a mean score of each Option across all of the Groups responses. The conclusion being the overall weighted score for each Option, which is then ranked in order of highest to lowest.

Following the session on the 7th September 2022 and the collation of scorings across each of the nine groups, the ranking of the three Options was identified as follows;

		Option 9 Raeden	Option 10 Gateway	Option 11 Estates
Mean	Weighted Score	3.21	3.44	3.41
	Rank	3	1	2
Median	Weighted Score	3.53	3.70	3.83
	Rank	3	2	1
Standard Deviation		0.33	0.39	0.53

Option 10 – Gateway was revealed as the preferred option when adopting a mean approach to group scores, however when viewed as a median, Option 11 - Estates is switched to Preferred. The standard deviation against Option 11 is also significantly higher than the other two Options, outlining a greater degree of polarisation in scoring amongst groups in relation to this site. Option 9 – Raeden was revealed as non-preferred through the option scoring with a significantly lower weighted score when viewed both as mean and median. This Option also demonstrates the lowest standard deviation, indicating that this consensus was reached relatively unanimously amongst groups.

5.0 Sensitivity Analysis

In order to test the robustness of the conclusions reached through the Options Appraisal process, sensitivity analysis was conducted to identify how much variation in the input values for any given variable have impacted the results of the mathematical modelling. By completing this, we are able to determine whether the conclusions of the Options Appraisal are robust or in any way ‘sensitive’ to particular assumptions.

Through a statistical trend analysis of the benefit and Option scoring by group and holistically across all groups, the sensitivity analysis was completed to review any instances of statistical variance, anomalies and discrepancies in scoring. This has been completed with a view to understanding whether any of these variables have an overall effect of ‘switching’ the weighting of the benefits, the preferred Option and/or the overall Option rankings emerging from both of the workshop sessions.

6.0 Benefit Analysis

6.1 Methodology

The methodology for the analysis on the benefits was conducted under the assumption that Option scoring was without discrepancy, variance or anomaly and was conducted to understand what effect group scoring had on overall benefit weighting.

Testing was completed to understand the detail behind the standard deviation amongst benefits, to review the ranking occurrences by benefit and to establish outliers in collective group scoring of benefits. Instances of outliers in scoring of Options were then removed from the modelling in order to understand the effect of this on the overall weighting of benefits.

6.2 Benefit Analysis - Findings

On completion of the benefits scoring and collation of data, the following standard deviations were calculated using the statistical model:



Benefit	1	2	3	4	5	6	7	8	9	10	11	12
STDEV	2.73	3.16	2.29	2.79	1.87	1.00	1.83	3.81	3.54	1.62	2.57	3.50

In order to test the standard deviation in more detail, an analysis was conducted to understand how many times each benefit occurred in each possible ranking from 1st to 12th in order to establish as a total amongst groups, the perceived variability of benefit rankings and how this relates to the overall standard deviation.

Ranking Occurrences by Benefit													
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Variability Rankings
Benefit 1	2	3	2	1	0	0	0	0	0	0	1	0	5
Benefit 2	0	1	1	0	0	1	2	1	0	0	1	2	7
Benefit 3	1	1	2	1	1	2	1	0	0	0	0	0	7
Benefit 4	1	0	1	1	0	1	0	1	3	0	1	0	7
Benefit 5	2	4	0	1	1	1	0	0	0	0	0	0	5
Benefit 6	0	0	0	0	0	1	0	0	3	2	2	1	5
Benefit 7	0	0	0	0	0	2	3	0	3	1	0	0	4
Benefit 8	2	1	0	1	1	1	0	1	1	0	0	1	8
Benefit 9	0	0	2	1	0	0	0	0	2	1	3	0	5
Benefit 10	0	2	1	2	1	0	2	0	0	1	0	0	6
Benefit 11	0	1	0	0	0	2	0	2	1	0	2	1	6
Benefit 12	2	0	1	0	0	1	2	0	1	0	1	1	7

The results of this analysis are largely in line with the general standard deviation, with benefits 2, 8 and 12 all demonstrating high variability in rankings. Benefit 9 however, occurred in only 5 different positions. Whilst the intention of the statistical analysis is not to make inferences or assumptions as to the content of the benefits, but rather the application or understanding of scoring, a review of the context of Benefit 8 and Benefit 9 does potentially help to understand the variability in scoring and in overall rank.

Benefit 8 is defined as follows – “The timely delivery of a facility that supports the net carbon zero principles and achieves with ease the required standards for minimisation of Healthcare Associated Infection (HAI) risk”.

Benefit 9 is defined as follows – “Maximum separation of elective and unscheduled patient flows”

Benefit 8 is effectively a measurement of timely deliverability of a sustainable and compliant building whereas Benefit 9 could be perceived as a matter of clinical preference. With benefit 9 being ranked as either relatively ‘important’ or relatively ‘unimportant’ this again ties back to the idea of preference whereas the number of elements contained within the wording of benefit 8 may have meant that delegates and groups picked specific elements to focus on e.g. timely deliverability or net carbon zero or minimizing HAI. This varied interpretation of Benefit 8 may be a contributing factor to its variability when compared with the preference value of Benefit 9.

Following on from this piece of work, outlier analysis was undertaken on the overall frequency of occurrence of perceived importance of each benefit from each group (demonstrated as a % in the table below). The objective here was to test whether there were any significant outliers amongst groups in relation to specific benefits. Through an analysis of quartiles of scoring for each benefit, upper and lower bounds were established to determine the range of reasonable scores for each benefit based on the general consensus of scoring amongst the 9 groups in attendance at the workshop. This is demonstrated in the table below.

Benefit	1	2	3	4	5	6	7	8	9	10	11	12
Group 1	3%	1%	10%	6%	14%	5%	5%	9%	12%	10%	9%	15%
Group 2	11%	9%	16%	11%	15%	3%	7%	5%	4%	7%	3%	11%
Group 3	14%	13%	10%	9%	15%	4%	5%	1%	12%	8%	6%	3%
Group 4	13%	6%	13%	5%	13%	1%	4%	15%	3%	10%	9%	8%
Group 5	14%	1%	8%	14%	8%	4%	4%	12%	13%	12%	4%	8%
Group 6	12%	6%	9%	5%	12%	5%	6%	13%	3%	13%	1%	15%
Group 7	12%	3%	12%	4%	14%	3%	9%	15%	4%	12%	6%	8%



Group 8	13%	10%	15%	8%	14%	3%	10%	5%	3%	9%	6%	4%
Group 9	12%	8%	8%	3%	15%	4%	9%	10%	3%	12%	12%	6%

Using the assessment of bounds, frequencies that did not fall within the upper and lower bounds were identified (as highlighted in red in the above table). To test whether these outliers had an overall ‘switching’ effect on the overall benefits weighting and to test what variance they had on the weighted score of each benefit, they were then excluded from the overall score calculation. The table below demonstrates the findings.

Workshop Results			Outliers Excluded from Analysis			Variance	
Benefit Ref	Weighting (for context)	Rank	Benefit Ref	Weighting (for context)	Rank	Weighting	Rank
BEN 5	13.31%	1	BEN 5	14.37%	1	+1.06%	0
BEN 1	11.30%	2	BEN 1	12.39%	2	+1.09%	0
BEN 3	11.18%	3	BEN 3	11.18%	3	+0.00%	0
BEN 10	10.14%	4	BEN 8	10.60%	4	+0.46%	0
BEN 8	9.57%	5	BEN 10	10.58%	5	+1.01%	0
BEN 12	8.59%	6	BEN 12	6.65%	6	-1.94%	0
BEN 4	7.17%	7	BEN 7	6.58%	7	-0.59%	0
BEN 7	6.58%	8	BEN 2	6.45%	8	-0.13%	0
BEN 2	6.45%	9	BEN 4	6.30%	9	-0.15%	0
BEN 11	6.28%	10	BEN 11	6.28%	10	0.00%	0
BEN 9	6.00%	11	BEN 9	6.00%	11	0.00%	0
BEN 6	3.43%	12	BEN 6	3.22%	12	-0.21%	0

Whilst the outlier analysis did not result in any switching values in terms of overall benefit ranking, it did have an effect on the applied weightings, with each of the top five benefits seeing an increase in overall weighting and the bottom seven benefits seeing a reduction or no movement. To test if the removal of outliers in scoring had the result of ‘switching’ values in terms of overall Option rankings,



the outlier excluded weightings were then applied to the scorings from the Options workshop and the results are found below.

Workshop Results			
	Option 9 Raeden	Option 10 Gateway	Option 11 Estates
Weighted	3.21	3.44	3.41
Rank	3	1	2
Outliers Removed			
	Option 9 Raeden	Option 10 Gateway	Option 11 Estates
Weighted	3.27	3.426	3.432
Rank	3	2	1
Variance to Workshop Results			
	Option 9 Raeden	Option 10 Gateway	Option 11 Estates
Weighted	0.057	-0.018	0.020
Rank	0	-1	1

Removal of the outlier benefits has the effect of switching the preferred Option, with Option 11 being revealed as preferred through this scenario. The change in overall weighted score was minimal however, and three decimal places were required to separate the two Options, further demonstrating the perceived similarity of these Options in terms of ability to satisfy the proposed benefits. Option 9 saw the biggest increase in overall weighted score, however this did not effect the outcome in terms of Option rank.

7.0 Options Analysis

7.1 Methodology

Following on from the benefit analysis, sensitivity and scenario testing was applied to a range of variables in terms of the Options scoring in order to assess whether Options would 'switch' in light of changes, alteration or exclusions regarding a number of key variables.

Nine scenarios in total were tested, with the objective of establishing;



1. Whether any groups can statistically be perceived to have influenced the scoring of Options favourably or unfavourably to achieve a desired Option ranking in first position and/or;
2. Whether there is evidence, based on trends, discrepancies or standard variation that likely demonstrates a misinterpretation of Options or benefits amongst groups and;
3. To establish whether the final ranking of Options is a true, accurate and statistically sound encapsulation of the perceived benefits achieved by each of the proposed Options.

The first scenario explored overall points awarded by groups, this scenario is tested in Section 1 separately to the other eight scenarios due to the potentially significant effect it would have if the analysis had contained any switching values. The remaining eight scenarios are tested in Section 2.

7.2 Section 1 - Distribution of Scoring Scenario

Each group involved in the Options Appraisal process was tasked with scoring each Option against each benefit, using a scale of 1-5. The statistical model then calculates the individual group scores and multiplies by the weighting derived from Workshop One to arrive at a Weighted Benefit score per Option with a maximum attainable value of 5 per Option. This is then carried forward into a mean score of each Option across all of the group’s responses. The conclusion being the Overall weighted score for each Option, which is then ranked in order of highest to lowest.

With twelve benefits assessed against the three Options available for scoring and a maximum award of 5 per Option, the total available awardable marks per group is 180. Using a mean to calculate the overall score and therefore rank also means that higher mark awards across Options may have a statistical effect on the overall rank of the Options. The first scenario tested for sensitivity was points distribution which is summarised in the table below.

Group	Total Awarded Score	As % of total	Group Selection for Preferred option
Group 5	141.67	11.8%	Estates
Group 6	138.00	11.5%	Raeden
Group 3	136.80	11.4%	Estates
Group 7	135.13	11.3%	Gateway
Group 2	134.67	11.2%	Estates



Group	Total Awarded Score	As % of total	Group Selection for Preferred option
Group 9	133.00	11.1%	Estates
Group 4	131.17	10.9%	Gateway
Group 8	130.13	10.9%	Gateway
Group 1	118.57	9.9%	Gateway
Total	1199.12	100%	

Due to the higher overall award of points by Group 5, their statistical effect on the ranking of the Options was highest, with Groups 1 & 8 having the lowest effect on the overall rankings. Despite this, the individual group effects on overall score were not significant, with the highest awarding group having only 1.9% higher overall effect than the lowest. In order to test the effect of this, whilst maintaining the constituent scores of each group, the overall award of marks was standardized and the effect is found below.

	Option 9 Raeden	Option 10 Gateway	Option 11 Estates
Weighted	3.63	3.83	3.80
Rank	3	1	2
Variance to Workshop result			
Weighted	+0.42	+0.39	+0.39
Rank	0.00	0.00	0.00

No significant variance or anomaly was detected through this analysis, with each of the Options attaining a higher overall weighted score without switching the overall ranking of any Options.

7.3 Section 2 - Scenario Testing – Overview of Scenarios



In order to further test the variables effecting the overall ranking of Options, eight additional scenarios were considered with the knowledge that Section 1 had no overall bearing on the rankings of Options. The scenarios tested demonstrate the effect on the overall ranking and scores of Options under the following variables;

Scenario	Variables Tested
1	Excluded input of Benefits with the highest standard deviation from benefits Workshop -Benefits; 2, 8, 9 and 12
2	Excluded input of Groups with the highest standard deviation in Option scoring – Groups; 1, 3, and 9
3	Excluded input of Groups with the lowest standard deviation in Option scoring – Groups 2, 6, and 8
4	Included only Groups with medium standard deviation – Groups 4, 5 and 7
5	Excluded input of Benefits with the highest standard deviation from Options Workshop -Benefits; 1, 4, 9 and 12
6	Excluded the scores of Group 5, 7 and 3 – as the highest mark awarding groups
7	Presented the results of only the top 3 Weighted Benefits
8	Presented the results excluding the top 3 Weighted Benefits

The results of the scenario testing in relation to the three site Options that emerged from the Options Appraisal Workshop are as follows:

Scenario	Top Ranked Option	Option Variance to Workshop	2nd Ranked Option	Option Variance to Workshop	3rd Ranked Option	Option Variance to Workshop
Workshop Result	Gateway	N/A	Estates	N/A	Raeden	N/A
1	Estates	+1	Gateway	-1	Raeden	-



Scenario	Top Ranked Option	Option Variance to Workshop	2nd Ranked Option	Option Variance to Workshop	3rd Ranked Option	Option Variance to Workshop
2	Estates	+1	Gateway	-1	Raeden	-
3	Gateway	-	Estates	-	Raeden	-
4	Estates	+1	Gateway	-1	Raeden	-
5	Estates	+1	Gateway	-1	Raeden	-
6	Gateway	-	Estates	-	Raeden	-
7	Estates	+1	Raeden	+1	Gateway	-2
8	Gateway	-	Estates	-	Raeden	-

The scenario testing of the Options demonstrates a fairly consistent degree of variance from the workshop outcome, with almost half of the scenarios resulting in a change in the top two ranked Options. The sensitivity analysis further confirms the difficulty in differentiating the top two options and supports the case that both should be explored at length through financial and economic appraisal in order to better understand their respective benefits and shortcomings. Further, the sensitivity analysis demonstrates that by comparison to the other two Options, Option 9, Raeden, provides the least suitability in terms of ability to satisfy the project benefits, with only one scenario tested having the effect of switching this Option from bottom. It is worth noting that this scenario involved removing 9 of the 12 benefits for the scheme and is therefore not representative statistically of overall benefit achieved by this Option.

8.0 Conclusion

The sensitivity analysis completed on the outputs of the Benefits Workshop, the Options Appraisal Workshop and the amalgamation of the results of the two has tested a range of factors. Standard deviation has been explored to determine the reason behind significant variance between Options and benefits and the effect that the exclusion of this variance has in terms of overall weighting of benefits and ranking of Options. Anomaly analysis has been conducted to determine individual instances of variation and/or discrepancy in scoring and to establish whether these anomalies are material to the overall outputs. Finally, scenario testing has explored what effect a range of independent variables have had on the overall ranking of Options.

On conclusion of our sensitivity analysis, our findings are that whilst the final ranking of Options are a true, accurate and statistically sound encapsulation of the perceived benefits achieved by each of the proposed Options, the degree of variation and sensitivity of the top two Options is such that neither



can be confirmed as the full and final preferred Option. We can however provide assurance, that both Option 10 and 11 for the National Treatment Centre have been identified in a robust and measurable way and provide suitable and viable sites for delivery of the project. Variation in scoring is to be expected with the number of attendees, the diversity in working professions of those that attended and with the level of perception, understanding and interpretation required to score both the benefits and the Options. With that said, the minimal change to variables required to switch the top two Options is such that distinguishing a single Option as preferred has not been possible.

We can therefore conclude that both Option 10 Gateway, and Option 11 Estates, should be taken forward for further review through economic and financial appraisal in order to better differentiate between the two site Options.

Appendix A – Benefits Alignment Process and Benefit Summary

Initial Investment Objectives	NHSG & HSCP Objectives	Local Authority Objectives	Scottish Government Objectives	Elective Care Principles (OBC)	Aligned Programme Objectives	Critical Success Factors	Benefits to be gained (OBC)
Improve future service capacity by improving supporting asset base.	Care closer to home	Economic Growth	Population health	Care is centred in the community setting as far as practicable and is provided as close to home as possible	Care is centred in the community setting as far as practicable and provided as close to home as possible; promotion of prevention and self care	Strategic fit and business needs	Development of one-stop model of outpatient and ambulatory care
Improve service performance and efficiency by optimising service redesign.	Avoidance of hospital admissions	City regeneration	Health system sustainability	Care and treatment is delivered as far as possible on a planned basis, is person centred and organised around individual needs	Improve service performance and efficiency by optimising service redesign, with care and treatment delivered as far as possible on a planned basis	Potential value for money	Increased efficiency and capacity for day case treatment and Endoscopy:
Service redesign is enabled by use of, and access to, technology.	Improved whole system flow	HUB Organisations	Economic growth	Primary Care colleagues are supported in having optimal access to diagnostics	Improved services and sustainable workforce and equity of local access to treatment as far as possible and regionally where required, with harmonised access agreements across NoS Boards.	Supplier capacity and capability	Development of alternatives to Hospital attendance/admission:
Meet user requirements for service by being more person-centred.	Self care	Net Zero Carbon / emissions reductions	Once for Scotland approach	Hospital attendances and admissions are minimised	Hospital attendances and admissions are minimised	Potential affordability	Improved access to diagnosis and treatment:
Improved services and sustainable workforce and equity of local access to treatment as far as possible and regionally where required, with harmonised access agreements across NoS Boards.	Prevention	Building resilient sustainable buildings	Net Zero Carbon	Waiting times are equitable and optimised through efficient use of resource, technology and supporting processes	Waiting times are equitable and optimised through efficient use of resource, technology and supporting processes	Potential achievability	Improved service performance
Improved facilities in place to support modern outpatient care and optimised inpatient/day case activity.	Realistic Medicine		Patient centred service	Services and workforce are planned locally and regionally, in order to sustain them in North Scotland	Building resilient sustainable buildings on a Net Zero Carbon principle		Improved separation of elective and unscheduled care:
	System remobilisation		The promotion of self-management will have a significant impact on the relationship between the public and health & social care organisations		Regeneration and economic growth benefits		Improved service and workforce sustainability:

Annex D to NTC-G Proposed Site Option
NTC Grampian – Additional Site Search

Initial Investment Objectives	NHSG & HSCP Objectives	Local Authority Objectives	Scottish Government Objectives	Elective Care Principles (OBC)	Aligned Programme Objectives	Critical Success Factors	Benefits to be gained (OBC)
	Community Hubs						Enhanced clinical research facilities:
							Improved Achievement of Target Operating Models (TOMs)

Previous Benefits	Benefit Ref.	Updated Benefits
Promotes service redesign/flexibility and optimises planning (including improved use of technology). Creates a supportive patient environment	Benefit 1	Promotes service improvement through <i>service</i> redesign, pathway flexibility and optimises planning (including improved use of technology). Creates a supportive patient environment
Enhanced and efficient patient flows	Benefit 2	Site location and delivery best supports strategic objective of development of an integrated health & social care solution.
Improved access to diagnostics and treatment; supports the implementation of realistic medicine	Benefit 3	Improved access to diagnostics and treatment; supports the implementation of realistic medicine
Delivery timescale	Benefit 4	Optimises investment to support meeting the clinical needs over the life of the facilities
Promotes service and workforce sustainability	Benefit 5	Promotes service and workforce sustainability. Promotes Training & Education. Delivers right care, right place, right time via dedicated NTC staff
Ease of access to the facility in general and egress in emergency situations	Benefit 6	Optimal investment to promote socio/economic wellbeing of the region

Annex D to NTC-G Proposed Site Option
NTC Grampian – Additional Site Search

Improved performance against agreed TOM metrics (e.g. LOS, throughput)	Benefit 7	Improved patient care pathways ensuring equity of local access to treatment as far as possible and regionally where required, with harmonised access agreements across NoS Boards.
Enables flexibility and future proofing	Benefit 8	The timely delivery of a facility that supports the net carbon zero principles and achieves with ease the required standards for minimisation of Healthcare Associated Infection (HAI) risk.
	Benefit 9	Maximum separation of elective and unscheduled patient flows
	Benefit 10	Physical access to the building for patients’ visitors, relatives, carers of patients by public transport/by car including parking spaces/accessibility, good connectivity with optimal natural surroundings and access to supporting facilities (hospitality).
	Benefit 11	Access to facilities (hospitality) for staff.
	Benefit 12	Flexibility/Future Proofing with reference development of service need and expansion to other services

Appendix B – SWOT Analysis

Attached as Appendix to report.

Appendix C – Paired Objectives Process Summary



Weighted Benefits – Paired Objectives

- Value Management Tool for objective evaluation
- Group work - Pair each benefit off against all others
- Frequency of occurrence converts to % and creates prioritised (weighted) benefits
- Group assessment collated and entered within statistical model to create a Sample Mean (average)

	BENEFIT 1	BENEFIT 2	BENEFIT 3
BENEFIT 2	Insert 1 or 2		
BENEFIT 3	Insert 1 or 3	Insert 2 or 3	•
BENEFIT 4	Insert 1 or 4	Insert 2 or 4	Insert 3 of 4

	BENEFIT 1	BENEFIT 2	BENEFIT 3
Count Frequency:	Number of times '1' occurs	Number of times '2' occurs	Number of times '3' occurs
Expressed as % (of o/a frequency)	X%	X%	X%