HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

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STATEMENT OF SIGNIFICANCE

FORT GEORGE

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HISTORIC ENVIRONMENT SCOTLAND
STATEMENT OF SIGNIFICANCE

FORT GEORGE

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1 Summary

1.1 Introduction

Fort George is the finest example of 18th-century military engineering in the British Isles. The artillery fort was begun by the government forces of George II in 1747, in the aftermath of the 1745 Jacobite Uprising (the 'Forty-Five'), as they tried to enforce order in the Scottish Highlands. When building ended in 1769 the Highlands were peaceful, and the fort never saw a shot fired in anger. Nevertheless, it has continued in use ever since as a barracks, and remains virtually unaltered to this day.

Fort George is still an active Army base. From 1881 to 1961 it served as the regimental depot of the Seaforth Highlanders. Following a merger with the Queen's Own Cameron Highlanders in 1961 they were known as the Queen's Own Highlanders (Seaforths & Camerons). In 1964 they marched out following a major Army reorganisation. Since that time, the fort has been used by the Territorial Army and various regiments. Also in 1964, the Ministry of Defence handed over responsibility for maintaining the fort to the Ministry of Public Building and Works (a predecessor body of Historic Environment Scotland), and it was first opened as an Ancient Monument to visitors in that year.

Fort George remains an active Army base and a visitor attraction. 61,300 visitors passed through its principal gate in 2016. Although some of the buildings remain 'out of bounds' to visitors, the following are accessible:

1) Regimental museum of the Queen's Own Highlanders, in the north staff block;
2) Historic barrackrooms, in part of the south barrack block;
3) Grand magazine (including the Seafield Collection of arms and military equipment);
4) Garrison chapel;
5) Casemates exhibitions;
6) Workshops, in Prince Henry Frederick's bastion (restaurant);
7) Ravelin guardhouse (visitor centre).

1.2 Statement of significance

- Fort George is the finest example of 18th-century military engineering in the British Isles, and one of the outstanding artillery fortifications of Europe. It remains virtually unaltered since its completion, even though it has remained in use as a barracks ever since. It is the survival of the buildings contemporary with the fortifications that gives the fort its unique quality.
- Fort George is arguably the most visible and tangible reminder of the various Jacobite Risings of the first half of the 18th century, and, with the nearby battlefield of Culloden (in the care of the National Trust for Scotland), remains the most emotive and evocative reminder of the

famous ‘Forty-Five’ Rising, led by Prince Charles Edward Stuart (‘Bonnie Prince Charlie’).

- The design of Fort George was the responsibility of Lieutenant-General William Skinner, a very experienced military engineer who rose to become Chief Engineer of Great Britain, and its construction was carried out by Scotland’s best-known architectural dynasty, the Adam family.
- Fort George is the spiritual home of the Seaforth Highlanders, whose territorial depot it was from 1881 to 1961. Following their amalgamation with the Queen’s Own Cameron Highlanders in 1961, they were renamed the Queen’s Own Highlanders (Seaforths & Camerons). Their regimental museum is a major attraction within the fort.
- Fort George has a longstanding and emotional connection for Highlanders, both positive and negative, which is manifest in the music, songs and oral history of the Gaels.

2 Assessment of values

2.1 Background

In the aftermath of Culloden, Prince Charles Edward Stewart fled the country and Government forces under the Duke of Cumberland brutally restored order in the Highlands. Following the Act of Proscription 1746 (which included the Dress Act, banning Highlanders from wearing their traditional clothes) and the Heritable Jurisdictions (Scotland) Act 1746 which abolished the rights of Clan Chiefs, they effectively crushed the traditional way of life in the Highlands. Hanoverian garrisons were established, many of them housed in existing strongholds such as Corgarff, Duart, Tioram and Braemar. In addition, the Great Glen forts of Fort William and Fort Augustus were repaired. Fort George was built to replace an earlier fort in Inverness - it was initially proposed to rebuild the fort at Inverness, but this was abandoned when the Town Council sought compensation for the partial loss of use of their harbour. A new site was found on the loyal Cawdor Estates, 11 miles east of Inverness. It was the biggest construction job ever completed in the Highlands, requiring 1,000 men to build and many of the materials to be brought in by sea.

Fort George is essentially a one-period site, constructed between 1747 and 1769. It was conceived as a secure base for two field battalions (around 1600 men) and built in response to the Jacobite Rising of 1745/6. It was intended to subdue any further opposition to the government. However, as the Jacobite threat disappeared after Culloden, it never saw action instead serving as a recruiting and training base. Many of the soldiers recruited had previously fought against the government at Culloden.

The only significant addition is the regimental institute, built in 1934. All other subsequent works were relatively minor, mostly comprising alterations to the seaward rampart and changes to the buildings’ interiors.

Description
Fort George sits within a man-made landscape, created largely during the original building programme. The only original built structures here – the 'king's stones' delineating the limit of Crown land (about 1km east of the fort itself) - were subsequently joined by an array of buildings; many of these have been demolished (eg, the early 20th-century married quarters) and those existing today date from the major MOD rehabilitation of the early 1980s. The fort comprises the following elements: [1]

Outworks.
Fort George covers 42 acres. The outworks are concentrated at its eastern, landward, end, from where a Jacobite assault would be expected after Culloden (the Jacobite army had little or no naval support, save what it might have got 'second-hand' from the French). These works comprise the following (roughly in the order visitors reach them on entering):

- The **glacis**, a broad, smoothly-graded grass-covered strip of ground, 50m wide, falls in a gentle slope away from the top of the parapet wall of the covered way
- The **covered way** is the outermost defensive line, so-called not because it was roofed but because it was 'protected' from attacking horizontal fire by the brick parapet wall.
- Two angular enlarged areas of the covered way were **places of arms**, used as mustering points for counter-attack.
- The **ravelin** behind the covered way, constructed in 1749-53, is the largest and strongest of the outworks. Triangular in shape, it is completely isolated from the outworks by its own ditch. The ravelin had its own guardhouse (now the visitor centre), built in 1753.
- The **principal ditch**, some 300m long and 50m wide, is an excavation that matches the bastions in its great scale; a well-nigh impassable obstacle in itself, being swept by cross-fire from the flanking bastions of the east rampart.

Rampart and bastions
The **rampart** (c 1km in length) rises above the principal ditch. It comprised the main defence of the fort, surrounding it on all sides. It is interspersed with **bastions** (angular projections from the ramparts for gun emplacements, allowing sophisticated fields of fire) together these give the fort its characteristic footprint. **Casemates** (bomb-proof stores and refuges for defenders) are set into the inner face of some ramparts and **sallyports** in the N and S walls. The **east rampart**, facing landward, and fronted by the ravelin housed the principal gate; this is the most strongly defended side as it was from this direction that a land-based attack was anticipated. The ramparts and bastions are named after (male) members of George II's family.

[1] A more detailed description of the fort is given at Appendix 3; see also Gifford (1992), MacIvor (1976) and MacIvor (2006). For contemporary plans of the fort, see N.L.S., MS. 1646 Z. 02-50b; MS. 1647 Z. 02/51-55; MS. 1650 Z. 02/53-58.

Internal buildings

Inside the Fort severely plain classical blocks of officers' residences, barracks, offices and ancillary buildings are set symmetrically about a main axial road passing east-west. The main East gate leads through the large open expanse of the parade ground with two ranges of accommodation blocks for the Fort's permanent garrison – the gunners and staff officers. The Governors house is in the South pavilion, and stables, wash houses and coach houses were also provided.

The Barrack Square is the centrepiece of the design enclosed by three storey barracks for 1,600 officers and men. Off the main square were ancillary buildings housing latrines, ordnance stores, magazine and various workshops. To the far west of the fort are the provision stores including bakery, brewhouse and finally the chapel.

The only additional building within the fort since its completion in 1769 is the Seaforths' regimental institute, built behind the ordnance storehouses in 1934.

Outside the Fort

In 1767 the only noted structure beyond the rampart was a **pier** on the south side to serve the civilian ferry from Chanonry Point (it replaced a temporary pier built for the construction works). The extent of Crown land was delineated by the '**king's stones'**, a line of widely-spaced uprights c. 1km east of the fort.

Over the years, buildings and yards have come and gone, as have the temporary encampments erected at times of national emergency, when the fort itself was unable to accommodate the increased numbers. A few of these buildings have survived, most notably the **water tower** at the furthest extremity of the militarised zone, built in 1900 to replace the brackish water in the fort's wells, and the three concrete **platforms** for the WWI seaplanes, on the south side of the fort. Today, the militarized zone is occupied by Army buildings (for training and military stores) and HES's workshops and stores, built during the early 1980s.

[Note: Beyond Crown land is the graveyard of Kirkton of Ardersier kirk (now ruined), where numerous military personnel and their families are buried. Although the Army had no legal jurisdiction over either the kirk or graveyard, being under the aegis of the Church of Scotland, it was used by military personnel both as a place of worship and for burial. Numerous headstones provide a useful additional resource to the documentary and other evidence.][2]

2.2 Evidential values

Because of its completeness in design, execution and state of preservation the physical fabric of Fort George ranks very highly for evidential values. The collections, artefacts, finds and archival material related to the place add

[2] See R.C.A.H.M.S. (1979) *The Archaeological Sites and Monuments of North-east Inverness,* no.170, 23. The kirk and cemetery appear on Skinner's first design proposal for Fort George (N.L.S. MS. 1650 Z. 47/21).

immeasurably to the complete picture of 18th and 19th century military life which the totality of the site can provide. Added to this, oral tradition and culture provides a further important strand of evidence. Below are noted some of the most important aspects of evidential value of Fort George as a resource for study and understanding of the past:

- The structures and fabric of the Fort itself

The fabric of the place is as it was conceived remains in large measure unaltered and while interiors have obviously been upgraded over time, the publicly accessible barrack rooms along with interiors of the Magazine and Chapel all retain important evidential information.

During the major Army rehabilitation works of the early 1980s, HES predecessor body made a rapid survey of the interiors of the buildings affected - the artillery and staff blocks, barrack blocks, ordnance stores, provisions stores and casemates - recording features of note before works began. The most useful information came from the west range of the north barrack block, which had remained largely unaltered from the 19th century, and the east range of the south barrack block, which had remained unoccupied since the period of National Service in the 1950s.

- Recovered artefacts

Outwith the ramparts, a project to assess the artefact assemblages recovered by metal detection from the outside Fort George has been undertaken in conjunction with Treasure Trove[3]. While the assemblage remains to be fully assessed it is evident that in quantity, range and quality the material is of national importance in relation to 18th century military and domestic life.

This project has also recorded evidence of human presence on the site before the construction of the Fort. This seems primarily linked to the pre 18th century crossing from Chanonry Point to Ardersier. The earliest find is an Urnes style mount of late 11th/early 12th century date; a single find, it can be parallelled by a number of stray finds of Scandinavian or Viking type with coastal contexts along the Moray Firth coast. 1747[4] proposals for the Fort show a single building existed near the present chapel site.

- Documentary resources

Coupled with this archaeological evidence there is a rich source of documentary evidence in the form of documentation and plans relating to the construction and use of the site throughout its history. While most of this is held by bodies other than HES, much of it is available for study through publicly available archives.

[3] This report is forthcoming and will be made available separately
[4] Depicted in red on Skinner's Board of Ordnance plan (N.L.S. MS. 1647 Z.02/57a).

- Displayed collections

The extensive collections of artefacts relating to the fort and military history, including armour and weapons provide a rich evidential resource held in an appropriate location.

- Oral tradition

The long standing connection which the Highlanders have with Fort George, as being the training ground of the Highland Regiments is manifest in Gaelic music, song and oral history. Many Highland soldiers were, of course, trained elsewhere but the Fort has a special place in Highland popular culture.

Future potential

The potential still exists, within and outside the fort, for further archaeological discoveries relating to its construction and use down the years. This includes possible evidence for the works compound established during construction work at Black Town of Ardersier, with its 'brick habitations' and 'sod hutts'.[5]

2.3 Historical values

Fort George is clearly of great importance to the understanding of British political and military history. It is also very significant for its impact upon Highland history and culture and for its association with the British Army which has continued up to the present day (2018).

Fort George has physical remains and collections that illustrate:

The history of artillery fortification

Fort George is one of the outstanding artillery fortifications of Europe. Although by no means comprehensively demonstrating the full repertoire of artillery fortification devices, it perfectly illustrates the basic principles deemed essential to secure a military base or town from a fully-pressed artillery siege in the mid-18th century. This aspect is further discussed in section 2.4 Architectural Values

Army life: barracks and training base

As well as demonstrating the theory of artillery fortification, Fort George, particularly through its buildings, recovered artefacts and archival material is particularly able to tell the stories of the soldiers and civilians who lived and worked here from its inception. For instance many regimental buttons have been found; not only can these be dated but they also provide a record of the units and individuals who were stationed or posted at the Fort. The sequence of buttons originates from a surprising variety of places in the British Isles while others are from specifically local or Gaelic contexts. Allied to this, the quantity of musket balls recovered illustrates the (post 1760s) rise of the professionally trained soldier experiencing live-fire conditions at the Fort which would simulate actual battle field experience.

[5] See Fleming (1962), 213, and MacIvor (1976), 413.

As naval seaplane base
A naval seaplane station was also established at the fort, to help defend the naval base at Invergordon; the three concrete 'aprons' for the planes still remain. Winston Churchill, then First Sea Lord, was among those who fly out from it.

Fort George also has four close historical associations, which are illustrated below:

Lieutenant-General William Skinner[6]
Fort George's layout and design is chiefly down to one individual, William Skinner (1700 – 1780). Born in St Christopher (St Kitts), West Indies his uncle was Captain Talbot Edwards, chief engineer in Barbados and the Leeward Islands and later second engineer of Great Britain. On Edwards' death in 1720, William acquired all his maps and plans, dating back to the 1660s, a rich source of material for a budding military engineer.

William received a warrant as practitioner engineer in May 1719 and started work at the Ordnance Office in the Tower of London and then on various military sites in Britain and Europe (Menorca and Gibraltar). In 1746 he was appointed chief engineer of North Britain, and instructed to go to Scotland to direct military works there in the aftermath of Culloden. He considered Fort George his finest work; in a letter to John Adam (1752) he wrote: "I grow old […] and my only view is to see my monument at the Point finished with credit, as it been so long my nursery."[7] He worked on many other major military projects including Edinburgh and Dumbarton castles, Portsmouth and Plymouth.

William Skinner cannot have been an easy man to work with - or for, to judge by what Robert Adam had to say about him. The latter wrote of the "flushes, furies and madnesses of that most ridiculous of mortals" and that "one day we were kissing hands, another day we were cutting each other's throats".[8] Upon the completion of Fort George in 1769, Skinner was appointed its first governor. He was so proud of his design that he commissioned a model of it which in 1771 he presented to the Board of Ordnance with over 30 of his plans and drawings of it.

The Adam Family
William Adam secured the contract for the building of Fort George which his sons continued after his death. Fort George is associated with the Adam family of architects, not so much for their prodigious architectural talents but for their contribution as building contractors.

The founder of the family business was William Adam (1689-1748).[9] By the time William Skinner was drawing up his plans for Fort George (1747),

[6] See Vetch (1909); Latcham (2004)
[7] B.L. Add. Ms. 17501, fol. 148; quoted in Latcham (2004), 873.
[8] Quoted in Fleming (1962), 86 and 118.
[9] See Gifford (1989).

William had established himself as Scotland's foremost architect, designing such masterpieces as **Duff House** and **Mavisbank House**. However, being a stonemason to trade, he had also built up a successful building contractor's business, and in 1730 was appointed principal mason to the Board of Ordnance in Scotland. His firm was soon engaged by them on major works at **Edinburgh Castle** (chiefly the northern and western defences).[10] In 1746 he secured contracts for works at Fort Augustus, **Blackness**, Carlisle, **Dumbarton**, **Edinburgh**, **Stirling**, Fort William and Duart. In 1747 he got the massive job of constructing the mason work and brickwork for Fort George. However, before building work got underway, in late 1748, William died.

Responsibility for presiding over the building works passed to the eldest of William's sons, John (1721-92), who inherited the family business. John took his younger brother, Robert (1728-92), into partnership (followed by the youngest brother, James, a short time later); all were closely involved in the building of Fort George.[11] They stayed there every summer, living in what Robert described as 'brick habitations' outside the fort; there was even a sloop there named *The Adams of Fort George*.[12] The money they earned there later financed Robert and James's tours to abroad. However, Robert quickly tired of the work – and of Skinner too - and in 1754 left for the continent to pursue his architectural career. James remained with his eldest brother until he too left in 1758 to join Robert in their new architectural practice.

Whilst the contribution of the Adam family to the construction of Fort George (and vice versa) is not in doubt, their contribution to the architectural and sculptural detail is largely a matter of guesswork. It seems likely that William Skinner would have looked to William Adam in those heady first days for advice regarding the design of the buildings, and it also seems likely that William's sons subsequently contributed detailed design work for their construction and interior fitting-out, for some of the details betray more than a hint of Adam influence. The only definite Adam contribution is the chimneypiece in the great dining room of the governor's house, designed by either Robert or James.[13] Other possible Adam-inspired details include the garrison chapel, principal gate and sentry boxes.

The Jacobites

Fort George is perhaps most closely associated in the public mind with the Jacobites, even though the forces of James VIII & III (the 'Old Pretender') and his son Prince Charles Edward Stuart (the 'Young Pretender') never got the opportunity to attack it.

Ardersier Point, where Fort George stands, was just a 'barren sandy point' on 16 April 1746 when Bonnie Prince Charlie's Jacobite army fought the government army of George II on Drummossie Moor (now better known as

[10] Tabraham and Grove (1995), 85.
[11] See Fleming (1962).
[12] Fleming (1962), 104.
[13] MacIvor (1976), 478.

Culloden Moor), just 5 miles away to the SW, and were routed.[14] In the aftermath of the battle, George II's youngest son, Prince William Augustus, Duke of Cumberland, the victorious general, set about ensuring that the Highlands should never again threaten his father's throne. Among the oppressive measures he took was the construction of a new fortress to securely house two infantry regiments. By the time the fort was effectively 'up and running' as a military base (1760), George III had succeeded to his father's throne and there was no serious Jacobite threat.

Rapid social and economic change had aided the political and military measures taken after Culloden to rule the Highlands; for example, ironworks had been set up by English companies at **Bonawe** and Craleckan (now Furnace), in Argyllshire, in the 1750s. Fort George, no longer required to meet an internal threat, soon found itself with a markedly different role, that of training depot for newly-raised Highland regiments prior to being posted abroad.[15]

The Seaforth Highlanders

Fort George has been an active Army base throughout its entire existence. During that time it has been used by many different units - regiments, militias, territorials and National Servicemen. However, it is with the Seaforth Highlanders that the fort has the closest association.[16]

Highland military service has long been associated with social obligations to clan and chief and it is doubtful that many of the famed Highland Regiments would have been raised without the influence of the Highland chiefs displaced after 1746. At a time when the clan system was disintegrating, and chiefs faced economic ruin, many of them realised the only way forward was to offer to raise regiments of infantry from among their clansmen.

The 72nd Highlanders (Duke of Albany's Own), was formed in 1778 by Kenneth Mackenzie, Earl of Seaforth, in 1778. This was at a time when the highland dress (kilt) had been banned for 32 years[17], and joining the government army ironically offered the only opportunity for highlanders to wear their traditional dress. The 78th (Ross-shire Buffs), was raised in 1793 by his grandson, Francis Mackenzie, 1st Baron Seaforth. Over time, joining the army and being able to wear a kilt again became a source of pride for the clansmen, and this is manifest in the poetry, songs and stories of the Gaels.

In 1881 the British Army went through another of its numerous reorganisations, this one resulting from reforms by Sir Hew Childers, secretary of state for War. New regiments were formed, mostly through amalgamating existing regiments, with each new regiment given a territorial depot.[18] Fort George became the depot of the Seaforth Highlanders, an

[14] For a recent re-assessment of 'the 45', see Duffy (2003).
[15] See Tabraham and Grove (1995), 109-114.
[16] See Fairrie (1984-94).
[17] Since the Dress Act 1746, part of the Act of Proscription
[18] *The London Gazette*, (1 July 1881), No. 24992, pp. 3300-3301

amalgamation of the 72nd Highlanders and the 78th (Ross-shire Buffs). Fort George remained the Seaforths' depot for the next 83 years.

The Seaforths first saw action at Tel el-Kebir (September 1882), during the Anglo-Indian War. Thereafter, they fought across the globe. They were heavily involved in both World War I and II, seeing action on the Western Front, in Mesopotamia, North Africa and Sicily, India and the Far East. A bronze memorial plaque to the Seaforths killed in World War I is positioned above the inside arch of the principal gate.

In 1961, the Seaforths amalgamated with the Queen's Own Cameron Highlanders to form the Queen's Own Highlanders (Seaforths & Camerons). [The Camerons' regimental depot was Cameron Barracks, in Inverness, purpose-built for them in the 1880s.[19]] Just three years later (1964), following another Army reorganisation, dedicated depots were abolished and the Queen's Own Highlanders formally marched out of Fort George. However, the association with the Seaforths was not severed for their regimental association remains in the fort together with the regimental museum of the Queen's Own Highlanders. Another visible association with the Seaforths is their dog cemetery in the north place of arms, where regimental mascots and officers' dogs were interred.

2.4 Architectural and artistic values

Fort George has three core architectural values – (1) as an 18th-century artillery fortification, (2) as a Victorian coastal battery, and (3) as an example of Georgian domestic architecture.

1) An 18th century artillery fortification

The design of Fort George derives from an international architectural vocabulary developed by military engineers across Europe over the preceding 300 years (see *Historical Values*, 2.3). Whilst William Skinner created nothing innovatory in the way of design, what he did produce was fully conversant with current 'best practice' and would undoubtedly have met the brief given to him – to create an infantry barracks capable of withstanding a fully-pressed siege by an army with heavy artillery but with limited naval support. The fortifications have fittingly been described as "a harmony of pure reason and serene menace".[20]

The ultimate accolade of what Skinner achieved was paid by two of his greatest military contemporaries. Lt. Col. James Wolfe, a veteran of Culloden and soon to be hero of Quebec, on seeing Skinner's plans, described the fort as 'the most considerable fortress and best situated in Great Britain',[21] whilst Lord Ligonier, commander-in-chief of the Army, commented: "I shall be extremely glad they [the French] would do it [ie, attack it], because I look upon that fort to be impregnable against any force that could be sent against it."[22]

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[19] Gifford (1992), 192-3.
[20] MacIvor (1976), 412.
[21] Quoted in Wright, R. (1864). *The Life of Major-General James Wolfe*., 178.
[22] Quoted in MacIvor (1976), 413.

The rampart
The main defence was the rampart, a massive earthwork upwards of 10m high and 20m wide, with a sloping masonry scarp, 3.60m thick at the base, facing the field of fire. This scarp, or curtain, was further reinforced by internal stone buttresses, buried beneath the enormous piles of earth. The top of the earthen infill was levelled into a broad platform (terreplein), accessed from the fort interior by six easily-graded ramps and providing ample space for the movement of men and guns, as well as room for additional defences in times of siege. The parapets facing the field were also earth-filled and turfed, with a brick revetment and firing-step to the rear.

The rampart was complemented by bastions and demi-bastions (half bastions) projecting outwards. Polygonal on plan, each was designed in such a way as to give a complete cover of defensive fire from the cannon embrasures and musketry firing-step at the parapet level of the bastion flanks, along the adjoining lengths of curtain and the nearer flank and face of the adjacent bastions. The lowest level of the scarp had bossed rustication and the near the top was a cordon, a continuous horizontal half-round stone projection, both designed to hinder escalade by an attacking force. The external angles of the bastions were topped by stone sentry-boxes from which vantage point the whole of the scarp might be observed.

The only defence beyond the seaward-facing rampart were two places of arms, one facing south and the other north. These had two functions: to help defend the two side-gates into the fort, and to provide a sheltered mustering-point for a sortie along the shoreline.

In stark contrast, the defences facing landward (east) were considerable, and this is where Fort George's chief interest as an artillery fortification lies. Elements central to Vauban and Cormontaigne's systems (see *Historical Values*) are all in evidence. By the 1740s, improved siegecraft (such as the 'parallel' technique invented by Vauban himself) made it possible to bring gun-batteries right up to the outer margin of the ditch and so make a breach in the rampart by close-range fire. The need to delay an attack at a safe distance from the rampart led to the development of outworks such as those at Fort George.

The outworks
The outworks comprised (from the rampart outwards):

- The principal ditch. This terminated at each end in masonry dams, called *batardeaux*, the tops of which had copes and drums designed to prevent an enemy attempting an escalade of the bastions. Swept by cross-fire from the bastions, the ditch was by itself an impassable obstacle to unsupported assault.
- The ravelin. This was the largest and strongest of the outworks. Completely isolated by its own ditch, its triangular shape was dictated by the need to give it complete flanking defence from the fort bastions. Whilst the two outward faces of the ravelin had a cordoned rampart complete with parapet, sentry-box, gun-embrasures and a musketry firing-step, the rear (west) was intentionally kept open so that it could

be commanded from the bastions and curtains of the fort itself. Thus, even if the ravelin were evacuated, the defenders could still contest any attempt by an enemy to occupy it;

- The covered way, with its counterscarp, two places of arms, two lunettes and two traverses and glacis. This entire area enabled the defenders to move about reasonably freely, including down into the ditches via flights of steps; they could also enter or leave the ravelin and fort by doors at the level of the ditch-bottom. No cannon were emplaced here. Instead, soldiers used small, portable trench mortars to complement their muskets; splendid examples of Georgian bronze trench mortars are on display in **Edinburgh Castle**.[23]

The grand magazine

The crouching mass of the grand magazine, in the hollow of Prince William Henry's bastion, was another integral element of Skinner's artillery fortification. Completed in 1759, it was designed to house about 2,500 barrels of gunpowder in dry, secure conditions.[24] Skinner, having seen how easily the magazines at the first Fort George, in Inverness, and Fort Augustus had been blown up by the Jacobites during the '45, did his utmost to ensure that his magazine wouldn't follow suit. It was built strong enough to resist direct hits from mortar bomb, with thick brick vaults carried on stone pillars. The spacious interior was well-ventilated, with heavy timber floors above a voided solum, and angled ventilation slits, protected by shutters, through the walls (the angled arrangement ensured that no bullet could ricochet from outside). To prevent accidental sparks, no iron fittings were used in its construction; the floors were held by wooden dowels, and the doors and shutters were sheathed in copper. [Note: Skinner's powder magazines built at Purfleet, Essex, in the 1760s had a further innovation – the roof voids were filled with sand to make them even more resistant to mortar attack.]

Fort George has never been attacked, neither have its landward defences been altered in any way. Nowhere else in Britain can so complete a view be obtained of the defensive system of an 18th-century artillery fort.

2) A Victorian coastal defence

In Skinner's time coastal defence was not seen as needing independent recognition, for the same principles applied whether the attack was from land or sea. The Crimean War (1853-1856) changed that. In 1855, at Kinburn Fort, guarding the entrance to the River Dneiper, the French deployed for the first time 'armoured floating batteries', in effect, armour-plated ships.[25] Moreover, the guns on those batteries used shells, not round shot. The result was devastating for the Russian defenders. From then on, forts needed to be at least as well armoured as ships.

Napoleon III's threat of invasion in 1859 resulted in a major upgrading of Britain's coastal defences. Fort George (and **Broughty Castle**) were among the places to receive an 'upgrade'. Though by no means as major an upgrade

[23] Blackmore (1976), 98-9.
[24] N.L.S. MS. 1647 Z. 02/60.
[25] See Hogg (1975), 81-92.

as those given to defences along the English Channel, Fort George's battery demonstrates the 'direction of travel' then being taken. Whilst no elaborate armoured casemates were built (such as those still extant at Bovisand Fort, in Plymouth Sound), most of Skinner's seaward-facing embrasured rampart was scrapped and replaced by a new coastal battery, comprising an indented turf parapet armed with large traversing guns (ie, 68-pdr. and 10" shell guns) firing 'en barbette'; the iron rails (or slides) for manoeuvring the guns still remain in the ground, as well as the recesses for the shot and shells in the adjacent rampart walls. This armament was deemed at the time 'sufficiently (to) answer its purpose against desultory attack."[26]

The original armament would have consisted of large, smooth-bored (SB) muzzle-loaded guns, similar to the two 68-pdrs now on display at the Point battery and Prince Henry Frederick bastion (which came from the HMS *Briton*, scrapped in Inverness in 1908). By 1865, however, such was the pace of change of artillery that a new-fangled rifled muzzle-loaded gun (RML), firing a studded shell out of a rifled barrel to give more speed and accuracy, had taken over. The unique Armstrong Mark III (RML) 64-pdr on its replica traversing carriage emplaced at the Duke of Cumberland bastion, discovered being used as a bollard in Dingwall harbour, is a perfect example.

3) Georgian domestic architecture

Behind Fort George's formidable artillery fortification William Skinner built what was, in effect, a small Georgian 'new town' for a population of up to 2,000 (roughly a quarter of the size of Inverness at that time). In addition to the residences for the governor and his staff officers and the artillery unit, and the barracks for the officers and men of the two infantry battalions stationed there, were a bakery, brewery, chapel and workshops, as well as stores for arms and military equipment, and black powder. A hospital and prison soon followed. Whilst by no means on the scale of the Georgian New Town built in Edinburgh from the 1760s on, Fort George was none less a Georgian 'new town', with architecture to match. Samuel Johnson wrote of its "utmost neatness and regularity".[27]

The fort's architecture has fittingly been described as 'severe [and] masculine',[28] but it also has an unexpected refinement. The entrance to the ravelin gives a suitable foretaste of things to come – an open-pedimented round-headed arch, with a boldly projecting keystone and imposts. The entrance at the principal gate is even more emphatic – another round-headed arch with projecting keystone, this one grandly formed into an aedicule with paired rusticated Roman Doric pilasters; its tympanum is graced by the arms of George II, with England impaling Scotland in the first quarter, France in the second, Ireland in the third, and Hanover in the fourth.

The main buildings themselves – the artillery and staff blocks, the two piles of barracks, the ordnance stores and provision stores – are all monumental in scale, if somewhat short on detail. Most are constructed of cherrycock-pointed

[26] Quoted in MacIvor (1976), 480.
[27] Quoted in MacIvor (1976), 478.
[28] Gifford (1992), 177.

rough ashlar with boldly projecting sills. Details are chiefly confined to the artillery and staff blocks facing the grand parade, such as (a) the Roman Doric porticoes at the pedimented centres of the end-pavilions, which served as residences for the governor's house (south) and the deputy-governor's and fort-major's houses (north); (b) the ground-floor loggias in the adjacent staff blocks; and (c) the Venetian windows lighting the stairs at the rear of the grand end houses.

The two piles of barracks are, understandably, more understated. For example, the central pavilions lack Roman Doric porticoes, but their pediments are graced by the crowned initials GR (for *Georgius Rex*) and the dates 1757 and 1763. Subtleties in the elevations belie the ranks of the men in the rooms behind. The officers' quarters, the five-bay pavilions at the centre and ends, are slightly advanced, and their fenestration is different – 12 large panes, compared with the 16 smaller panes in the soldiers' quarters. Interestingly, the soldiers' quarters look up to their officers architecturally, their roofs piended to the pavilions as if in salute – a deviation from Skinner's original elevations.

This subtle design alteration raises the fascinating issue as to who, exactly, designed the fort's domestic buildings – Skinner or the Adam family? In the absence of hard evidence, we may assume that it was a joint enterprise. William Adam had been involved with the Board of Ordnance, as master-mason and building contractor, since 1730, chiefly at **Edinburgh Castle**, and was then at the height of his profession as an architect. Was he perhaps responsible for designing the fine sentry boxes atop the western and northern defences of **Edinburgh Castle**, features hitherto attributed to Captain John Romer, the military engineer in charge? When invited by the Board in 1747 to become involved in the Fort George project, William Adam would surely have been consulted by Skinner as much for his acumen as an architect as for his skills as a building contractor. Here again, could he have designed the principal gate, originally intended for the remodelled Oliver's Fort in Inverness, not long before his death in June 1748?

Following William Adam's untimely demise, his family business, including the contract with the Board of Ordnance, was carried forward by his three sons, most importantly John, the eldest, who inherited the business and ran it for the rest of his life. Together with his siblings, Robert and James (who left the business in the later 1750s to work as architects in their own right), he would surely have been called upon by Skinner to provide architectural input as the buildings developed from the drawing board to the site. As it is, though, we only know of one definite Adam ascription – the chimneypiece in the great dining room of the governor's house, with its fluted frieze's centre panel decorated with curls and swags of husks, which Skinner invited the Adam brothers to design for his new official residence[29].

But there may be more Adam details, such as those sentry boxes perhaps, with their convex mandarin's hat roofs, reminding us that the fort was built

[29] MacIvor (1976), 478.

when *chinoiserie* was in architectural fashion, and the garrison chapel (described as 'pritty' in 1762), undoubtedly the most impressive building in the fort. The chapel's plain, finely proportioned exterior has a polygonal chancel projecting from the east gable, and a squat western tower with battlements (it was possibly also meant to have a cupola), and is flanked by rounded stair wings. Inside, a two-tiered arcade runs around three sides to form a nave and two aisles, the lower tier with its Roman Doric order of columns supporting the round-headed arcade of the gallery. A fine three-decker pulpit survives beside the chancel arch, albeit not in its original position (it was formerly centre-stage).

2.5 Landscape and aesthetic values

- From any ground level approach, either by land or sea, Fort George lies low and brooding on its promontory. From the air, however, the scale of the achievement is a thrilling sight.
- Indeed, scale dominates most aspects of Fort George's aesthetic. Entering the wide-open parade after snaking through the bewildering outworks is enormously impressive.
- The enduring memory many visitors to the Fort have is of the exposed location, wind seems to drive straight off the Moray Firth.
- The clear windows in the chapel provide the interior with an extraordinary quality of light enhancing the understated quality of the design.

2.6 Natural heritage values
To be assessed

2.7 Contemporary/use values
To be fully assessed

- In its long use as a recruiting and embarkation post the Fort has left a powerful mark on the many thousands of soldiers who served here. Their emotions are mixed, nostalgia and affection often tempered by the memory of the cold winds and rain driving off the Moray Firth. The regimental museum is an important link for many who served at Fort George.
- Fort George serves as a modern reminder of the political divisions within the nation. Emotions on the rights and wrongs of an army of occupation on Scottish soil can still run deep.

3 Major gaps in understanding

- What more can be learned of William Skinner's career, particularly the influences on his engineering skills prior to his arrival in Scotland? A thorough examination of War Office, Royal Engineers and other records, together with detailed investigations of artillery works at Devenport, Menorca, and particularly Gibraltar, could provide valuable insights.
- What was the detailed building history of the fort during its construction and its subsequent 250-year existence? Despite the voluminous archives available, little research has been undertaken and no comprehensive history has yet been published.

- What more can be discerned regarding the Adam family's involvement with the design of Fort George, particularly the part played by Robert Adam? Documentary research, particularly in the Adam papers, may shed more light.
- What more can be learned of the fort's use as a military base throughout its 250-year existence? With the notable exception of the work of Col. Angus Fairrie, of the Queen's Own Highlanders, little research has as yet been carried out.
- The full extent of oral history, poetry and songs of the Gaels and soldiers of Fort George, including research into the effect on the Highlanders of being able to wear the kilt as a soldier during the period it was banned in everyday life

4 Associated properties

Previous artillery forts and barracks in the Scottish Highlands and Islands:

- *Cromwellian:* Inverlochy (remodelled as Fort William); Perth (no remains survive, only Board of Ordnance plans); 'Oliver's Fort', Inverness; Lerwick (remodelled as **Fort Charlotte**).
- *Georgian*: Bernera barracks; Fort William; Inversnaid barracks; Kilwhimen barracks (replaced by Fort Augustus); **Ruthven barracks.**

Contemporary artillery fortifications in Scotland:

Braemar Castle; **Corgarff Castle; Dumbarton Castle; Edinburgh Castle; Fort Charlotte; Stirling Castle**.

Parallels for powder magazines:

Dumbarton Castle; Stirling Castle; Berwick-upon-Tweed; Purfleet (No.5 Magazine), Essex**.**

Other related sites in Scotland:

- Military road (A939) between Blairgowrie and Fort George, inc**. Invercauld Bridge**, and the Well of the Lecht.
- **Broughty Castle**, where a coastal defence battery similar to Fort George's survives.

Other significant 17th/18th-century artillery fortifications in the British Isles: Charles Castle, Kinsale, Ireland; Elizabeth Castle (Jersey); Fort Cumberland, Hants; Fort Regent, Guernsey; Portsmouth; Plymouth Citadel; Sheerness, Kent; Tilbury Fort.

5 Keywords

fort, fortifications, fortress, bastion, rampart, ravelin, barracks, powder magazine, cannon, guns, soldiers, infantry, regiment, Jacobite, James VIII & III, Prince Charles Edward Stuart, George II, George III, William Skinner, William Adam, John Adam, Robert Adam, Seaforth Highlanders.

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APPENDICES

Appendix 1: Timeline

- 1746 The battle of Culloden (16 April), in which the British army of George II defeat the Jacobite army of Prince Charles Edward Stuart (the 'Young Pretender'), effectively ends the exiled Stuart dynasty's attempt to regain the throne of Great Britain. Among the plans drawn up by George II's government to prevent a further armed uprising from succeeding is that of building a new artillery fort in the Scottish Highlands. However, a design by Major Lewis Marcell, an Irish engineer with the Board of Ordnance, to reconstruct the Cromwellian fort at Inverness is not proceeded with.[30]
- 1746 Context – As the Fort is being planned, Highland life is being turned upside-down as the Government forces implement the Act of Proscription 1746 and the Heritable Jurisdictions (Scotland) Act 1746
- 1747 William Skinner, a 47-year-old Englishman with a wide experience of military engineering (especially in Menorca and Gibraltar), is appointed chief engineer for 'North Britain' by the Board of Ordnance, the government body responsible for military construction and supply. He

[30] N.L.S. MS. 1647 Z. 02/79-81 & 83.

draws up a second design for the Cromwellian fort, which is accepted.[31] The contract for mason-work and brickwork is let to William Adam, master mason for the Board of Ordnance, who had previously worked as a building contractor at Edinburgh Castle and elsewhere. [32] Work is about to begin when Inverness Burgh Council lodge a claim for compensation for loss of the recently developed harbour close to the remains of the old fort. The Board drops the scheme and asks Skinner to look for an alternative site. Later that year he conceives a plan for a new fort on a barren shingle promontory owned by John Campbell of Cawdor, a loyal supporter of the Hanoverian dynasty, jutting into the Moray Firth at Ardersier, 10 miles east of Inverness and just 5 miles from Culloden battlefield.[33]

- 1748 France recognises the House of Hanover as the rightful dynasty of Great Britain (in the treaty of Aix-La-Chapelle) and deports Prince Charles Edward Stuart. Construction work on the fort begins, beginning with the landward defences at the east end of the site (the glacis and ravelin), and the harbour on the south. Following William Adam's death immediately prior to works starting, John, his eldest son, assumes overall control. The work dominates the family business over the next 20 years, and involves John's younger sons, including Robert, who will become one of Britain's most famous architects.[34] Much of the earth-moving is carried out by soldiers. The bricks are made on site, but the stonework is brought in from quarries at Munlochy, in the Black Isle, the timber from forests around Beauly, and the ironwork mostly from Edinburgh. A site office is established at Black Town of Ardersier, where 'brick habitations' are built for the use of Skinner, the Adam brothers and other personnel[35], and 'sod hutts' for the bakehouse and bread store[36]. (The Adam family are also tasked with converting **Corgarff Castle**, in Strathdon, into a military outpost from Fort George.)
- 1749 The glacis and brick wall behind it are completed, so securing the site from limited attack. Work then begins on piling up the earth for the eastern bastions and east rampart. Barrel's Regiment, which fought with distinction at Culloden, is heavily involved in this work. Work also begins on constructing a military road from Blairgowrie to Fort George (completed in 1754).[37]
- 1751 A 'palisade of young firrs', c. 10-12 feet high, is planted around the site, to secure the works from attack. In this year, Lt.-Col. James Wolfe, veteran of Culloden and soon to be hero of Quebec, visits and

[31] N.L.S. MS. 1647 Z. 02/82a.
[32] Tabraham & Grove, p. 85-6.
[33] N.L.S. MS. 1647 Z. 02/57a.
[34] Fleming (1962).
[35] From a letter by Robert Adam to his younger brother in 1756, quoted in Fleming (1962), 213.
[36] See MacIvor (1976), 413
[37] See Taylor (1976), 75-80; 156-61.

envisages the emerging fort becoming ‘the most considerable fortress and best situated in Great Britain’.[38] He is less complimentary about the soldiers building it, however, writing that ‘they frequently kill their officers through fear, and murder one another in confusion’.[39]

- 1752 William Skinner moves to England, to preside over works at Purfleet, Essex, a major depot for military ammunition and combustibles. He returns to Scotland every summer thereafter, to oversee the work at Fort George and elsewhere, particularly **Edinburgh Castle**, where he designs, *inter alia*, the ordnance storehouses (now the Scottish War Museum) and esplanade.[40]
- 1753 The ravelin, with its guardhouse, is completed and ready for use. The foundations are laid for the two enormous barrack blocks. (The **Invercauld Bridge**, carrying the military road to the fort over the Aberdeenshire Dee, is completed.)
- 1754 The ravelin is armed with eight 12-pdr guns, with eight more emplaced on the great mounds of earth where the eastern bastions will soon be.
- 1756 The principal gate into the fort is completed. The final stretch of military road into Fort George is completed by Lord Robert Manners’ regiment.[41]
- 1757 William Skinner receives a commission as colonel in the Army. The central part of the north barrack block is ready for use by officers and men. Work begins on the grand magazine, designed to hold 2,500 barrels of gunpowder. The outbreak of the Seven Years’ War with France prompts Skinner to remodel the Point battery, at the west end, by adding a small powder magazine and casemated gun battery beneath it, to cover the narrow sea channel between Ardersier and Chanonry Point.
- 1758 The entire rampart is completed up to the stone cordon, and the two eastern bastions (Prince of Wales’s and Duke of Cumberland’s) are completed to parapet level. The last sods of turf are laid on the covered way.
- 1759 The grand magazine is completed, and the foundations of the twin ordnance stores laid. The continuing Seven Years’ War with France sees an additional regiment (Major-gen. Holmes’ regiment) with ordnance brought to the fort. Lord Ligonier, commander-in-chief of the British Army, visits and declares: ‘I shall be extremely glad they [the French] would [attack] it, because I look upon that fort to be impregnable.’[42]
- 1760 George II dies (25 Oct) and is succeeded by his son, George III. Work begins on the two provisions stores. The fort receives its main

[38] Quoted in Wright (1864), 178.
[39] *Op. cit.,*
[40] Ewart and Gallagher (2014), 107-8, and 135-43.
[41] Taylor (1976), 79.
[42] Quoted in MacIvor (1976), 413.

armament from the Tower of London: twelve 42-pdrs (taken from the captured French man o' war *Foudroyant*), four 32-pdrs, twenty-one 18-pdrs, twenty-two 12-pdrs, four 6-pdrs, two 13" mortars, 12 5½" iron mortars and forty 4$^{2/5}$" brass mortars, together with 2600 hand grenades and 2000 muskets with bayonets.[43]

- 1761 Skinner is promoted to major-general. The north barrack block and twin ordnance stores are ready. Work begins on the staff blocks, and the places of arms beyond the north and south gates.
- 1762 The two provisions stores are ready. In this year Skinner, now seriously ill, talks of hoping "to see my monument on the Point (ie, Fort George) finished with credit, as it has been so long my nursery."[44]
- 1763 Skinner decides to add a garrison chapel, the sole significant addition to his original design. (The original intention had been for the garrison to use the kirk at Kirkton of Ardersier.)
- 1764 The south barrack block is finished.
- 1766 'James VIII & III' (the 'Old Pretender') dies in Rome (1 Jan), and his son, Prince Charles Edward, finally settles in Italy. The staff blocks are completed, and the principal bridge built. A 640m-wide strip of land beyond the glacis is cleared and levelled to create a clear field of fire for the fort's guns.
- 1767 The garrison chapel is the final structure to be completed. By now only around 100 men are engaged on the work, from a high of over 1,000.
- 1768 Minor works are carried out, including constructing a new pier, serving the military as well as a passenger ferry crossing the firth from Chanonry Point, the bridge over the ravelin ditch, and the fitting out of the building interiors.
- 1769 The fort is finally finished. The work has taken 21 years and cost over £200,000 (over £1 billion at today's prices), more than twice the original estimate and more than Scotland's annual Gross National Product for 1750. Major-General Skinner is rewarded by being appointed the fort's first governor.
- 1770 William Skinner is promoted to lieutenant-general. In 1771, he presents the Board of Ordnance with a finely executed model of Fort George and a book of 33 original plans for the fortress. (It is exhibited at the Tower of London for over half a century before being removed to the model room of the Royal Engineers' Institute at Chatham. Its current location is uncertain.
- 1773 Dr Samuel Johnson and James Boswell visit the fort (28 August) on their way to the Western Isles, as guests of the then governor, Lt.-general Sir Eyre Coote. Johnson later writes: 'I could not help being struck

[43] Quoted in op. cit.
[44] Quoted in Latcham (2004), 873.

with some admiration, in finding upon this barren sandy point such buildings – such a dinner – such company; it was like enchantment.'[45] By now, the fort is being used as a training base for newly-formed Highland regiments prior to being shipped to various parts of the British Empire; at Johnston and Boswell's visit, the 37th Regiment is stationed there.

- 1780 Lt.-general Skinner dies at his post at Greenwich, on the Thames, having served as chief engineer of Great Britain for 23 years. He is buried in St. Alfege's graveyard, Greenwich, where his simple memorial slab remains today.
- 1782 The north ordnance store is converted into a military hospital.
- 1782 The Act of Proscription is repealed.
- 1788 Prince Charles dies in Rome (31 Jan), effectively ending the Stuart dynasty's ambition to reclaim the throne of Great Britain.
- c. 1790 The route from the ferry pier through the fort to Ardersier is closed to civilians and a new route cut through the southern place of arms. (This results in the south sallyport being widened in the 19th century.)
- 1793 The newly-raised 78th Highlanders (the Ross-shire Buffs) parade at Fort George. They are among a number of new regiments and militia groups raised to counter any threat posed by Revolutionary France. These include the Strathspey Fencibles and the 97th Regiment (formed in 1793 and 1794 respectively), and the Inverness-shire Volunteers and Militia (raised in 1794 and 1803 respectively), all by Sir James Grant of Grant, lord-lieutenant of Inverness-shire. Their surviving arms and military equipment, collectively known as the Seafield Collection, are now on display in the fort's grand magazine.
- 1795 The garrisoning of the fort is entrusted to the Invalids Regiment, the 'Dad's Army' of the 18th century, with a small artillery detachment.
- 1798 Fort George serves as a secure detention place for leaders of the Society of United Irishmen captured during the failed Wexford Rising against British rule in Ireland. They are released only in 1802.
- 1815 Following Napoleon Bonaparte's capture at Waterloo, Fort George is considered, among other places, as a prison for him. It loses out to St Helena, a remote island in the mid-Atlantic Ocean.
- 1817 An order to dismantle all the Highland forts, including Fort George, is given and quickly countermanded.
- c. 1820 Fort Augustus is decommissioned, its ordnance removed and its defences slighted.
- 1835 A government proposal to convert Fort George into a state prison comes to nothing.
- 1842 The north provisions store is partly converted into a military prison.

[45] Quoted in MacIvor (1976), 478.

- 1854 The governor's house is converted into the officers' mess. The outbreak of the Crimean War with Russia in this year comes to the rescue of Fort George as an Army base, with several newly-raised home militia regiments using it for regular exercises, including the Ross-shire and Inverness-shire militias.
- 1859/60 Emperor Napoleon III's invasion threat leads to the setting up of a Royal Commission to report on Britain's defences. Published in 1860, it recommends spending millions of pounds on defensive forts and batteries. As a result, Fort George has its entire seaward side radically altered and rearmed with the latest ordnance, including 68-pdr cannon and 10" guns.
- 1864 Fort William is sold into civilian hands by the War Department; much of it is subsequently (c.1890) swept away by the West Highland Railway Company. In 1867, Fort Augustus too is sold, to the Frasers of Lovat, who in 1876 sell it on to Benedictines for use as a monastery. Only Fort George now remains in Army occupation.
- 1881 Sir Hew Childers, secretary of state for war, presides over Army reforms, whereby each regiment is provided with a territorial depot. Fort George now becomes the depot of the Seaforth Highlanders, an amalgamation of the 72nd and 78th Highlanders. The regiment converts the northern place of arms into a dog cemetery for regimental mascots and officers' dogs. [Note: the Cameron Highlanders, the regiment that will join with the Seaforths in 1961, gets a far better deal, being given as its depot a purpose-built new barracks, without defences, in Inverness – Cameron Barracks – designed by the Royal Engineers Office.]
- 1914 On the outbreak of World War I, Fort George sees major military activity. The 2nd battalion, Argyll & Sutherlanders, and the 7th, 8th and 9th battalions, Seaforth Highlanders, are brought up to strength here prior to being sent to the Western Front. The first German prisoners of war, all fishermen, arrive soon after the war's outbreak. A naval seaplane station is also established at the fort, to help defend the naval base at Invergordon; the three concrete 'aprons' for the planes still remain. Winston Churchill, then First Sea Lord, is among those who fly out from it. The base is closed in 1916.[46] 8,432 Seaforth Highlanders are killed in WWI.
- 1934 The Seaforth Highlanders' regimental institute, designed by A. H. Lamont, is built behind (west of) the north ordnance store/military hospital – the first, and only, new building inside the fort since its completion in 1769.[47]
- 1938 A hutted camp is erected over the southern half of the outworks, to house the 1000s of extra soldiers recruited for World War II.

[46] Fife, M. (2007). *Scottish Aerodromes of the First World War*. Stroud.
[47] N.R.S. RHP 35492 – 502.

- 1944 Fort George is used as a practice ground for the D-Day landings. The north lunette in the outworks, badly damaged to create an assault course, is later rebuilt (1960s).
- 1961 The Seaforth Highlanders and Queen's Own Cameron Highlanders merge to become the Queen's Own Highlanders (Seaforths & Camerons).
- 1964 Another Army reorganisation sees regimental depots disappear. The Queen's Own Highlanders march out of Fort George. The Ministry of Public Building & Works (MOPBW), forerunner of Historic Environment Scotland, assumes responsibility for the fort's maintenance from the Ministry of Defence. Fort George now also becomes an Ancient Monument open to visitors. For the next three years the fort is occupied by the Territorial Army.
- 1966 The MOPBW begins to clear away all the peripheral structures built in the principal ditch and outworks during and after World War II (these works are completed in 1968 and rewarded with a Civic Trust Award). Thereafter, works begin on reconstructing elements of the outworks damaged or destroyed by the encampment. The north ordnance store is gutted by fire, and its subsequent restoration includes reinstating the original circular windows.
- 1968 A programme of furnishing the fort with guns and mortars begins, mostly with loans from the Royal Armouries, in the Tower of London. In the 1970s a unique Mark III Armstrong rifled 64-pdr muzzle-loader (RML), cast in 1865, such as might have been emplaced on the Victorian coastal battery, is discovered serving as a bollard in Dingwall Harbour; the gun is brought to the fort, refurbished, given a traversing carriage based on original drawings, and emplaced on Duke of Cumberland's bastion.
- 1978 Following a reorganisation of government bodies prior to a planned Devolution referendum, responsibility for Fort George passes to the Scottish Development Department (Ancient Monuments). The Seafield Collection of arms and military equipment comes into state care from the estate of the Dowager Countess of Seafield in this year, with the proviso that it be held at Fort George; it is temporarily stored in the secure grand magazine.
- 1980 One of the two drawbridges on the principal bridge, removed c. 1900, is re-instated to its original design.
- early 1980s The Ministry of Defence carries out a major rehabilitation of Fort George. The work involves major alterations to all the buildings' interiors, including the removal of most of their Victorian additions (eg, stairwells and latrine blocks), as well as demolishing the early 20th-century married quarters and other buildings beyond the fort (on the road to Ardersier) and replacing them with 'state-of-the-art' training and military

equipment storage facilities. The Seafield Collection is more fittingly displayed and three barrack-rooms are recreated. Sir George Younger, secretary of state for Scotland, officially opens the newly refurbished facility in 1986.[48]

- 1990? Two Mark I Armstrong smooth-bore (SB) 68-pdrs, discovered lying in the Caledonian Canal's Muirtown basin, in Inverness, are brought to the fort, refurbished and placed on display at the Point battery and Prince Henry Frederick's bastion. They are subsequently found to have been on the HMS *Briton*, which was decommissioned and scrapped in Inverness in 1908.
- 1994 The Queen's Own Highlanders and the Gordon Highlanders amalgamate to form the Highlanders (Seaforth, Gordons and Camerons) Regiment. In 2006 the regiment is amalgamated with all the other Scottish infantry regiments and named: The Highlanders, 4th Battalion, The Royal Regiment of Scotland.
- 2014? A new extravaganza, the Highland Military Tattoo, is launched at Fort George, based on the internationally-renowned Royal Military Tattoo that takes place at **Edinburgh Castle** each August.
- 2016 Sir Michael Fallon, secretary of state for Defence, announces the imminent closure of Fort George, heralding the end of almost 250 years as an active Army base.

Appendix 2 - Summary of Archaeological Investigations:

Some archaeological works have been carried out at the fort in recent years;

- In the 1960s and 70s, Iain MacIvor (MOPBW's inspector of Ancient Monuments) investigated those elements of the outworks damaged or destroyed by the early 20th-century hutted encampment and excavated the missing east end of the grand magazine, immediately prior to their reconstruction. No report was forthcoming;
- During the major Army rehabilitation works of the early 1980s, John Knight and Chris Tabraham (Scottish Development Department (Ancient Monuments)'s architect and inspector of Ancient Monuments respectively), assisted by Doreen Grove (archaeological contractor), made a rapid survey of the interiors of the buildings affected - the artillery and staff blocks, barrack blocks, ordnance stores, provisions stores and casemates. They recorded features of note – eg, fireplaces, the presence or otherwise of fixtures such as musket blocks and skirting-boards – so that informed choices could be agreed with the MOD contractors as to what might/could be left *in situ* and what had to go. [Note: fixtures requiring removal were labelled and removed by SDD (Ancient Monuments) and placed in a secure environment

[48] Worsley, G. (1986). 'Defence of the realm: the restoration of Fort George', *Country Life*. (Aug. 1986, 498-500).

elsewhere in the fort; most remain in store in the north casemates.] The most useful information came from the west range of the north barrack block, which had remained largely unaltered from the 19th century, and the east range of the south barrack block, which had remained unoccupied since the period of National Service in the 1950s. A well in the south casemates produced much discarded military equipment (inc. iron camp beds).

- Watching briefs were also carried out on all ground-breaking works (for underground services, etc) but little of interest was discovered. [In a huge trench along the south side of the buildings, a contractor's lorry was dumped; the company, called *Economy Excavations*, had transport that lived up to the name!] No published report has yet been made, either of the discoveries themselves or of the artefacts recovered;
- In 1990-4, during works to waterproof the Points battery magazine and casemates, a full archaeological excavation was undertaken, which provided new information regarding the construction of the rampart;
- Thereafter, watching briefs have been carried out elsewhere (see Appendix 3). However, other than a brief mention of the discovery of a firing quill on Duke of Cumberland's bastion,[49] no published report has appeared.

Appendix 3 - Detailed description of the Fort

[A] Outworks.

Fort George covers 42 acres. The outworks are concentrated at its eastern, landward, end, from where a Jacobite assault would be expected after Culloden (the Jacobite army had little or no naval support, save what it might have got 'second-hand' from the French). These works comprise the following (roughly in the order visitors reach them on entering):

- The **glacis**, a broad, smoothly-graded grass-covered strip of ground, 50m wide, falls in a gentle slope away from the top of the parapet wall of the covered way (see below) towards the field of fire. As well as protecting the covered way, it helped to shield the masonry scarps of the fort rampart and ravelin from bombardment. It has two cuttings through to allow sudden egress. The northern cutting also carried the road from Nairn and the southern cutting the road from Inverness and the military road from Blairgowrie (the A939 and B9096)[50] into the fort. The latter is now the approach taken by visitors to the fort; military personnel enter via a third cutting made through the southern place of arms c. 1790.
- The **covered way** is the outermost defensive line, so-called not because it was roofed but because it was 'covered' (that is, protected) from attacking horizontal fire by the brick parapet wall. Below the zig-zag wall is an earthwork **banquette**, or firing step; part of the original stout wooden palisade along the front edge of the firing step, designed

[49] Hume, J. (1991), 423-5.
[50] Taylor (1976), 75-80, 156-61.

to hinder an enemy trying to jump down onto the covered way, has recently been reconstructed. At the north end of the covered way is a latrine corbelled out over the sea. (The matching latrine at the south end was removed c.1790.) No cannon were mounted on the covered way.

- Two angular enlarged areas of the covered way were **places of arms**, used as mustering points for counter-attack. Inside these are **lunettes** of similar shape, designed to resist penetration of the covered way; these have their own fighting platform and firing-step. Short **traverses**, each with palisades and firing-steps, set across the covered way, were mainly used to stop enfilading cannonballs from rolling murderously along the covered way. Flights of steps from the counterscarp delineating the inner edge of the covered way lead down into the ditches.
- The **ravelin** behind the covered way, constructed in 1749-53, is the largest and strongest of the outworks. (It was originally named Prince Edward's ravelin, after George II's second grandson, but was renamed in honour of Prince Leopold of Saxe-Coburg, who married the Prince Regent's daughter in 1816.) Triangular in shape, it is completely isolated from the outworks by its own ditch; the latter, with the faces of the ravelin, could be scoured by fire from two of the fort's bastions (see below). The ravelin has a rampart with parapet, embrasures for eight 12-pounder guns, and a musketry firing-step on its two faces. (The guns emplaced there today are not the original armament but on loan from the Royal Armouries.) The rear (west side) of the ravelin is open so that it could be commanded from the bastions and rampart of the fort itself. The ravelin had its own guardhouse (now the visitor centre), built in 1753.
- The **principal ditch**, some 300m long and 50m wide, is an excavation that matches the bastions in its great scale. At the north and south ends are cross-walls, called **batardeaux**, that were intended to act as dams to hold water; sluice-gates (the seats for the windlasses and slots for the gates alone remain) enabled the ditch, normally kept dry, to be flooded in time of siege. The principal ditch was a well-nigh impassable obstacle in itself, being swept by cross-fire from the flanking bastions of the east rampart.

[B] <u>Rampart and bastions</u>

The **rampart** comprised the main defence of the fort, and formed a continuous line right round it, c. 1km in length. It is made up of bastions and demi-bastions (half bastions) joined by lengths of rampart, called curtains. The **bastions** (all but one named after George II's immediate family) are polygonal on plan, and made up of two *faces* towards the field and two *flanks* covering the adjacent curtains. Their external angles are capped with stone sentry-boxes (some were removed c.1860 when a coastal battery was formed along the seaward sides). The rampart consists of a **terreplein**, a broad, level fighting platform, over 20m wide, behind the parapet and firing-step.

1) The **east rampart**, facing landward, was the most formidable. It housed the principal gate and had the two largest bastions at its north

and south ends. The entire front scarp rises almost 10m above the principal ditch. The east rampart has four stone platforms for mortars capable of firing bombs up to 2.4km beyond the fort.

The **principal gate** was originally designed to grace the remodelled Cromwellian fort in Inverness. It has a heavy pediment above the portal bearing the royal arms; interestingly, the Scottish royal arms are incorrectly shown[51]. Its massive, iron-studded, double-leaved doors still remain. Beyond is a brick-vaulted tunnel, opening into an arcaded vestibule, flanked by two casemated chambers forming the **main guardhouse** (on the north side the officers' guardroom with the prison ('black hole') behind it, and on the south side the soldiers' guardroom, now reconstructed as it may have looked c.1800). A stone stair, entered off the SE corner of the vestibule, leads down to the principal ditch.

- The **north** and **south bastions** are named respectively after the Duke of Cumberland, George II's third and youngest son and victorious general at Culloden, and the Prince of Wales, George II's eldest son who succeeded as George III. Each bastion has a raised terreplein at its salient (outer angle) for a long-range battery firing 'en barbette' (that is, over the parapet rather than through embrasures). **Prince of Wales's bastion** survives as built, with embrasures for two heavy guns firing southward out to sea and nine lighter pieces, five on the north flank covering the principal ditch, two on the east face covering the ravelin ditch, and two on the west flank. **Duke of Cumberland's bastion** was radically altered c.1860, when half the barbette battery was removed and replaced by three traversing guns firing 'en barbette', together with their associated expense magazine and shot and shell recesses, formed in and under the rampart wall. A unique Mark III Armstrong 64-pounder rifled gun, of 1865, now stands on the bastion, on a replica traversing carriage. The remainder of the guns and mortars now on display are loans from the Royal Armouries.

2) The rest of the rampart comprises (running clockwise from Prince of Wales's bastion):

- beneath the SE section of south rampart, a series of brick-vaulted **casemates** and the **south sallyport**. The **casemates** were intended for use as temporary, bomb-proof quarters in time of siege – 40 men per casemate. As built, they had no opening in the outer (scarp) wall; however, most were altered in the 19th century, when they were used by militia units in preference to living under canvas on the heath outside. The **sallyport** was also widened in the early 19th century, when it became the main military entrance into the fort;
- **Prince William Henry's bastion**, named after George II's third grandson, fitted with nine gun embrasures. These helped cover the

[51] Despite all the heraldic pomp on display in the coat-of-arms, it is disconcerting to find that the arms of Scotland are incorrectly carved – the double tressure (the line bordering the arms) is omitted (see Burnett and Dennis (1997), 50-7).

southern **place of arms**, immediately outside the south sallyport. The hollow centre of the bastion contained the grand magazine;

- The **Point battery**, facing the narrow sea-channel, and flanked by **Prince Frederick William's demi-bastion**, named after George II's youngest grandson, to its south and **Duke of Marlborough's demi-bastion** to its north. As built, these had 20 gun embrasures on the terreplein, and two each on the flanks of the demi-bastions. Some were soon blocked, probably at the time the powder magazine and casemates for four 32-pounder guns were added beneath the Point battery in 1757, whilst most of the rest was altered during construction of the coastal battery c.1860, when three new traversing guns were installed. A Mark I Armstrong 68-pounder smooth-bore gun, of c.1860, is now emplaced at the Point battery, on a replica traversing carriage;
- **Prince Henry Frederick's bastion**, named after George II's fourth grandson. This was similarly reconfigured for the Victorian coastal battery and fitted with three new traversing guns. The hollow centre of the bastion contained the workshop yard with the workshops themselves (for carpenters, smiths and wheelwrights) in lean-to buildings against the rampart. Another Mark I Armstrong 68-pounder smooth-bore gun is emplaced here, on a replica traversing carriage;
- Beneath the NE section of north rampart, a second series of **casemates,** and the **north sallyport**. The casemates have similarly been altered, with windows through the scarp, but two, in the far NE corner, remain unaltered. The sallyport also remains unaltered, and leads to another **place of arms** immediately outside, converted to a dog cemetery after 1881.

[C] Internal buildings

Skinner's buildings were symmetrically planned to either side of the main axial road passing east-west; they were also generously surrounded by open space. Though some have been altered and added to, all survive in a remarkable state of preservation and make up a most outstanding architectural group (see *Architectural and Artistic Values*). The basic description that follows here runs from east to west:

- Two impressive structures - the **artillery block** (south), for the gunners manning the fort's armament, and the **staff block** (north), for the resident staff officers - face the **parade**, the large expanse of grass (c.177 x 95m) reserved for ceremonial parades and as a recreation area for senior officers and their families. The two terminal pavilions, with their pedimented entrances, provided residences for the governor (south) and lieutenant-governor and fort major (north). In the yards behind were cart-sheds and stables, and wash-houses;
- The two ranges of **barracks** were intended to hold two field battalions (1,600 men), officers in the central and terminal pavilions, and the rank and file in the remainder. The rectangular square formed by the two Π-shaped barracks was used for drill. Latrines ('boghouses') for the officers and men were provided in the adjacent stretches of rampart, two to each side;
- The twin **ordnance stores** were for guns and military equipment (knapsacks, ammunition pouches, etc); each had an open yard behind.

The south store remains unaltered externally, but the north store was converted in 1782 into a hospital, with a mortuary added to the rear. In the 1980s the entire yard was built on as the soldiers' canteen;

- Behind the ordnance stores was another broad open space intended for use as a second parade ground and also for mortar emplacements; the 13" mortar (c.1860) in the open southern half there today is on loan from the Royal Armouries. The northern half is now occupied by the Seaforths' **regimental institute**, built in 1934.
- The twin **provisions stores** were built to house the bakery (south) and brewery (north); the pavilions at either end were residences for the baker, brewer and barrack-master. The two are linked by a centrepiece, through which runs the axial road. In the pediment above is a clock (whence the more common name of 'clock-tower block' for the building); the original clock was set in a timber hexagonal tower surmounted by a cupola rising behind the pediment. At the rear were yards; stables were subsequently added to the bakery yard.
- The garrison **chapel**, at the far west end, completes the portfolio of buildings. Together with the smaller **powder magazine** and **gun battery** under the Point battery, the chapel was the only alteration Skinner made to his original design; the magazine's entrance pediment is dated 1757 and the chapel's chancel arch bears the inscription: GEORGIVS III DG . M . BRI . FRA . ET . HIB . REX . MDCCLXVII ('George III by the grace of God king of Great Britain, France and Ireland, 1767').

A little changed site

Fort George was completed in 1769 and has remained in active military use ever since. In all those years, only one new building has been added to the original complement – the **regimental institute** of the Seaforth Highlanders, added in 1934. However, there have been countless changes made to the interiors of the buildings, to accommodate changes to Army organisation and practices (eg, latrine and catering arrangements, medical and educational services, and provision of married quarters). There is scarcely a building interior that has not been so affected

Appendix 4 - The history of artillery fortification

Fort George is one of the outstanding artillery fortifications of Europe. Constructed in the mid-18th century, it perfectly illustrates the state of progress then reached in artillery fortification design. Although by no means comprehensively demonstrating the full repertoire of artillery fortification devices, it perfectly illustrates the basic principles then deemed essential to secure a military base or town from a fully-pressed artillery siege.

The advent of primitive guns in the 14th century was followed during the 15th century by a steady improvement in their effectiveness. By 1500, gunpowdered artillery was fast achieving supremacy over more conventional weapons (eg, stone-throwing engines and crossbows). These far more effective weapons necessitated a major rethink by military engineers as to how to counter the new technology, not least the threat posed by 'enfilade', or

'flanking' fire, whereby a gun (ordnance or musket) could be fired along a defensive line, wreaking havoc as it went. As much as anything it was the threat of enfilade that led to the obsession with flanking that came to dominate defensive thinking for the next three centuries.[52]

The fundamental structure that distinguished artillery-orientated fortification from a pre-artillery work was the 'bastion', an angular projection from a rampart or curtain wall; this consisted of two 'faces' (towards the field of fire) and two 'flanks' (covering the adjacent scarps of rampart), on which any number of guns might be emplaced, ensuring that both the bastion and the rampart were largely protected from enemy flanking fire. The artillery bastioned fortification first appeared in northern Italy in the early 16th century; hence its name 'trace Italienne' (the 'trace' was the outline of the fortification). The impressive walls of the town of Lucca, near Pisa, built mostly in the later 1500s and early 1600s, are as good an example of 'trace Italienne' as one can find today.[53]

From Italy the principal of bastioned fortification spread to other countries, including Scotland. Early bastioned forts survive at Dunglass and Eyemouth, in SE Scotland, built in the 1540s, during the War of the Rough Wooing (the bastioned 'Spur' built at **Edinburgh Castle**, designed by the Italian engineer Migiliorino Ubaldini in 1547, now lies beneath the esplanade.)[54] From a century later come the Cromwellian citadels built in the 1650s, including 'Oliver's Fort' in Inverness, which incorporated bastions into their ramparts.[55] But it was mostly in France and the Netherlands that the principles of geometry and proportion were more fully developed by military engineers, pioneered by the likes of Chevalier Antoine de Ville (1596-1656), who fought in France, the Netherlands and Italy, and published his book on fortifications in 1628. It was de Ville who began the move towards fortifying 'outwards', away from the main rampart, creating as he went additional lines of defence and obstacles, including such features as the 'ravelin', 'chemin couvert' (covered way), 'batardeau', 'lunette' and 'glacis', all of which feature at Fort George.[56]

The engineer widely acknowledged to have brought all these various theories and devices to perfection, and moulded them into a coherent and robust system of defence, was Sebastian le Prestre de Vauban (1633-1707), a marshal of France at his death and the foremost military engineer of his age. Equally famous for his theories on siege craft, Vauban took the principles of geometry and proportion in artillery fortification to the limit, most notably in his 'first system', which delineated and defined the 'front of fortification', and placed the ravelin at the heart of the outworks.[57] His successor, Louis de Cormontaigne (1695-1752), a contemporary of William Skinner, fine-tuned

[52] See, for example, Hogg (1975), 26-34, and Saunders (1989), 15-52.
[53] See Hogg (1975), 37-52.
[54] See, for example, Saunders (1989), 57-61; for the Spur, see Tabraham *et al*., (2014), 98-109.
[55] See Cruden (1981), 224-34.
[56] See Lepage (2009), 69-71.
[57] See Lepage (2009); Hogg (1975), 54-70.

them. It was their developed principles that were doubtless key to Skinner's thinking when he came to contemplating his design of Fort George in 1747. Although Skinner may not have seen with his own eyes any of Vauban's numerous artillery works (including that at Saarlouis, on the river Saar in Germany, the first to use his 'first system' principles), in all likelihood he benefited from the publication in 1729 of Vauban's prodigious output, by M. Belidor, professor of Mathematics in the French Artillery School.