THE ROYAL BOTANIC GARDEN EDINBURGH

LANDSCAPE ASSESSMENT AND DEVELOPMENT PLAN

DECEMBER 2010 PETER DANIEL AND SIOBHAN MCDERMOTT

The Royal Botanic Garden Edinburgh 2010

RAF aerial photograph of the Garden 1941

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INTRODUCTION

This report was commissioned by David Rae, Director of Horticulture at RBGE and is the final study that completes the Landscape Assessment and Development Plans for the Royal Botanic Garden, Edinburgh.

The Edinburgh Garden has a long and complex history from its earliest manifestation as a tiny Physic Garden, close to Holyrood House, then to a larger one at Trinity Hospital (long since buried beneath Waverley Station), then, as a Botanic Garden, to a site on Leith Walk and finally to Inverleith in 1820 to begin a settled period of growth. Its direction and purpose as a research and teaching facility have never been in doubt, but it has also got a much wider remit as a local and national amenity.

Like the other Gardens which make up the Royal Botanic Garden, Edinburgh, the Edinburgh Garden was once part of a private estate which, in the 1820s, the owner had started to develop to take advantage of the northerly spread of the New Town across the Water of Leith.

Our report records how the Garden landscape evolved in five parts from 1820 to the present designed landscape of today. After describing its role in the open space fabric of the City, we have mapped its present pattern of use with suggestions as to how this may develop to take advantage of the new John Hope Gateway, as an introduction to the Garden, the Botanic Cottage and the proposed improved glasshouse layout, but at the same time to emphasise again and again how the present unique quality and variety of scale of the Garden Landscape must never be compromised by over development and that possibly the limit of building structures within the Garden has now been reached.

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The Linnaeus Monument designed by Robert Adam in its present location within the Garden, on the northern terrace behind the glasshouse range

GEOGRAPHY, TOPOGRAPHY, CLIMATE, SOILS.

The Botanic Garden in Edinburgh has a light sandy soil, somewhat thin and slightly acidic which has however, through the addition of organic matter over many years, been improved greatly. The underlying rock is mostly lower oil shales, interrupted by a band of Ravelstone sandstone of the carboniferous sandstone measures, running in a northeast/southwesterly direction from Inverleith Row to the corner of Inverleith Place and Arboretum Road, all within the carboniferous limestone series of the lower carboniferous age.

The limitations of the site include a low rainfall, the average rainfall in Edinburgh is approximately 635mm (25 inches) per annum compared to 2000– 3000mm (80–120 inches) in Benmore; 1016mm (40 inches) in Logan and between 875 and 1070mm (34–42 inches) in Dawyck, which has limited the ability to grow some species satisfactorily in Edinburgh.

It has a temperate maritime climate, with temperatures rarely below 0˚C for long periods. It is windy due to its position between the sea and the hills, with a prevailing south westerly wind.

'Extreme weather conditions seem more pronounced in recent years, for example, a staggering 59mm of rain fell in 24hours on 10 and 11 October 2005. Closure of the Garden due to wind speeds above force 6 is an unpredictable year-round event now. These sudden storms and other weather – related events mean we contend with waterlogged lawns and, by contrast, the need to irrigate ericaceous plantings during prolonged periods of low rainfall, all in one year.'[1]

The topography of the site, with the hill on which Inverleith House is located dominating the Garden, adds considerable visual interest to the site, as well as offering a useful variety of aspects and microclimates in which to grow the selected range of plants.

Landform of the Garden

Bird's Eye view of the Garden (by David Mason)

[1] Patterson, D. Catalogue of Plants 2006, RBGE, pg xxxiii

HISTORY OF THE GARDEN

The purpose of the first section of this report is to place in context the evolution of the layout of the present Garden from its first design in 1820 to 2009. Not unnaturally, the layout of Britain's Botanic Gardens reflects the garden and landscape ideals of the age in which they are created.

In 1670 Edinburgh's first 'Botanic Garden' was established on leased market garden land in the lee of Salisbury Crags. A simple rectangular enclosure may best describe it. It was to be followed by a second 'Physick Garden' on land leased at Trinity Hospital in 1675. From an old print and plans, this walled enclosure south of the hospital had a simple monastic quality of squared compartmented beds dissected by a channelled drain from the Nor' Loch. In 1695 Sutherland, (the Botanic Garden's first 'great' gardener as well as later being appointed King's Botanist and awarded a Regius Professorship of Botany) was to add a third walled garden (and the title Royal) at Holyrood.

One surviving example of a layout from this time is the Chelsea Physic Garden which was first made in 1673. Much made over in the 19th century, it still retains its formal layout with straight gravel paths sub-dividing the garden and with grass paths at right angles to them to allow planting beds to illustrate the botanical relationship between plants. In August 1685 John Evelyn wrote in his diary *'I went to see Mr Wats, keeper of the Apothecaries garden of simples at Chelsea, where there is a collection of innumerable rarities of that sort particularly, besides many rare annuals, the tree bearing Jesuits bark, wch had done such wonders in quartan agues. What was very ingenious was the subterranean heate, conveyed by a stove under the conservatory, all vaulted with brick, so as he has the doors and windows open in the hardest frosts, secluding only the snow'*. (Edinburgh had to wait until 1714 before Sutherland was to add a greenhouse to the Trinity Garden).

From 1759 – 1763, on a very much larger scale, the Gardens at Kew were being laid out with a grand formal 18th century structure of avenues and vistas with its eye-catching pagoda, temples, ruins and an orangery (rather than a conservatory) by Sir William Chambers. These garden ornaments and lines of the original avenues and vistas still discipline the layout of the Royal Botanic Gardens at Kew.

The first Botanic Garden, (map circa 1818)

The second Botanic Garden.

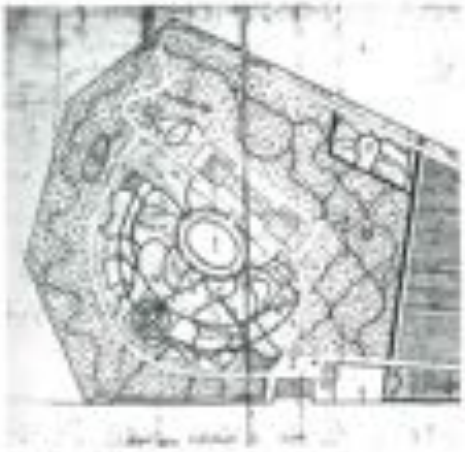
Its formal garden plan at the head of the Nor' Loch. (Now beneath Waverley Station)

In 1763, four years before James Craig won the competition to design the New Town, beginning the golden age of Edinburgh's planned development, John Hope, successor to Charles Alston as King's Botanist and Regius Professor, secured the Leith Walk site for the Botanic Garden. On part of the land he set out the hexagonal pattern of its boundary walls with, it is said, stakes of Huntington Willow. Was this because of his analysis of the site in relation to its orientation? Whatever the reason, the hexagonal enclosure immediately broke with a traditional rectangular sub-division of land and with grandiose landscape rules of straight lines and avenues. This allowed him, with his gardener John Williamson, to develop its layout as a Botanic Garden in a truly innovative way which would make its design unique for its time; a precursor of the style which was to become known as 'gardenesque' long before Loudon coined the term.

"In gardening, every likely exhibition of what is beautiful in nature has a fine effect; winding walks, where the line of beauty is observed, are particularly pleasing; at every turn we experienced increased pleasure, from the combined beauties of art and nature; and in this particular we remark the walks lately laid out in this garden, which certainly do honour to the good taste of the projector."[1]

Hope's gardener John Williamson died in 1781 and John Hope himself died in 1786, to be succeeded as Regius Keeper by Daniel Rutherford. He had a series of principal gardeners, the last being William McNab, who was recommended to Rutherford by Sir Joseph Banks, then Director of Kew Gardens. In 1810 McNab brought to Edinburgh 'many new and very rare plants' from Kew where he had been a foreman gardener for 10 years.

By the beginning of the 19th century, the leased five acre Botanic Garden on Leith Walk, with its 'ruinous' glasshouses, was not only 'running out of space' (within its walled enclosure) but was also being surrounded by another ambitious planned extension of the New Town of Edinburgh. This had first been proposed in a *'Report on the lay-out of a New Town between Edinburgh and Leith'* in 1811, followed in time by the slow completion of the present pattern



1777 Plan of the Leith Walk Garden

A sketch of Leith Walk Garden showing the cottage and Leith Walk without the elaborate gate detail shown in the proposed elevation below

The Botanic Cottage, demolished May 2006 but set aside for possible reconstruction.

[1] Royal Botanic Garden Edinburgh 1670-1970, I.H.R. Fletcher, W.H. Brown, pg 78.

of streets proposed by William Playfair in his plan of 1819 on the east side of Leith Walk with its realigned and raised level. The old site was not, however, to benefit from any orderly redevelopment. Plans appear to have failed because there were, by then, more desirable and affordable developments elsewhere in the City. This may explain the survival of what was left, (until its demolition in 2009), of Hope's 'Botanic Cottage' set within an industrial site, its first floor relationship to the raised level of Leith Walk and to the adjoining, overbearing, tenement block, built at the beginning of the 20th century, (which involved demolishing part of the cottage).

The search for a new site for the Botanic Garden had been started by Rutherford shortly after William McNab came to Edinburgh and the Belville site in the vicinity of the Palace of Holyroodhouse had been brought for this purpose by the Crown. Plans and estimates for the buildings and the layout for "The New Botanic Gardens" were produced by an assistant to Robert Reid, the King's Architect in Scotland in 1816. The site bordered a proposed new road to London where part of the original Garden had been. The layout has many of the standard elements of the Leith Walk Garden and must reflect McNab's involvement in its making. However, the location is said to have had little to commend it, the soil and aspect being unfavourable. One plea in its favour was that its relation to Salisbury Crags would make it an ideal site for McNab's rock garden!

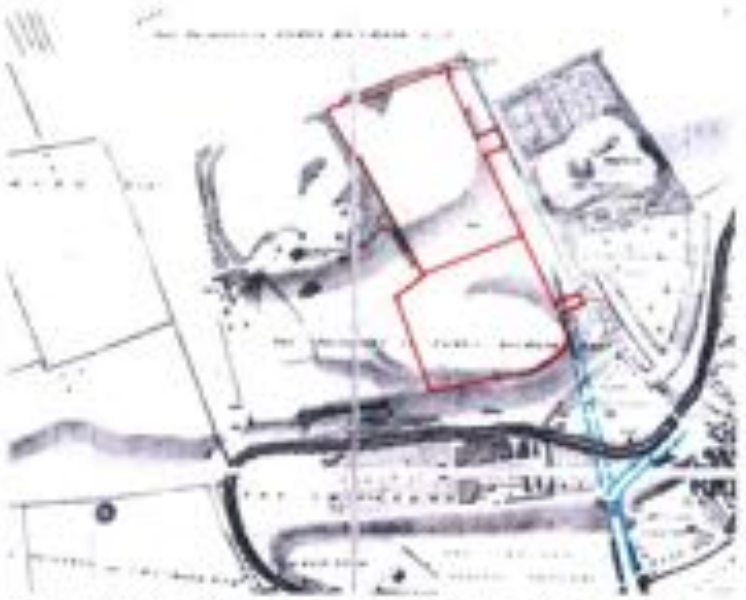
Thankfully for posterity, good sense prevailed and in spite of work having been started on drainage and walling at Belville, the Inverleith site was found and purchased by the Crown, on Robert Graham's recommendation, soon after he succeeded Rutherford as Professor of Botany at the beginning of 1820.

Plans of the proposed Belville site held in the National Archives at Kew.

The Belville site south of the proposed new road to Haddington.

Professor Graham's search for a more agreeable site for the Botanic Garden fortunately coincided with James Rocheid's decision to develop his estate, taking advantage of the northern expansion of the New Town at the beginning of the 19th century. Rocheid possibly thought that, even with high stone walls, it was better to have a Botanic Garden and an experimental garden as neighbours to Inverleith House. He was canny enough to keep developable building plots facing Inverleith Row, leaving only the two existing access points to the Row; and also to reserve land upon which Inverleith Terrace and Inverleith Place were eventually to be developed. Kirkwood's 1817 plan shows a proposal at that time to extend Dundas Street to join Inverleith Row, which explains the tortuous Brandon Terrace linkage to the Canonmills Bridge and Howard Place. The contemporary print below also shows how very picturesque the landscape was with the Castle skyline in the distance, a view already enjoyed by Rocheid from the elevated Inverleith House.

The formation of the new Botanic Garden and the building of a wall to separate it from the rest of the Inverleith estate was started early in the 1820s. The landscape layout is surely the work of William McNab. In 1823 Sir Henry Steuart was to describe the success McNab had with transplanting trees from the Leith Walk Garden, using the machine he had devised. The first glasshouses were designed by Robert Reid. They were to be quite different from his earlier design for the aborted site at Belville, in that they now incorporated the latest ideas of heating by steam, pioneered by William McNab, and in their method of construction, by using cast iron. A plan of the new Garden was skilfully drawn in 1830 by the then 20 year old James, William McNab's eldest son (employed by his father in the Garden since the age of 14), and



Detail taken from Robert Kirkwood's Plan of the City of Edinburgh and its Environs 1817 showing the Royal Botanic Garden and the Royal Caledonian Horticultural Society sites with their access points to Inverleith Row. It signifies the end of James Craig's new town vision and the triumph of 'entrepreneur planning' in Edinburgh.The plan also shows the position of a well where the pond in the garden was to be made

View of the City of Edinburgh from Canonmills by John Bellairs 1820.

a full description of the Garden's continuing establishment and cost is recorded in a report made to the Barons of Exchequer of Scotland dated February 1823, which is held in the National Archives at Kew.

At the same time Dr Graham persuaded the Treasury to purchase a further 10 acre site south of the Botanic Garden to lease to the Royal Caledonian Horticultural Society for their 'Experimental Garden'. They took possession of the Inverleith site in September 1823. William McNab was not only to prepare a plan for its landscape layout, but was also to oversee its subsequent realisation and management. The Transactions of the Society, described in the First Report of the Garden Committee in 1825, (when formation work had already started with a 14 ft high wall built to separate it from the Botanic Garden) say of his plan *"It has been drawn up with the most careful reference to the general features of the ground in regards to its aspects, and to the varying conditions and qualities of the soil. Those compartments allotted to standard trees have been placed on the western side, where the soil is deepest, and best calculated to receive them; and exterior to these, the Arboretum has been disposed in such a manner as to unite the purposes, ornament, and utility…in forming the various Walks, attention has been paid to combine beauty of design with the readiest communication throughout all parts of the ground. The principal walk, which encircles the whole garden, may be particularized here, as constituting, on one side, a splendid terrace walk, of near 700 feet in length, commanding one of the finest views of Edinburgh on the south, and of the Botanic Garden on the north".*

Order of Merit certificate of the Royal Caledonian Horticultural Society. Dr Andrew Duncan on the left and Dr Patrick Neill on the right, the Exhibition Hall, Winter Garden and City Skyline in the background 1831.

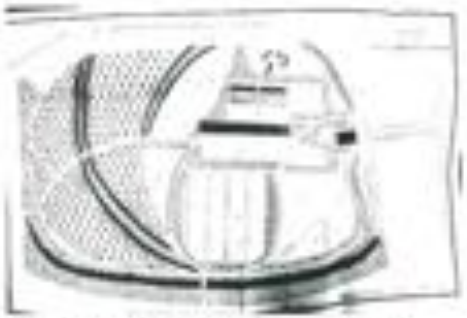
James McNab's plan of the Botanic Garden dated 1830, and below one of William McNab's tree transplanting machines.

Moving trees from Leith Walk to Inverleith.

The second report of the Garden Committee in 1826 outlined the progress being made in establishing the Experimental Garden. It records the completion of the East Gate Lodge for its gardener *"an excellent Dwelling house, in the cottage style, from designs furnished by Mr Playfair, architect"* and acknowledging that the greater part of trees and shrubs used to establish the structure of the garden came from the Royal Botanic Garden, they reported that;*"In a short time, this Garden, connected as it is, in plan and situation, with the Botanic Garden, will become one of the chief ornaments of the city"*. Ten years later their first Head Gardener's employment was terminated and he was replaced by William McNab's son James, a position he held for 13 years until 1849 when he was to succeed his father as Curator of the Royal Botanic Garden. The last two years of his tenure at the Society's garden saw the completion of the Society's Exhibition Hall, to a Victorian villa style design by David Cousin, who had previously worked for Playfair, as well as the commissioning of the 'Winter Garden', a glasshouse range designed jointly by James McNab and the society's garden architect C.H.J. Smith, and it is clear from illustrations that the Winter Garden provided a promenade, on its sunny south side, for visitors to the Garden. The Society's garden had a leisure and social element, somewhat beyond horticultural research and experimentation, and it was open to 'the public' at the weekend. Alas, the prosperity of the Caledonian Horticultural Society Garden was somewhat dependant on the enthusiasm and fundraising abilities of James McNab and after his departure in 1849 to take over as Curator of the adjacent Botanic Garden the society found it increasingly difficult to meet all its financial commitments from the income from member benefactors. Its history is one of diminishing support and eventual bankruptcy after the Government withdrew its annual subsidy. It was handed over by the Crown to the Royal Botanic Garden in 1864, to become, once again, under the control of James McNab.

It is interesting to speculate what both gardens must have looked like when they were first made on open ground. Were they like the garden festival sites of the 1980's with their transplanted trees and instant landscapes centred on glasshouse structures? One might even make some comparison with the present development of the Eden Project.

'an excellent Dwelling house'



William McNab's design for the Experimental Garden.

The Winter Garden (detail from RCHS certificate)

A sketch of The Exhibition Hall (Peter Daniel)

OS 1852 (1st Edition)

The first Ordnance Survey map of 1852 records the two gardenesque designs of the Botanic Garden and the Experimental Garden, with a definite structure and the walls which separated them. That is before the parkland around Inverleith House was to become an integral part of the Botanic Garden in 1888, to give its present composite landscape character. It is possible to track the Garden's subsequent evolution by comparing the changes to the layout recorded in the later editions of the Ordnance survey maps and the written guides, the first one produced by John Hutton Balfour for the Botanic Garden in 1872. We have linked these to the achievements and changes made by the Regius Keepers and Curators over the years, which also reflect the more subtle changes to the purpose of the Garden and its design from then until now.

One feature of the original design which is unchanged to this day is the crescent pond and the mound formed from its excavation.

From 1820 until 1845 the successful establishment of the Garden as a teaching and research centre was entirely due to Robert Graham's devoted work with William McNab's skilled assistance. Apart from the development of its costly hot houses, they were also able to procure the funds to build the octagonal palm stove in 1834. It is remarkable that Graham, who, with McNab, continued the tradition of botanical field trips to all parts of Britain and Ireland, still had to teach and practice medicine at the University as part of his duties.

The Palm Stove with its added 'skirt' - a photograph taken in 1890.

The Garden was strictly for the teaching of botany at the University and increasingly for the introduction of plants and trees from around the world, often with an eye for their economic potential within the Empire, yet in 1836 Graham managed to extract from his masters permission to site in the Garden a tiny 'magnetical observatory' for the Royal Society. Their Lordships consented, although in their view *'it was secondary to the interests of the Garden'*. It was still shown on the 1876 ordnance survey.

The Magnetical Observatory, a sketch held in the National Archives at Kew.

The death of Graham in 1845 marked the beginning of the long partnership between the new Regius Keeper John Hutton Balfour and his head gardener, James McNab. Their achievements were to include the building of the magnificent Palm House to the design of Robert Matheson, which was completed in 1858. By this time additional land had been secured from the Inverleith Estate, requiring the demolition and rebuilding of the stone wall separating the two sites. The extra land, amounting to about 2.5 acres, allowed for the development of a new path system and more trees – but little else changed until 1864 when the Caledonian Horticultural Society's Experimental Garden became part of the Botanic Garden.

James McNab, then Curator of the Botanic Garden and a founding member of the Botanical Society of Edinburgh was elected its President. *"In 1873, he delivered his presidential address on "The effects of climate during the last half century on the cultivation of plants in the Botanic Garden of Edinburgh, and elsewhere in Scotland," a subject which excited a great deal of discussion, the writer having adduced facts to show that a change had taken place in our climate within the period given. Few men of his time possessed a more thorough knowledge of his profession in all its departments, and to his loving care and enthusiasm it is owing that the Botanic Garden of Edinburgh is now second to none". (from Old and New Edinburgh Vol 5. Cassells 1890)*

The Palm House illustrated in the Gardeners Chronicle.

In 1872/3 John Hutton Balfour produced the first Guide to the Royal Botanic Garden. His plan above showed the partial demolition of the wall between the former Caledonian Society Experimental Garden after its incorporation in the Garden in 1864. He also recorded the development of the glasshouses and included a fascination description of their contents which now reads like a gazetteer of the world and the place of the British Empire in it (see right, above).

A design proposal showing two wings to the Palm House.

The 'hidden' north elevations of the Palm House.

OS 1876 (2nd Edition)

The original stone wall separating Inverleith House from the Garden has been rebuilt to allow an extra 2.5 acres of land to be added to the Garden following the building of the Palm House.

The 1876 ordnance survey shows, very clearly, how simply the two McNab layouts came together. James McNab was to use the stone from the demolished dividing wall to add considerably to his rock garden, which famously added a new design dimension to the Botanic Garden.

The viewing platform is shown on the south side of the Conservatory.

The Rock Garden, looking towards the viewing platform in front of the Conservatory.

James McNab's ability as a landscape designer became widely known and many of the Squares, Gardens and Public Spaces of Edinburgh benefited from his advice and guidance. He was particularly aware of how trees grow and quickly obscure views and vistas and he couldn't rely on using his mature tree planting techniques to avoid what was becoming an increasingly mature Botanic Garden.

When the Fettes Trustees, to whom the grounds of Inverleith House belonged, offered it to the Government in 1874 Balfour canvassed for it to become an addition to the Garden to be developed as an Arboretum and in 1877 an agreement was signed whereby the land was to be *'enclosed, improved, laid out, ornamented and maintained as an Arboretum for extending the scientific instruction given to Students attending the University of Edinburgh, and others, in the Royal Botanic Garden, and to lay the same open, under suitable regulations, for the recreation and enjoyment of the Public, and for other objects of public utility'*.

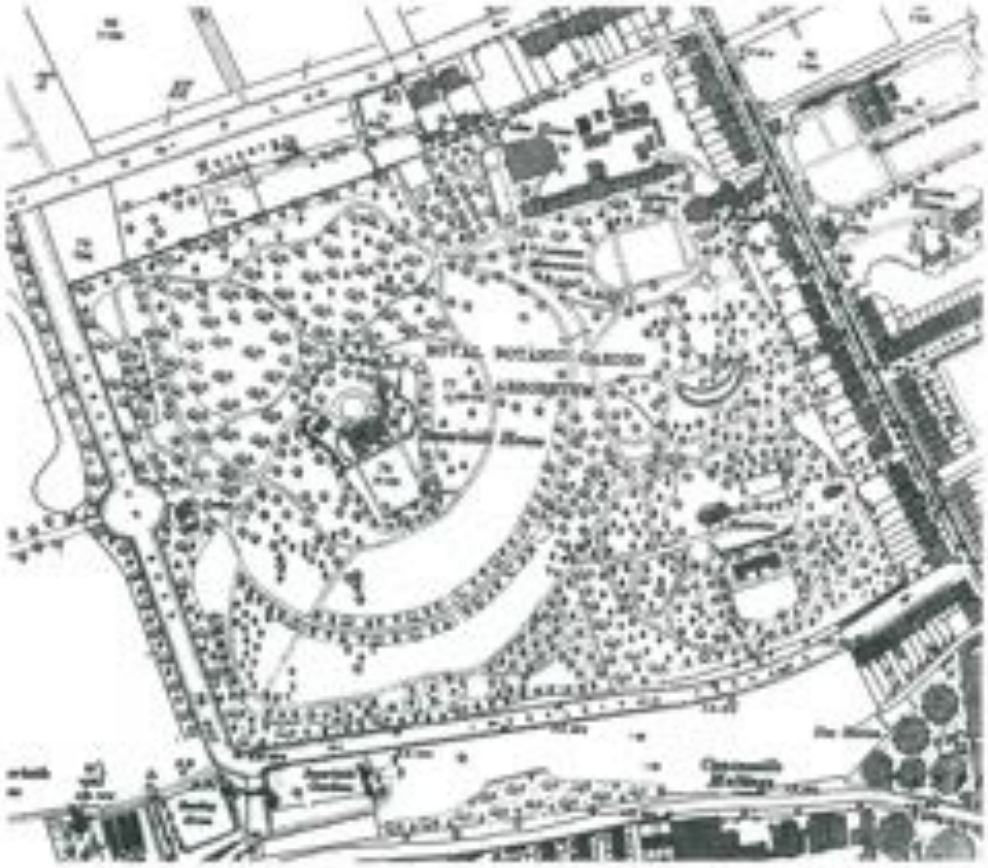
John Hutton Balfour retired in 1879, James McNab having died the previous year, and for the next seven years Alexander Dickson was the Regius Keeper and Queen's Botanist. His greatest contribution to the Garden during his time was the commissioning of the elegant Lecture Hall, but he is more often remembered for his refusal to demolish the wall which separated the lands of Inverleith from the Garden, or to open a gate to connect the two, on the grounds that free access from what was a public park to the Garden would make the Garden's security impossible. It would also mean that the Garden would have to be open on a Sunday which it didn't at that time. This lead to a strange arrangement, whereby his Curator, John Sadler, was solely responsible for the planting and management of the Arboretum.

In 1862 the Garden was open from 6am to 6pm on weekdays and until 8pm on Saturdays in summer, but closed on Sundays. In the autumn of that year a petition, signed by 14,000 working men of Edinburgh, 'prayed' that the Garden might be opened to the public on Sunday afternoons after the usual hours of public worship. However this brought about a counter-petition from the Sabbath Alliance Society saying that the Garden was already open until 8pm on a Saturday for the *'express purpose of obliging the working classes and their families'* and that the working men's petition *'violated the Divine Law, which forbids us from doing our own pleasure on God's holy day'*. The petitions were even debated in the House of Commons with Lord Palmerston giving a masterful 'sitting on the fence' speech in 1863.

The Lecture Hall commissioned by the then Regius Keeper, Alexander Dickson and completed in 1861

The Bermudan Fan Palm *Sabal bermudana* originally moved from the Leith Walk Garden and finally transported to the Old Stove House by James McNab in 1879.

The motion to open the Garden on Sunday was lost and it was not until 1889, when the Garden, then under the guidance of Isaac Bayley Balfour, and the land around Inverleith House were handed over to the Treasury into the charge of the First Commissioner of Works, that it was opened and visited by 27,000 during the first four Sundays of that April. This allowed the wall separating the two to be demolished and for A.D. Richardson, the Curator (who had trained as an apprentice at Arniston – a landscape designed by William Adam), to design the path system of the two spaces as one and to begin to form the general discipline of its layout which has needed to be changed little to this day.



OS 1896 (2nd Edition) Note the paths then leading from the glasshouses to Inverleith House

"By agreement, it has been provided that the arboretum ... should be placed under the Public Parks Regulations Act of 1872 and be maintained in all time coming by the Government. The trustees of both Sir William Fettes and Mr Rocheid were bound to provide proper access, by good roads and avenues, to the grounds and to give access by the private avenue leading from St Bernard's Row to Inverleith House" (Old and New Edinburgh 1880)

Isaac Bayley Balfour succeeded Alexander Dickson in 1888 as Regius Keeper and Queen's Botanist and the first of his many achievements was to orchestrate changes to the Garden's administration so that it was placed under the same Public Parks Regulations as the Gardens at Kew. This was followed in 1890 by an enquiry by the Treasury *'into the position of the Keeper of the Botanic Garden, Edinburgh, and as to the scale on which the outlay on that establishment is to be calculated for the future'*. Whilst, in the past, the teaching of University students had been the principal concern of the Garden, its function was now to be expanded to non-academic teaching as well as to become an efficient botanical school with facilities for research and investigation which would supplement the work being done at Kew. Apart from one negative recommendation where the Enquiry Committee thought the Curator (as Head Gardener) was being paid too much, the recommendations were much in the Garden's favour. Over the next twenty-five years the glasshouses continued to be refurbished and added to, (with the expertise of the engineering firm of Mackenzie and Monour which had established its pre-eminence throughout the world in the design and building of glasshouses and conservatories), and were, with the exception of the Palm Houses to remain in place until 1966. One casualty was the Winter Garden in the old 'Experimental Garden' which was demolished. The Exhibition Hall however became the Garden's and University's herbarium.

In 1892 Balfour started his three year courses in horticulture and forestry for probationer students, who for a small weekly sum worked in the Garden, and attended teaching classes in the evening. In this way many distinguished horticulturists and foresters came to receive (and will still do so for the future) their basic training in Edinburgh.

In 1903 Balfour with Robert Harrow (who was to remain Curator of the Garden until 1932) started to make the herbaceous border along what was then the northern boundary (delineated by the present beech hedge) and in 1908 Balfour started to remodel McNab's rock garden, making it more aesthetically pleasing and extensive, over 3 acres, much as it is today although without the central waterfall. The strip of land beyond the herbaceous border, which is currently the Demonstration Garden and Queen Mother's Memorial Garden, was not added to the Garden until 1923 by William Wright Smith, who succeeded Isaac Bayley Balfour as Regius Keeper, to be developed as a forestry nursery. Isaac Bayley Balfour's other

The central glasshouses completed in August 1914.

OS 1906 . The Linnaeus monument has been moved from its old site to a site on the south side of the Garden.

OS 1914 . The Rock Garden shown in more detail, the field between the Garden and Inverleith Place has yet to become part of the Garden.

great contribution to the Garden was his research into and subsequent cultivation within the Edinburgh Garden of two genera, *Rhododendron* (together with the holly hedges which sometimes shelter them) and *Primula* which are still a wonderful feature of the Garden in springtime.

William Wright Smith was to be the Regius Keeper and Royal Botanist from 1922 until his death in 1956. Changes to the layout in his time reflect the Garden's growing influence on contemporary suburban villa garden design, with his additions to the rock garden and the making of the Heath and Peat Gardens. With the help of his assistant John Cowan and curator Roland Cooper he then endured the impoverished austerity years of the war and its aftermath. Under his leadership the Garden however continued to grow in international stature.

The Shotland's Collection.

View from the Palm House of the 'island' bedding in the 1930's.

The Garden Map of 1934

The Herbaceous Border looking towards the Palm House. (1926).

At the end of William Wright Smith's long tenure as Regius Keeper, the 1954 Guide Map records few changes from the Guide Map of 1934. The Heath Garden has been made east of the Rock Garden (renamed and replanted as the Scottish Heath Garden in 1997). The Linnaeus Monument has been moved from the Rock Garden to be next to the Palm House. Lean-to glass houses have been built where the present Alpine Houses (1970's) are now. The city viewpoint is from the path beside the lawn of Inverleith House.

Photograph of Rhododendron 'Praecox' hedge from Garden Guide of 1954 (above) and below in 2009.

View from the path beside the lawn in the 1930's.

In 1950 Edward Kemp, after his war service, returned to become the Curator of the Garden. With Harold Fletcher, successor to Wright Smith as Regius Keeper, he was to be responsible for significant changes to the Garden's layout. He was to oversee the practical brief, design, siting, construction and successful establishment of the outstanding replacement for the dilapidated old glasshouses and the integration with them of the elegant new Herbarium Building, which together form and remain one of the very few notable architectural and landscape compositions achieved in Britain (let alone Edinburgh) during the 1960's (but alas somewhat marred now by the visual intrusion of mobile phone masts on the roof of the Herbarium). Less successful in its circulation and visual planning was the placing of formal entrance steps to the new glasshouse on its northern side, centred on the Linnaeus Monument to be seen against a background of the boilerhouse chimney, service glasshouses and the rear view of villas on Inverleith Place. With the building of the Exhibition Hall in 1970, this area north of the glasshouse range became one of the least well known and least used parts of the Garden, although this may now be addressed as part of the current feasibility study of possible future development of the Glasshouses and service area, following the completion of the John Hope Gateway.

The old glasshouse range from a photograph taken in the 1930's.

The old Glasshouse range viewed from the roof of the Palm House with the Herbarium building under construction in the centre background.

The new Glasshouse range under construction in 1966 with the Linnaeus Monument, on the right, about to be relocated.

Architect's model of new Glasshouses range.

It was not until the post-war rehabilitation of the Garden began in the 1950's that tractors replaced pony drawn carts and it was then found necessary to upgrade the path system to allow it to carry tractors. It was surfaced in macadam, treated with the ubiquitous red Lanarkshire chip. The Rhododendron Walk encompassing Inverleith House was renewed and the 'demonstration gardens' was established on the site of the old nursery, north of the Beech Hedge and Herbaceous Border, when it was moved to its new location on a site north of Inverleith Place.

The importance of vistas within the Garden was again given due consideration, particularly that of the 'City Viewpoint' with its elevated view from south of Inverleith House to the city. For over 25 years, from 1960 until 1986, Inverleith House, previously the residence of the Regius Keeper, became an invaluable focus in the Garden as the Scottish Gallery of Modern Art; its setting much enriched by the placing of the Reg Butler sculpture in the pond at the front entrance and the Henry Moore figure on the lawn to the south, facing the City Viewpoint, alas, neither of which remained in the Garden once the Gallery of Modern Art decamped to The Dean. Inverleith House, now the Garden's gallery space, together with its south facing lawn, as the highest place in the Garden, retain their importance as a natural gathering space, conveniently close to the Terrace Cafe.

Under the leadership of Douglas Henderson there were no fundamental changes to the layout of the Garden but in 1985 it was to be established (together with the other Gardens) by the National Heritage (Scotland) Act, as a grant aided institution administered by a board of trustees. The Act defined the functions of the trustees as "*research into plant science and related subjects; disseminating the results; maintaining national reference collections of both living and archival material for the purpose of study; providing advice, information, education related to plants or associated areas; and affording access to the gardens for the general public to derive knowledge of enjoyment from the collections*". When Douglas Henderson retired in 1987 yearly visitor numbers to the Garden totalled 761,145, proof, if any was needed, of the importance of the Garden as part of Edinburgh's free open space and as a major tourist attraction.

'Reclining Woman' by Henry Moore, looking at the City Viewpoint (photo: Edwin Smith)

The City Viewpoint from the Lawn (from the Garden Guide of 1964)

'Girl' by Reg Butler, formerly the centrepiece of the pond at the entrance to Inverleith House.

During David Ingram's tenure as Regius Keeper, the 'Chinese Hillside' was developed and was officially opened on 13th May 1997. It was to form a 'focal point' to celebrate the long and continuous connection between the Garden's plant collectors and China and the present twinning of the Garden with the Kunming Institute of Botany. To quote from the first presentation of the design "*Development is a necessary part of a garden's survival, however it requires change, which is always difficult in a public landscape. The existing vegetation throughout the garden was carefully examined to see where such a new feature could be created. Eventually an area to the south of Inverleith House was selected for development, into what is hoped will become a feature that is as much part of the Inverleith landscape in the 21st century as the rock garden is today*". Twelve years later, it is now an established part of the Garden, undergoing its first major renovation and possibly yet to be fully integrated into the Garden layout.

In July 2006 The Queen Mother's Memorial Garden was completed at the east end of the Demonstration Garden to a design by Lachlan Stewart in partnership with staff from the Botanic Garden. Contained by an existing avenue of pleached lime trees leading to the Northern (unused) Gate, it acts as a terminal feature to the long pathway running east-west through the Demonstration Garden.

Design sketches for the Chinese Garden, 1994.

THE GARDEN AND ITS PLACE WITHIN THE OPEN SPACE PATTERN OF THE CITY OF EDINBURGH.

The Garden sits within the Inverleith Conservation Area, where it is classified as an 'Urban Wildlife Site', thereby contributing greatly to its biodiversity importance in relation to its adjoining corridors of open space – of cemeteries and sports fields – the majority of which are privately owned and which are fortunately protected from undesirable development by the open space policy of the City.

In terms of Edinburgh's public open space, it equals in area the neighbouring and somewhat featureless Inverleith Park, although it is far superior in visual and biodiversity terms. Together they form the largest accessible public open space south of the City Centre, the Botanic Garden matching in heritage and visual importance the Gardens of Princes Street.

The dark green boundaries depict public parks. The plan shows that the dominant land use within the Conservation Area is cemeteries and sports fields.

While the Experimental Garden of the Royal Caledonian Horticultural Society was intended to be 'an attractive source *of instruction and recreation*' only for its members and their friends who might visit it, the Botanic Garden, at its new location in Inverleith, was to continue to encourage visitors, as had been the custom at Leith Walk, but as the century progressed, it was to assume greater importance as an open space available to the public, so that by the time the 14,000 working men petitioned for its Sunday opening in 1862, the Garden was already open to the public 'every *lawful day from 6 am to 6 pm in summer, and from daylight to dusk in winter*' as well as on summer Saturdays till 8pm 'for *the benefit of the working classes*'.

A Garden Policeman proudly wears his Post World War medals in the 1920's. In John Hutton Balfour's Guide to the Garden (1872) his most onerous **REGULATION** was 'that visitors will abstain from touching the plants and flowers; a contrary practice can only lead to the suspicion, perhaps unfounded, that their object is to abstract a flower or a cutting, which when detected, must be followed by expulsion'.

SPECIAL LANDSCAPE AREA. No.13

A new designation for Edinburgh's landscape areas was put out for consultation by the City Council in 2009. The Botanic Garden is linked with Inverleith Park to form Area 13 which is described in the following notes and outlined in the map below.

In 1926 (the year of the General Strike) the Regulations for the Garden had been vastly extended to cover almost every aspect of misbehaviour and they make an interesting comparison with today's more tolerant attitude to public behaviour.

The glasshouses range in 1990 showing a visitor sitting on a bench facing north with her umbrella to shade her from any sunlight.

A sketch from a photograph of an Edwardian Lady sitting on the bench around the Horse Chestnut tree at the East Gate entrance (Peter Daniel)

REGULATIONS made by the Commissioners of His Majesty's Works and Public Buildings pursuant to the Parks Regulation Acts, 1872 and 1926.

The Interpretation Act 1889 applies for the interpretation of these regulations as it applies for the interpretation of an Act of Parliament.

"Unauthorised person," means, in relation to any act prohibited by these regulations, any person not entitled or required to do the act, either—

(i) in the execution of his duty as a police constable or as a park-keeper or other person employed by or under the Crown; or

(ii) in the execution of any contract made between the Crown and himself or his employer; or

(iii) by virtue of an authorisation in writing granted by the Commissioners of Works.

1. No unauthorised person shall enter into or remain in any part of the Garden or Arboretum during any time appointed for closing the same.

2. Children under ten years of age are not admitted unless accompanied by a parent or suitable guardian.

3. No unauthorised person shall ride or drive in the Garden or Arboretum or bring in any cycle, wheelbarrow, truck or other vehicle, except that a bath-chair or perambulator may be brought in with the written permission of the Regius Keeper.

4. The owner or any person for the time being in charge of a dog shall not permit it to enter the Garden or Arboretum.

5. No person shall bring into the Garden or Arboretum any firearm, bow, bucket or pistol.

6. Picnic parties are not allowed.

7. No person shall wilfully interfere with the comfort or convenience of any other person using or enjoying the Garden or Arboretum.

8. No show, demonstration, entertainment or subscription of any kind shall be made or given, solicited or collected in the Garden or Arboretum.

9. No unauthorised person shall sell or offer for sale or hire in the Garden or Arboretum any article, commodity, pamphlet, programme or thing.

10. No person shall exhibit, distribute, sell or offer for sale in the Garden or Arboretum any indecent print, picture, book or article.

11. No unauthorised person shall put up, fix, exhibit or distribute in the Garden or Arboretum any advertisement, poster, bill or other paper or any printed matter or other thing to any tree, fence, post, railing or gate of or in the Garden or Arboretum.

12. No unauthorised person shall walk upon any flowerbeds, flower-bed or lawn or any other part specially enclosed or the entry on which is prohibited by notice.

13. Visitors are to enter and leave the glass-houses by the doors according to the notices placed thereon.

14. No person shall smoke in the glass-houses or have therein any lighted tobacco or other thing which may be harmful to the houses or the plants therein.

15. No person shall destroy or injure any tree, shrub or plant or pluck any flower, fruit or leaf or injure or deface any building, structure, seat, railing or other property in the Garden or Arboretum or entering any part thereof.

16. No person shall deposit, throw down or leave otherwise than in receptacles provided for the purpose in the Garden or Arboretum or any bills, proof, fragment or commercial matter therein, any dead animal, or any bottle, tin, container, any broken glass or crockery, waste paper or any refuse of any nature whatsoever.

17. No unauthorised person shall use or carry arms or play any game or music, or practise gymnastics or athletics in the Garden or Arboretum.

18. No assembly of persons is permitted in the Garden or Arboretum, unless conducted in a decent and orderly manner and to the satisfaction of the Regius Keeper.

19. No person shall sketch or take photographs or any cinematograph film with any stand-camera or apparatus without the written permission of the Regius Keeper.

20. No public address shall be delivered in the Garden or Arboretum.

21. No performance or representation, whether spoken or in dumb show or mechanically produced or reproduced, shall be given in the Garden or Arboretum without the written authorisation of the Commissioners.

Mothers and Children.

School children and open space in the City.

Curiosity and learning.

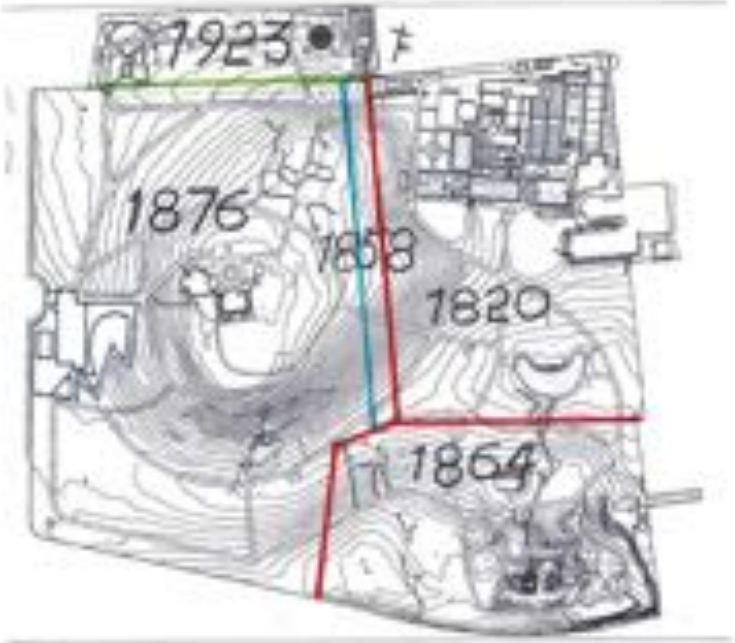
Keen gardeners of all ages.

Students and tourists.

The able and less able.

Today's multi-use of the Garden shows a more relaxed attitude to its use. No doubt the Rangers will tell you of petty vandalism, litter, plant and cutting stealing, thoughtless behaviour and disrespect of the privileges it freely offers to its visitors. It does not always receive the respect it deserves for its international scientific, research and educational achievements and importance to Scotland, nor the recognition of the essential part it plays in the landscape and open space pattern of the City.

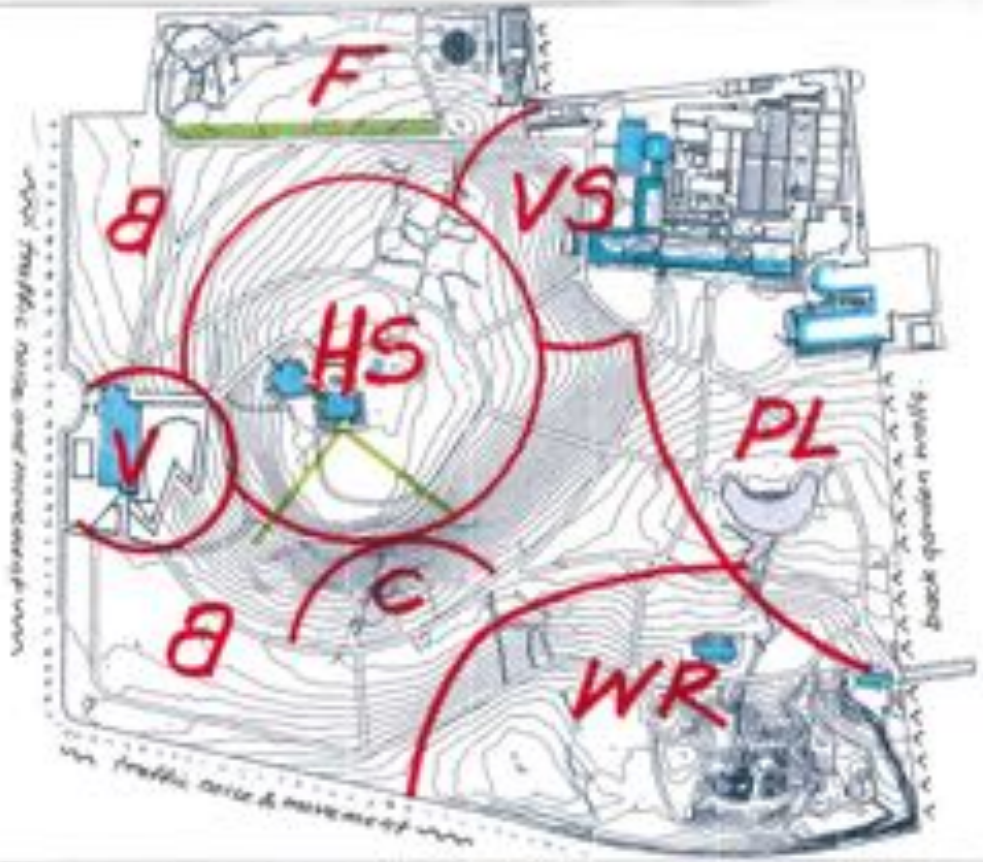
LANDSCAPE ZONES WITHIN THE GARDEN.



The present layout of the Botanic Garden is especially satisfactory because the various segregated parts meld together as a whole to give it its own unique landscape character. This is, at least in part, due to its singular landform and its relationship to the skyline of the City of Edinburgh. James Rocheid chose to build the austere Inverleith House designed by the Edinburgh Architect David Henderson in 1774 at the summit of the landform looking outwards towards the ridge upon which the Old Town of Edinburgh formed a picturesque skyline. We should be grateful to Robert Graham, the Professor of Botany and Keeper of the Royal Botanic Garden, who persuaded the Lords Commissioners of His Majesty George IV's Treasury to abandon the development of the Belville site at Holyrood and instead to locate the new Botanic Garden on part of Rocheid's land (at an estimated cost of 1.2 million pounds in today's money). It was only in 1876, after Inverleith House and its grounds were finally incorporated into the Garden that the present path system, related to the natural landform, began to be developed.

The Plan shows the 5 phases of the Garden's growth and how the boundaries influenced the development over the years.

THE LANDSCAPE CHARACTER OF THE GARDEN



The Garden divided into its character compartments – a subjective analysis which, not altogether surprisingly, echoes the stages of its development from 1820.

KEY

a. The Arboretum.

c. The Chinese Hillside.

HS. Inverleith House Hillside.

F. The Beech hedge and Demonstration Garden.

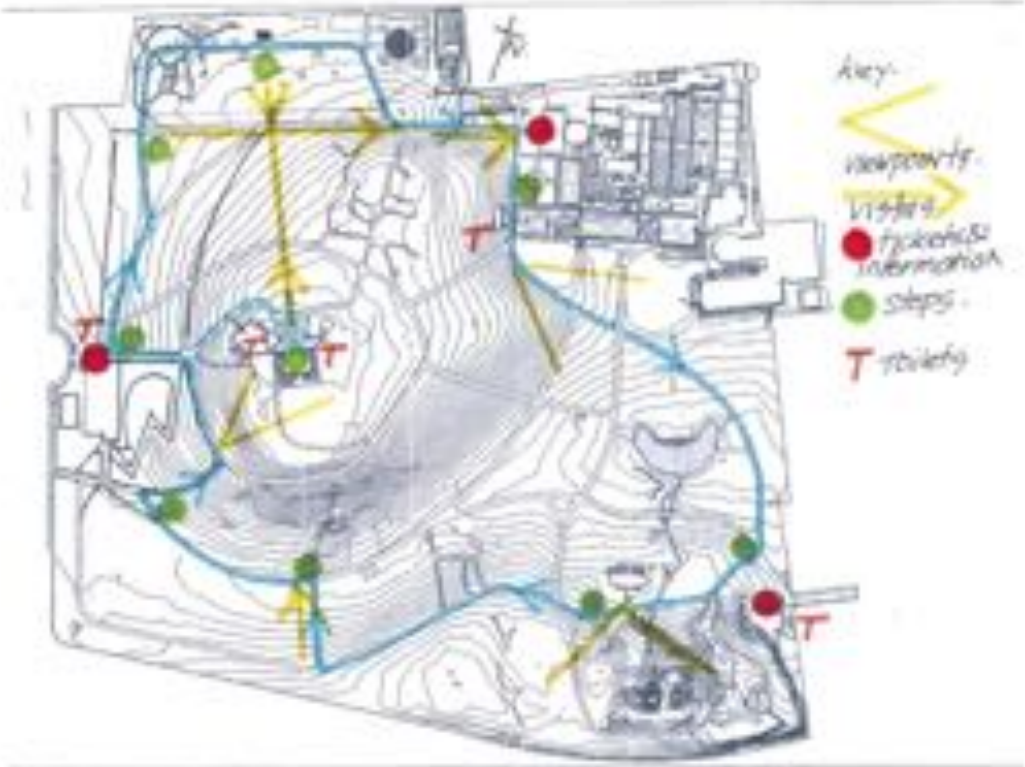
PL. Park Landscape seen from the East Gate.

WR. The Woodland and Rock Garden.

V. The John Hope Gateway Visitor Centre.

VS. Victorian Splendour.

CIRCULATION, INFORMATION, GUIDES AND TOURIST TRANSPORT



The diagram shows an 'ideal' circulation route around the Garden linking the main elements, possibly also a summer tourist 'Explorer' route (with a vehicle similar in scale to the Explorer at Benmore), less intrusive than the vehicle train at Kew) starting at the John Hope Gateway and with stopping points as indicated to take in the most significant features, viewpoints and vistas along the route.

View of Inverleith House from the possible Explorer route.

Vista to the Palm House from the Explorer route.

CIRCULATION, THE JOHN HOPE GATEWAY AND THE GARDEN PATHS.

The John Hope Gateway was designed by Ted Cullinan as a result of an architectural competition in 2003. The Biodiversity Garden, designed by Gross Max, around a central clay pavior path, was recently completed by the Royal Botanic Garden staff and is laid out to demonstrate the rich biodiversity of the flowering plant kingdom. Aimed at exploiting the full potential of the Garden, all visitors arriving at the West Gate are directed into the Gateway building to enjoy exhibitions, interpretation, shopping, an exclusive restaurant and corporate conference facilities. To enter the Garden from the Gateway building, visitors either pass through the glass enclosed entrance canopy and ascend the path flanked by the Caithness stone wall or leave the Gateway building at its southern exit.

From the southern exit they can either take the path out into the southern part of the Garden, take the path through the Biodiversity Garden, or thirdly they can choose to climb the steps to the terrace overlooking the Biodiversity Garden and ponds. If either of the last two options is taken they will arrive at the junction of paths at the top of the Caithness wall. This junction is now a major hub from which visitors disperse throughout the Garden. Suggestions are made as to how the setting of this hub could be strengthened (see section – The West Gate Entrance to the Garden).

Visitors who approach the Gateway building from the direction of the East Gate entrance or from the paths south of Inverleith House do not have a direct approach to the building, the original path system does not join directly to the Gateway entrance and they are forced to divert in order to arrive at the entrance to the building and the Biodiversity Garden. This awkward access could be overcome by realigning the two southern paths to the south entrance to the Gateway building and the Biodiversity Garden. (see plan – Paths within the Garden and sketch below) *Alternatively connections could be made to link the biodiversity paths to the Garden paths on the lines of one or more of the present 'temporary' connections.*

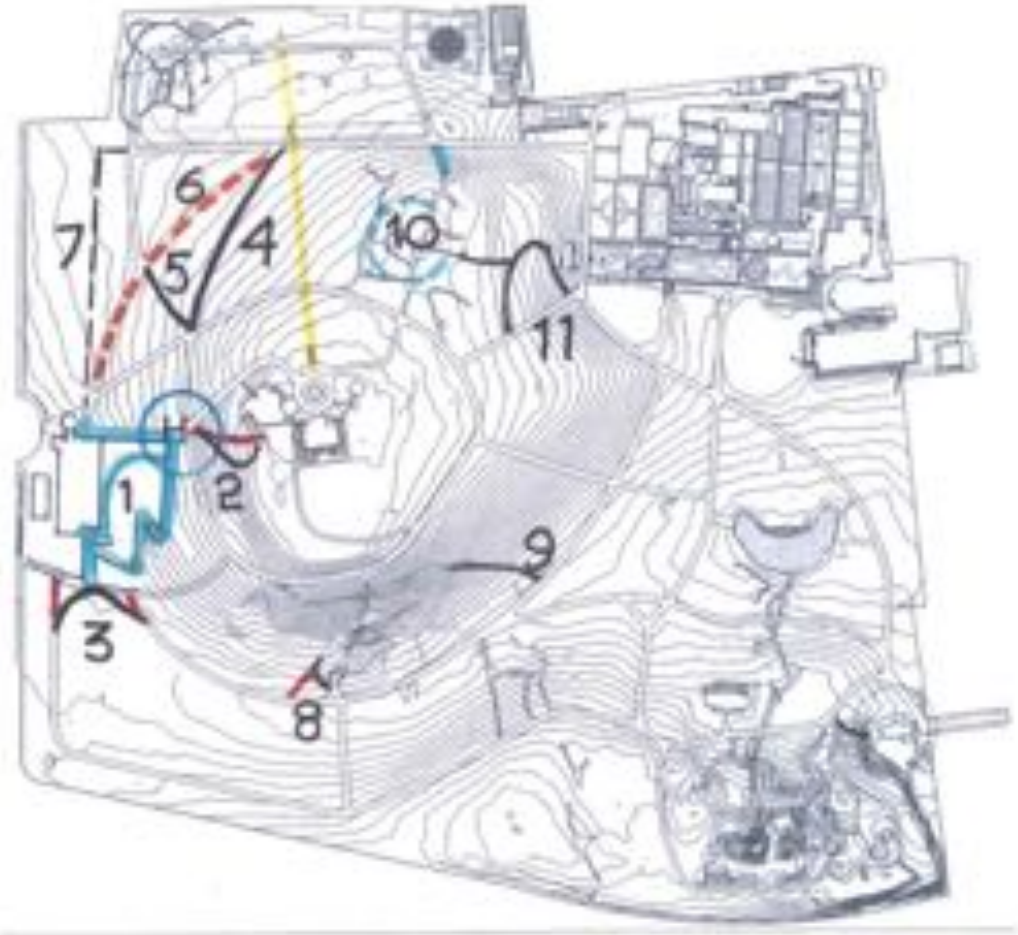
The Hub at the top of the flank wall with the present temporary connection to the Biodiversity Garden.

View of the Gateway from the approach path.

View from the terrace looking towards the path approach on the south side of Inverleith House.

View towards the Gateway and the brick path of the Biodiversity Garden.

PATHS WITHIN THE GARDEN



KEY

1) Exit/ entry routes to/ from the John Hope Gateway.

2) The Hub - West Gate entrance path meeting point with realigned path to Terrace Cafe, upper entrance to the Gateway and to Biodiversity Garden.

3) Southern paths realigned to connect to John Hope Gateway south entrance.

4) New path to the Herbaceous Border and Beech Hedge.

5) New path to connect to existing path to west end of Demonstration Garden.

6) Possible redundant path.

7) Possible reinstatement of avenue path (mature tree collection permitting) and removal of adjacent path.

8) New path connecting the Chinese Pavilion to rest of the Chinese Hillside and removal of western entrance.

9) Additional eastern entrance to Chinese Hillside (steps link).

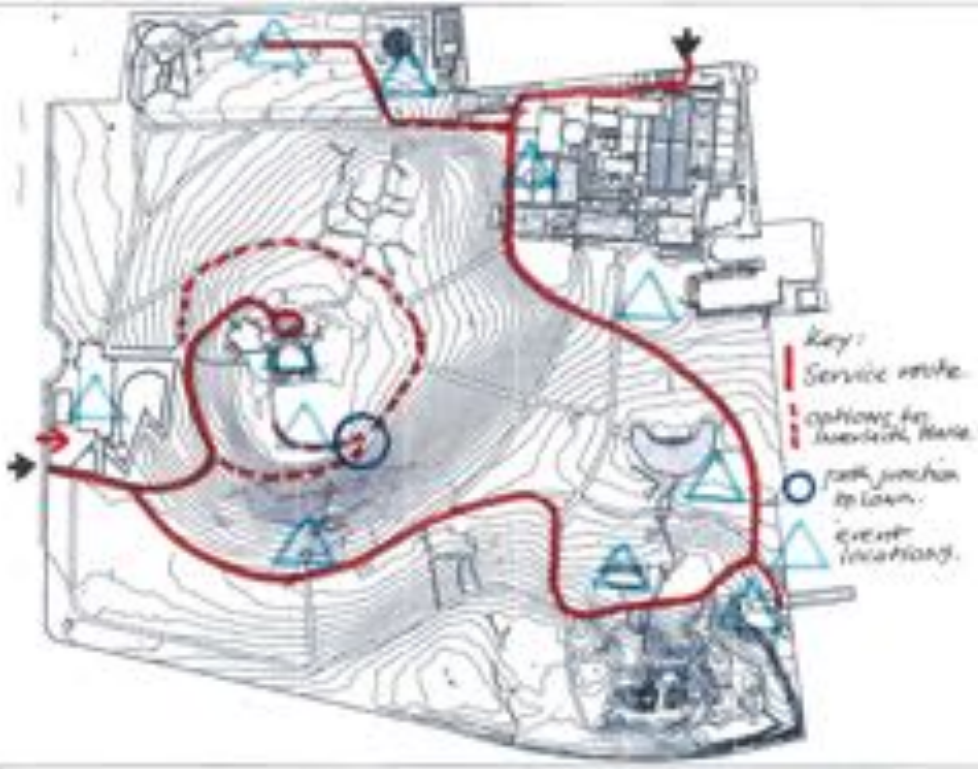
10) Completion of new path system in Copse to improve circulation.

11) Easy Access route from Glasshouses to Inverleith House avoiding the Stove Brae gradient.

12) Newly created path from the East Gate Lodge leading towards the Scottish Heath Garden.

The Stove Brae showing the gradient.

CIRCULATION AND SERVICE ACCESS



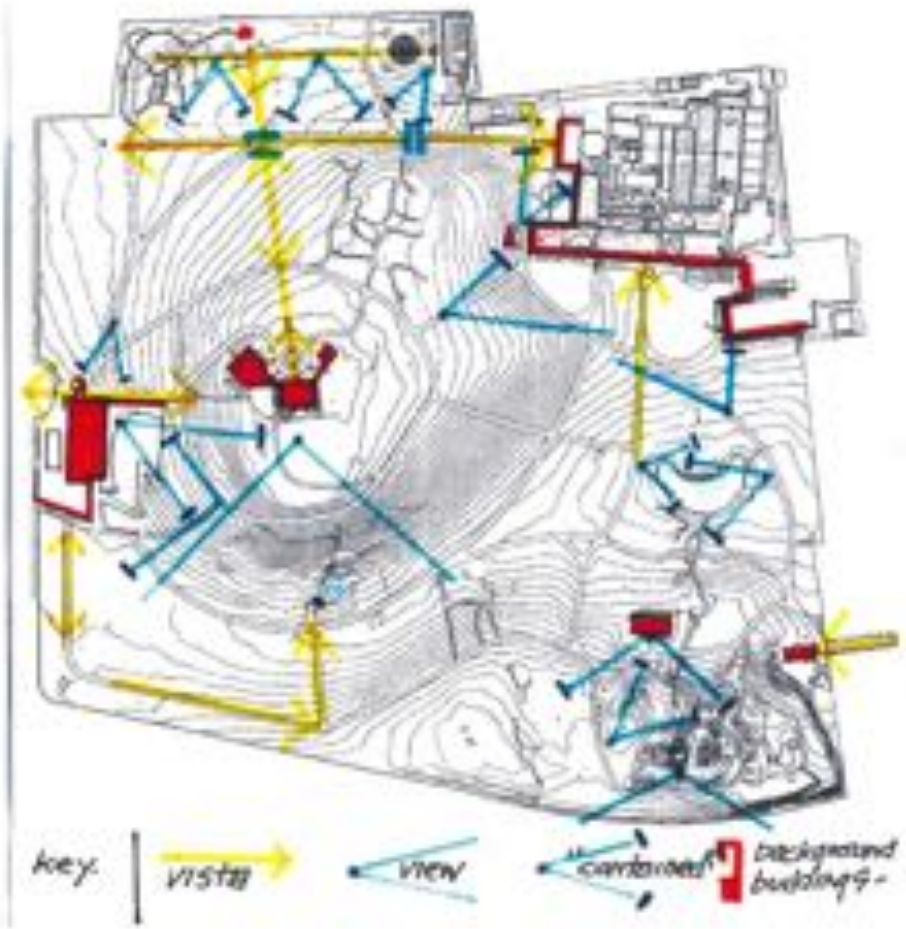
The diagram shows possible 'dedicated' access routes around the Garden to service all 'event' areas

1) Queen Mother's Garden and Demonstration Garden
2) Palm House forecourt and Glasshouses
3) Lawn in front of the Herbarium
4) The Pond
5) The East Gate and the Playfair Houses
6) The Caledonian Hall
7) The Chinese Pavilion
8) Inverleith House Lawn
9) Inverleith House
10) John Hope Gateway (with its own service access).

The 'dotted route' plots alternatives to reach the lawn.

At present there are street lights on the Inverleith House driveway and on the route from the East Gate to the Caledonian Hall.

VIEWPOINTS AND VISTAS



More of a record than a proposal, the diagram subjectively maps the major vistas and viewpoints within the Garden, some of which may need to be protected against encroaching plants. There is, for example, the opportunity to allow a vista down to the Chinese Garden, by judicious pruning of the existing trees which would coincide with an adjustment of the path entrance to the Chinese Garden.

Vista north to entrance to Chinese Garden.

Vista north from Inverleith House down to Beech Hedge/ Demonstration Garden.

It is essential to continually review the outstanding vistas and views within the Garden to ensure they have not become obscured by the growth of plants.

SCULPTURE AND ARTEFACTS IN THE GARDEN.

The Botanic Garden was never conceived as a landscape garden, a public park or as a sculpture park. As its layout and use has evolved over the years, it now naturally contains elements of all three.

The diagram overleaf analyses the existing sculptures and artefacts in the Garden, those that are well positioned, and suggests that some may not be in the best possible locations and that new positions could be found for them.

The diagram also suggests possible sites where sculpture could add some quality to the landscape of the Garden, so that they are not arbitrarily 'dumped' anywhere, for example, on the whim of some donor.

As in the previous landscape assessments for Benmore, Logan and Dawyck, the sites do have some part to play in the Garden's layout as orientation points or at the end of vistas. Some sites suggest how 'sculptures' may be happened upon – a surprise – a composition catching the sunlight – against a planting background.

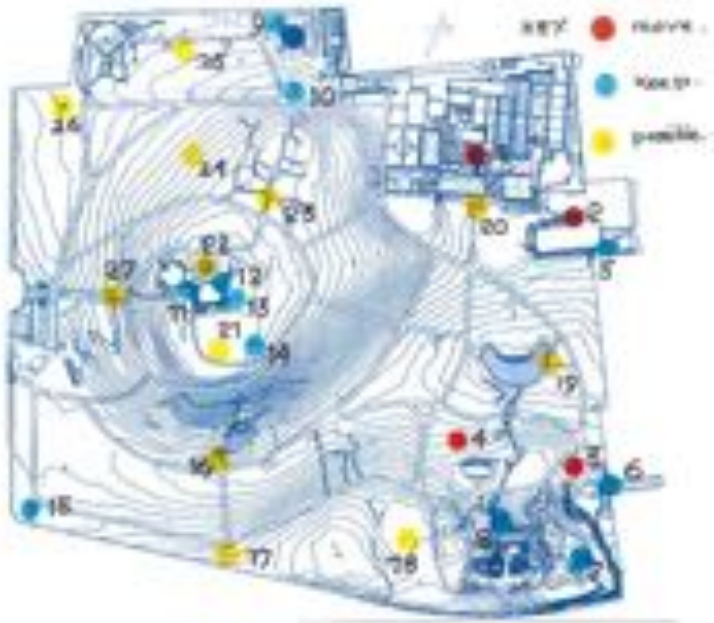
Art in the landscape, not art which dominates its landscape, as is sometimes the case in so called 'sculpture parks'.

The Williamson memorial belongs with the Hope Cottage

Site in front of the Glasshouses which might be a location for a sculpture.

The Linnaeus Monument seen from the Glasshouses.

The Slate Cone by Andy Goldsworthy on the east lawn of Inverleith House.



1 If the Botanic Cottage (from the Leith Walk Garden) is rebuilt in the Garden, the Linnaeus Monument could be reunited with it or alternatively located close to the John Hope Gateway (at 27)

2 The Isaac Bayley Balfour and John Williamson plaques might be put where they can be more easily seen by visitors, the former at the main entrance to the Herbarium, the latter in association with the rebuilt Botanic Cottage?

3 Barbara Hepworth's 'Ascending Form (Gloria)' is increasingly diminished by visual competition from lampposts and signs and banners. Could it be relocated to a better site as part of the new East Gate layout?

4 Barbara Hepworth's 'Rockform (Porthcurno)' makes little of its setting and could be relocated (at 27) as an alternative to 1 above.

5 The sculpture subtly located in the Herbarium entrance courtyard when it is not obscured by parked cars.

6 The East Gate is a welcoming eyecatcher, much appreciated by visitors.

7 The bothy in the Scottish Heath Garden.

8 The carved stones in the Rock Garden.

9 The Queen Mother's Memorial Garden.

10 The Walmsley/Partridge seat is in competition with the nearby signage and banner.

11 Ian Hamilton Finlay sundial should not be obscured by the overgrown shrub which, if removed, might allow the sundial to function.

12 Alan Johnson's installation "Haus Wittgenstein/Inverleith House" in its location over the wall opening east of Inverleith House.

13 Andy Goldsworthy 'Slate Cone'.

14 Sculptural seat requires rehabilitation and a more thoughtful site.

15 Andy Goldsworthy 'Slate Hole Wall' sculpture should possibly have further planting behind it to reduce the closeness of the boundary and the traffic noise.

16 Site at the Chinese Garden viewpoint by a contemporary Chinese artist?

17 Site to terminate the new vista to the Chinese Garden and to articulate the southern pathway.

18 Site within the Woodland Garden.

19 Site at the pond.

20 Site to terminate the avenue leading to the glasshouses, perhaps an alternative location for the Linnaeus monument or the Isaac Bayley Balfour memorial?

21 Site on the south lawn – A return (on loan) of the Henry Moore from its present insignificant location at the Museum of Modern Art.

22 Site as part of the redesigned entrance to Inverleith House – a return (on loan) of the Reg Butler sculpture?

23 Site within the Copse.

24 Site on the northern vista to or from Inverleith House.

25 Site for the reconstructed Botanic Cottage and for the Linnaeus monument.

26 Site at the end of the Herbaceous Border and Beech Hedge (25 above)

27 The sites for sculpture at the top of new vista from the West Gate.

The Walmsley/Partridge seat as it should be seen with good background and not swamped by signage

'Growth' by Alan Place, ARA, at the Herbarium entrance - enhancing the entrance car park or overlooked with scope for relocation?

Andy Goldsworthy Slate Hide Wall in the south west corner of the Arboretum. More planting to the border in the background would help to reduce the impact of the public road and traffic sounds.

Public participation

Remove the encroaching vegetation and the sundial might work

Visitor participation
East Gate (to a design by Ben Tindall)

Barbara Hepworth Ascending Form (Single) re-sited next to the Pond, taking it away from the lamp posts of the East Gate entrance, setting it back into the landscape and allowing it to catch the sunlight as the artist might have wished.

Linnaeus Monument needs a more appropriate site, and is beginning to show signs of degrading.

WEST GATE ENTRANCE – THE HUB PROPOSALS

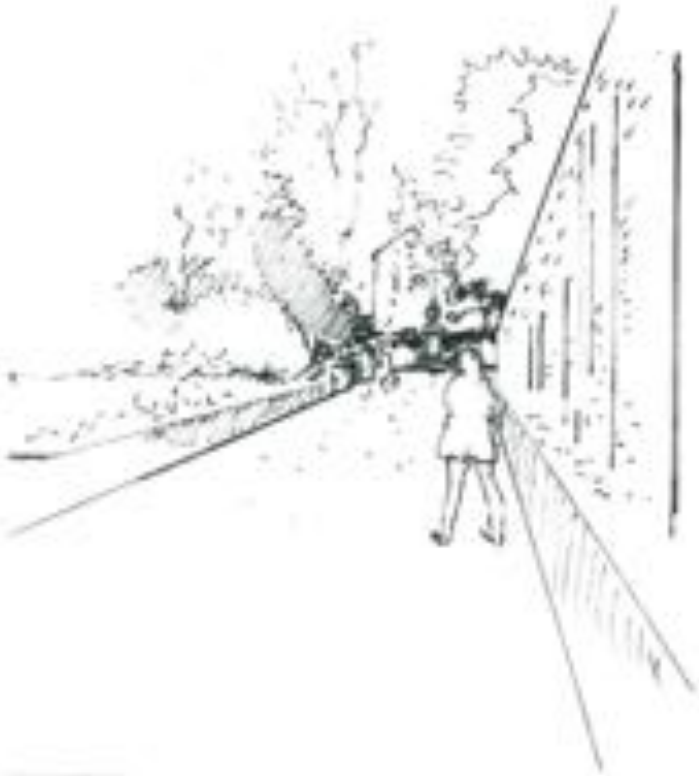
Officially opened by Her Majesty The Queen in 2010, the John Hope Gateway and the Biodiversity Garden add a new experience to the Garden, particularly for those who enter by the West Gate.

We have three suggestions concerning visual and practical connections to the existing path system.

1. The canopied entrance from the West Gate with its flank retaining wall is a dramatic, visual and distinctive entrance from Arboretum Road. The path leads the eye towards the heart of the Garden and Inverleith House. A terminal feature would greatly enhance this vista instead of the present distant view of a directional sign. We suggests this as a possible site for the relocated Linnaeus Monument (see sketch 1), as it would be related to Inverleith House behind it.

2. An alternative would be to relocate the Barbara Hepworth sculpture 'Rockform (Porthcurno)' here. It would complement the Gateway's contemporary design and could be sited at the path junction, encouraging more physical connection with it. (See Sketches 2 and 3).

3. Sketch three suggests how a short continuation of the wall would also strengthen the relationship of the Gateway building to the Garden and overcome what appears to be as yet, the unresolved corner of the Biodiversity Garden design.



Sketch 1 – View from the entrance lobby of the visitor centre with the Linnaeus Monument sited as a terminal feature to this new vista

Sketch 2 – The Hepworth sculpture at the head of the ramp seen from the glazed entrance foyer, terminating the vista and marking the upper entrance to the Biodiversity Garden.

Sketch 3 – The Hepworth sculpture at the path junction, clear of the service path and marking the upper entrance to the Biodiversity Garden. A short continuation of the Caithness wall would make more of this space, resolve the visually weak mirror junction and eliminating the need for a connastone.

Sketch 4 – Summary of Proposal

THE EAST GATE ENTRANCE.

View of the Lodge from Inverleith Row

With the transfer of the temporary retail shop and plant sales area to the John Hope Gateway, the Garden decided to look at the opportunity to convert the East Gate (Playfair) Lodge into a reception area, a small cafe and toilets while restoring some of the original Playfair elevations and also rationalising the clutter of small buildings, direction signs and banners which in recent years had increasingly come to dominated the East Gate entrance.

This has made possible:-

1. The revealing of the eastern elevation of the Lodge to the visitor entering from Inverleith Row.
2. The better integrated of the Lodge into the Garden by the removal of the beech hedge
3. A new outdoor sitting area in front of the Lodge together with planting to integrate it into the Garden. We suggest that a better location, away from the lamp posts, should perhaps now be found for the Barbara Hepworth 'Ascending Form' sculpture. (See 'sculpture in the Garden section of the report.)
4. A new function for the East Gate Lodge. In the longer term, and with only minimal alterations, an additional cafe outdoor sitting area could be extended into the south facing garden and perhaps the front door used to access the Cafe and facilities.

Altered elevations of the East Gate (Playfair) Lodge (Dwg by Smith Scott Mullin Associates)

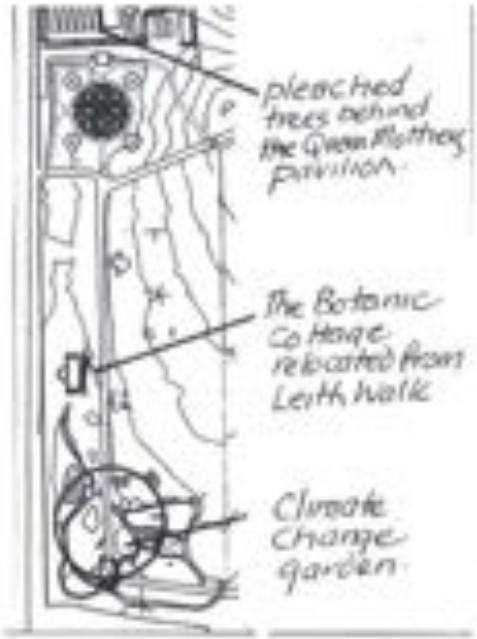
North elevation of the East Gate (Playfair) Lodge

External layout plan and indicative planting areas (Drawing by Smith Scott Mullin Associates)

The newly created path from East Gate Lodge offers a more direct access into the Scottish Heath Garden

THE DEMONSTRATION GARDEN

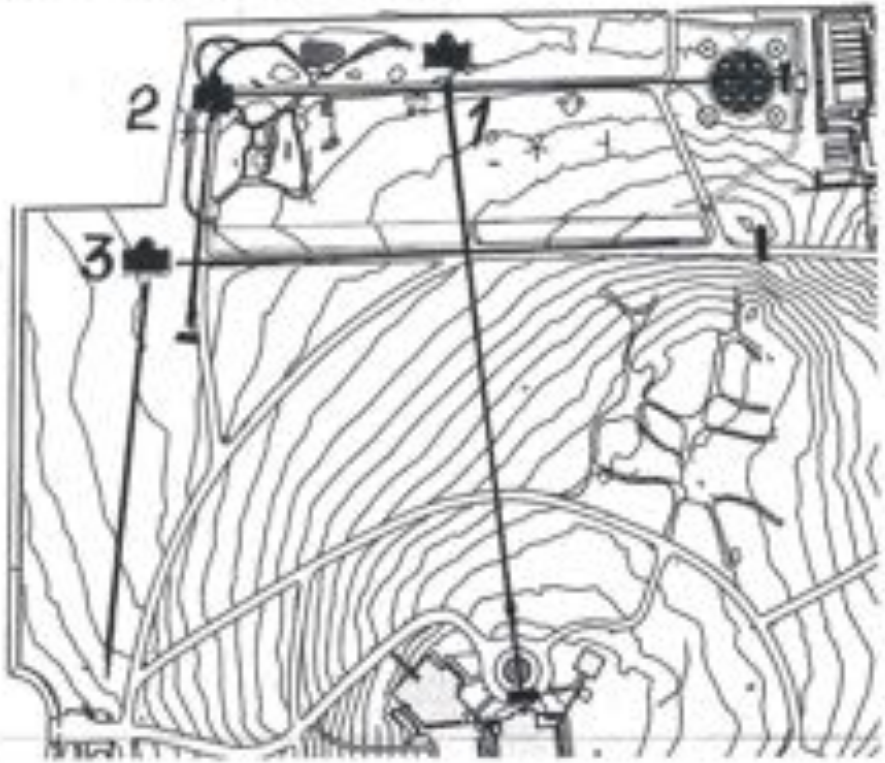
The Demonstration Garden is one of the most visited areas of the Garden with its individual rooms and dividing hedges set against the backcloth of the beech hedge to give formal divisions allowing a variety of displays. The Queen Mother's Memorial Garden remains an attraction beyond the row of pleached limes. The pavilion's contribution as a terminal feature of the long east/west vista would be reinforced by another row of pleached trees or a high hedge behind it instead of the present over-dominant view of the house gable end. The north border of the Demonstration Garden is of particular importance; especially in the winter months when because of the absence of overshadowing from trees it catches sunlight. One proposal is for the Botanic Cottage to be rebuilt here at the end of the vista through the Beech hedge, from Inverleith House. As one moves further west, the individual rooms provide opportunities for the continued development of interactive areas between students, volunteers and visitors, (e.g. student plots and fruit garden) but there is a general need, however, for all the displays and demonstrations to be refreshed or renewed. Plans are currently being considered to further redevelop the area into a Teaching Garden with more interactive plots but a masterplanning process should be established to consider all opportunities.



A row of pleached trees or a higher hedge to the height of the apex of the pavilion roof would emphasise its importance at the end of the vista.

Winter sunlight (on the shortest day). A possible site for the Botanic Cottage

BOTANIC COTTAGE – PROPOSALS



View through the beech hedge with the Linnaeus Monument in the foreground (Option 1). Raising the height of gap to create an arched opening in the hedge should be achievable.

The Botanic Cottage in its Leith Walk location, March 2009.

Three possible site options are shown for the Botanic Cottage -

1. In the Demonstration Garden at the terminus of the vista from Inverleith House.
2. At the terminus of the east/west vista in the Demonstration Garden.
3. At the terminus to the hedge/herbaceous border vista.

It is essential that the Cottage should face, as far as possible, its original SE orientation. Options 2 and 3 would present east elevations to the vistas. Option 3 presents a challenge to reinstate the avenue shown on the early OS maps through this part of the Arboretum in order to visually relate the Cottage to the John Hope Gateway.

INVERLEITH HOUSE – PROPOSALS

1) Vista to the hedge and Botanic Cottage
2) Successional planting of Limes behind existing mature Limes.
3) Cut back lower branches of Limes to re-establish vista view.
4) Redesign pond, repave/ resurface Tegula and tarmac, using more appropriate materials.
5) Consider removal of mature planting (except for *Eucryphia* sp.) which is causing the building's elegance and symmetry to be lost.
6) Repave and extend the outdoor area to cafe.
7) Redesign footpath approach to the Terrace Cafe from top of entrance ramp.
8) Reinforce informal hedge screen windbreak planting on embankment to create separation from John Hope Gateway.
9) To maintain the City viewpoint prune or cut back hedge and trees below.
10) and 11)
Plead for loan and return of Henry Moore and Reg Butler sculptures.
12) To prevent Hamilton Finlay sundial from becoming obscured remove adjacent *Pittosporum dalii* (now too big for this location).
13) Re-site seat.

Vista down to the beech hedge to be re-established

Replace synthetic materials/redesign pond and sculpture

THE CITY VIEWPOINT

Since Inverleith House became part of the Botanic Garden the city viewpoint from south of Inverleith House has been one of the highlights of the Garden.

In recent years it has become more obscured as trees and shrubs below the lawn have grown.

It is suggested that trimming or judicious removal of foreground shrubs, the removal of one tree and the pruning of some of the more distant trees would remedy this increasing problem. The visual problem of the haphazard siting of benches should also be addressed.

The viewpoint from the 1900's Garden guide book

In the 1960's the viewpoint was still contained by a formal hedge on the lower slope

There is one tree which has grown below the path which often obscures the view of the Castle

Even more so in the summer

And there are some trees and shrubs at the boundary of the Chinese Hillside garden.

Rather than trying to reinstate the City View as it was in the past, possibly one viewpoint should be selected from which the Castle and the Salisbury Crags may be prominent on the skyline. This should be kept clear of encroaching vegetation.

THE CHINESE HILLSIDE – PROPOSALS

By the beginning of 2009 the Chinese Hillside had lost some if its original attraction as its more vigorous plants were obscuring much of the landscape structure. This year a programme of thinning was undertaken as well as repair and redecoration of the Pavilion, bridge, fences and the waterfall, helping it to become, once again, a unique part of the Garden. Better repairs to the bamboo fences are still needed.

Below: There should be careful pruning of the shrubs around the bridge so the picturesque relationship between bridge and water is not lost when viewed from the Pavilion

The two entrances to the Chinese Hillside seem so discreet as to be purposely announcing its separation from the wider Garden. This does not seem altogether appropriate to a Botanic Garden which wants to attract visitors to all areas and could be easily remedied by simply removing some shrubs, opening up the entrances and making them more visible. Furthermore, while the Chinese Hillside already has a central entrance leading to the Pavilion, with views across the pond, it does not connect to the path system. This could be simply rectified by eliminating the western entrance and making a footpath connecting the Pavilion to the ascending path so that the journey around the Chinese Hillside starts or finishes at the Pavilion.

Another informal entrance has developed half way up the hill on the eastern side (a desire line). Extending the randomly placed stone path down the hillside to the main path system would create an additional useful connection to the rest of the Garden.

Proposals

1. Open out the two entrances to help integrate the garden with the Garden.
2. Eliminate the lower western entrance. Realign the path to enter and finish at the Pavilion.
3. Formalise the desire line path (allowing for better drainage across it.
4. Restore the vista down to the Pavilion. Trim, shape, or plant trees to form an avenue. Possible terminal feature at the elevated southern end.

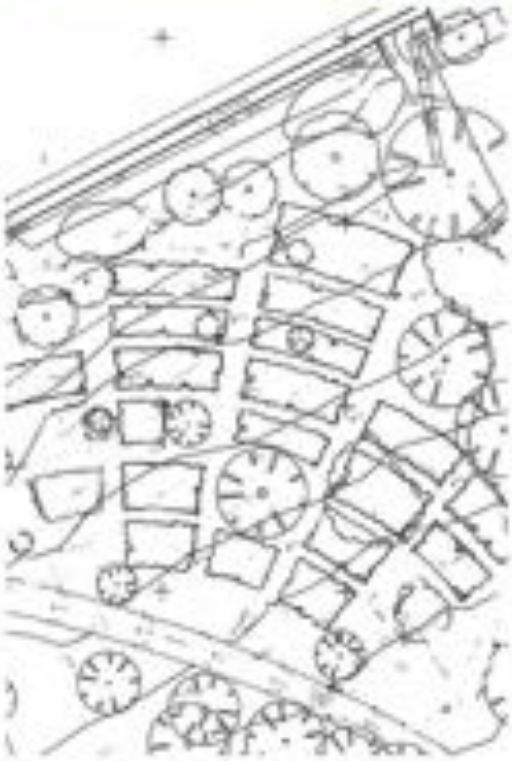
SYSTEMATIC GARDEN

A Systematic Garden, often referred to as Order beds, has long been an important feature of Botanic Gardens and was a valuable resource in the research and teaching of botany, dating from the 18th and 19th centuries, when botany adopted the Linnaean system of classification of plant families based on the characteristics of flowers, leaves, stems, fruit and roots. The Linnaean system was first adopted in Edinburgh at the new Leith Walk Garden by John Hope during his period as Professor of Botany and King's Botanist from 1760 – 1786. Hope was a strong advocate of the Linnaean system of classification and botanical teaching being one of the main functions of the Garden, it is not surprising that a good portion of the Garden at Leith Walk was devoted to that and in it the plants were arranged systematically

When the Garden moved to Inverleith, systematic beds (labelled as the Student Collection in later plans of the Garden) were laid out in various locations to the south of the glasshouses and it was only when the new herbarium and glasshouse range were built in the 1960's these were largely done away with, a smaller display relocated to the Demonstration Garden to exhibit families that have particular economic importance.

To recreate a historic feature of Botanic Gardens and provide an insight into plant classification and its relationship to diversity, a new Systematic Garden is being considered. The suggested location is in the area immediately to the south of the Herbarium, with which it has obvious connections, as well as being a part of the Garden which would have an attractive backdrop and the appropriate degree of containment.

Above: The Systematic Garden arranged around the existing trees.



Above: Indicative form of the Systematic garden showing its relationship to the Herbarium.

LANDSCAPE DETAILS

(Path Surfaces, Paving, Railings and Seats)

The majority of the paths within the Garden have a distinctive Lanarkshire red chip surface finish from when they were relaid by Eddie Kemp, Curator, in the 1960's.

As recently used on the newly surfaced path from the West Gate, we suggest that this specification is adopted as a standard for any new or repaired paths within the Garden in order to avoid a patchwork of haphazard repairs developing (see below).

Contrasting path surfaces are creeping into the Garden

A discordant feature within the Garden has been the use of concrete block paving at either end of the pond and around the Inverleith House pond. The use of a vertical, utilitarian metal railing at the pond also gives this part of the Garden an urban, municipal feel, not in character with the Garden. To overcome these anomalies it is suggested that the standardised red tarmac finish is used instead of paving blocks and the metal railing is replaced with one of a more appropriate design.

It is, however, noted that the use of concrete paving at the Chinese pavilion seems appropriate.

The secondary paths which give more intimate access to the plant collections should have a standardized construction and finish, be that stone fines, gravel or bark mulch. Dead end paths should be avoided especially in areas where increased foot traffic becomes a problem, i.e. the Copse.

The new access to the Copse from the herbaceous border appears to be a successful and low key path surface that can withstand heavy usage.

Well used stone line. A new path connection from the Hub to the cafe has been proposed.

Above: There is a need to monitor where surfaced paths give way to grass paths, often giving rise to muddy and slippery junctions. A standard solution to this problem should be adopted where this occurs.

Above: Patchwork repairs using black tarmac should be avoided.

Above: There is a profusion of seats and seat designs throughout the Garden, which needs to be carefully managed to avoid appearing inharmonious, e.g. at the Inverleith House lawn where several different designs are located side by side. If a single design of seat was used in areas where a lot of seats are required, this could be avoided.

While of an unusual design, the seats location seems a little arbitrary.

Above: The Bute memorial seat (Malmsley) Pennings is visually dominated by the banner and garden sign in front of it. A Caithness stone path to each end would encourage more visitors to use it. The sign could be relocated to the other side of the path and there is possibly no need for the banner to be where it is, now that the North Gate is closed.

Above: A simple, elegant seat design.

NORTHEAST CORNER REDEVELOPMENT – FEASIBILITY STUDY

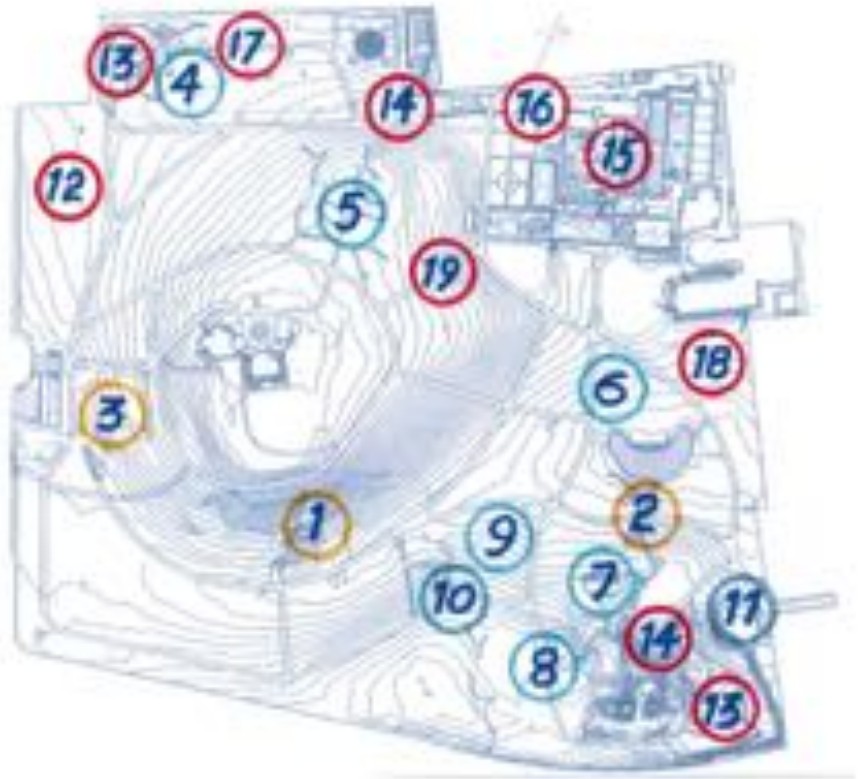
Option 3

Option 3 shows the layout of a purpose built research glasshouse, allowing the public increased access to the research collections as part of the 'Glasshouse Experience' and with the setting of the Category A Listed Stove and Palm Houses rationalised/ improved.

Alpine yard used as Service support area with waste management egress and boiler house.

Above: A birds eye view of the proposed North east Corner redevelopment. (Smith Scott Mullin Associates)

DIAGRAM INDICATING THE LOCATION OF PRESENT AND PROPOSED PROJECTS.



GARDEN PROJECTS May 2010.

PROJECTS COMPLETED.

1. Renovation of the Chinese Garden.
2. Renovation of the stream from the Rock Garden.
3. Planting of the Biodiversity Garden of the Gateway project

PROJECTS UNDER WAY.

4. Student's Garden.
5. New pathways in the Copse.
6. Renovation of trees and shrub beds (mulching etc)
7. Building works to the Caledonian Hall.
8. Renovation of the Woodland Garden.
9. Renovation of the Peat Walls.
10. Renovation of the Rhododendron collection
11. East Gate Visitor Centre.

POTENTIAL PROJECTS.

12. Renovation of the NW Arboretum.
13. Rationalisation/renovation of Cryptogamic and Native Woodland Gardens (including the Scottish Heath garden
14. Site for an additional Alpine House.
15. New Plant Houses project.
16. Improvement to the setting and public circulation around the Palm Houses.
17. Rebuilding of John Hope's Botanic Cottage.
18. New Systematic Garden.
19. Realignment of the Stove Brae to improve disabled access.

BIBLIOGRAPHY

Anon. The Royal Botanic Garden, Edinburgh – *A brief descriptive and illustrated account*'. Edinburgh, HMSO. Circa 1953.

Anon. *Guide to the Demonstration Garden*. HMSO. 1988.

Anon. *Royal Caledonian Horticultural Society 1809- 2009 – The bicentenary Timeline*. RCHS. 2009.

Anon. *Listed Building Report – Information Supplementary to the Statutory List*; HB Number 49213 and HB Number 49215. Historic Scotland.

Balfour J.H. *Guide to the Royal Botanic Garden, Edinburgh*. Edmonston & Douglas. Edinburgh. 1872.

Bown, D. Edited by A.P. Bennell and N.A.M. Gregory. *4 Gardens in One – The Royal Botanic Garden Edinburgh*, Edinburgh. HMSO. 1992.

Byrom, Connie and John "The Caley's experimental garden". *The Caledonian Gardener 2009*, pp 26-36. Journal of the Royal Caledonian Society. 2009.

Daniel, P. Two Hundred Summers in a City – Edinburgh 1767 – 1967. *Souvenir programme of Edinburgh New Town Bicentenary Celebration 1767 – 1967*.The City and Royal Burgh of Edinburgh.1967

Evelyn.J. Edited by W.Bray. *Memoirs Vol 3*. Henry Colburn. London. 1827

Edwards, I.D. *Botanical Guide to the Plant Houses*. RBGE. (not dated, probably early 1980's).

Fletcher, H. R. Brown, W.H. *The Royal Botanic Garden Edinburgh 1670 -1970*. Edinburgh, HMSO 1970

Grahame R & Reid R. Report to the Barons of Exchequer, Scotland. *Unpublished papers held in the National Archive, Kew 1823 ref No. T/ 3698. 364665.*

Gifford, J. McWilliam, C. Walker, D. Edinburgh. *Buildings of Scotland*. Yale University Press 1984

Land Use Consultants, *An Inventory of Gardens and Designed Landscapes in Scotland*. Vol 5 Edinburgh, HMSO.1987

Levin, A. Young, F. *Royal Botanic Garden Edinburgh Guide Book*. RBGE 2007

Kemp, E. *The new Planthouses – Notes towards a History of Design and Construction*. RBGE Archive, *1992*

Mathew, H.C.G. & Harrison, B. (Eds) *Charles Alston Vol 1 pg 900 -1; Sir Andrew Balfour Vol 3 pg 492-3; Sir Isaac Bayley Balfour Vol 3 pg 531; John Hutton Balfour Vol 3 pp 539-4 Alexander Dickson Vol 16 pp 113; Robert Grahame Vol 23 pp 23; John Hope Vol 28 pp 23-4; Charles Preston Vol 45 pp 253; Daniel Rutherford Vol 48 pp379-380; Robert Sibbald Vol. 50 pp483-4; James Sutherland Vol. 53 pp 365-6* Oxford Dictionary of National Biography Oxford University Press 2004

Monem, N.K.Editor. *Botanic Gardens*. Blackdog Publishing. 2007

Rae, D. Editor. *Collection Policy for the Living Collection*. RBGE. Edinburgh. 2006

Rae, D. et al. *Catalogue of Plants 2006*. RBGE. Edinburgh. 2006

Youngson, A.J. *The Making of Classical Edinburgh 1750 – 1840* Edinburgh University Press 1966

Visitor Figures Calendar Year: Jan-Dec 2003-2010								
RBGE								
start	Jan-03	Jan-04	Jan-05	Jan-06	Jan-07	Jan-08	Jan-09	Jan-10
close	Dec-03	Dec-04	Dec-05	Dec-06	Dec-07	Dec-08	Dec-09	Dec-10
	2003	2004	2005	2006	2007	2008	2009	2010
Jan	23,538	24,279	37,707	32,783	22,087	24,003	19,762	28,583
Feb	37,697	44,205	35,801	26,609	29,648	26,509	26,531	31,250
Mar	73,211	50,394	51,740	32,008	40,525	38,832	42,690	54,993
Apr	84,927	71,739	62,789	69,190	86,683	43,389	60,494	76,706
May	64,698	88,641	61,729	61,026	51,364	70,052	62,112	88,007
Jun	81,238	61,531	66,960	70,022	54,746	49,011	49,035	73,636
Jul	77,389	82,860	73,685	93,473	78,209	64,605	58,833	79,562
Aug	109,776	108,807	73,677	74,533	85,473	54,648	71,312	80,147
Sep	54,327	72,032	45,232	50,405	46,034	38,808	42,523	60,646
Oct	47,431	45,534	40,062	41,686	47,368	35,108	69,557	67,202
Nov	35,442	28,746	24,791	22,142	23,050	26,853	36,011	28,779
Dec	22,487	27,225	20,663	18,473	19,407	17,803	24,203	18,029
Misc	0	0	25,110	30,101	29,612	15,701	18,335	17,714
Total	712,161	705,993	619,946	622,452	614,206	505,321	581,356	707,244