The Backs Cambridge

Landscape Strategy

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Robert Myers
Associates
Landscape Architecture

& David Brown Landscape Design

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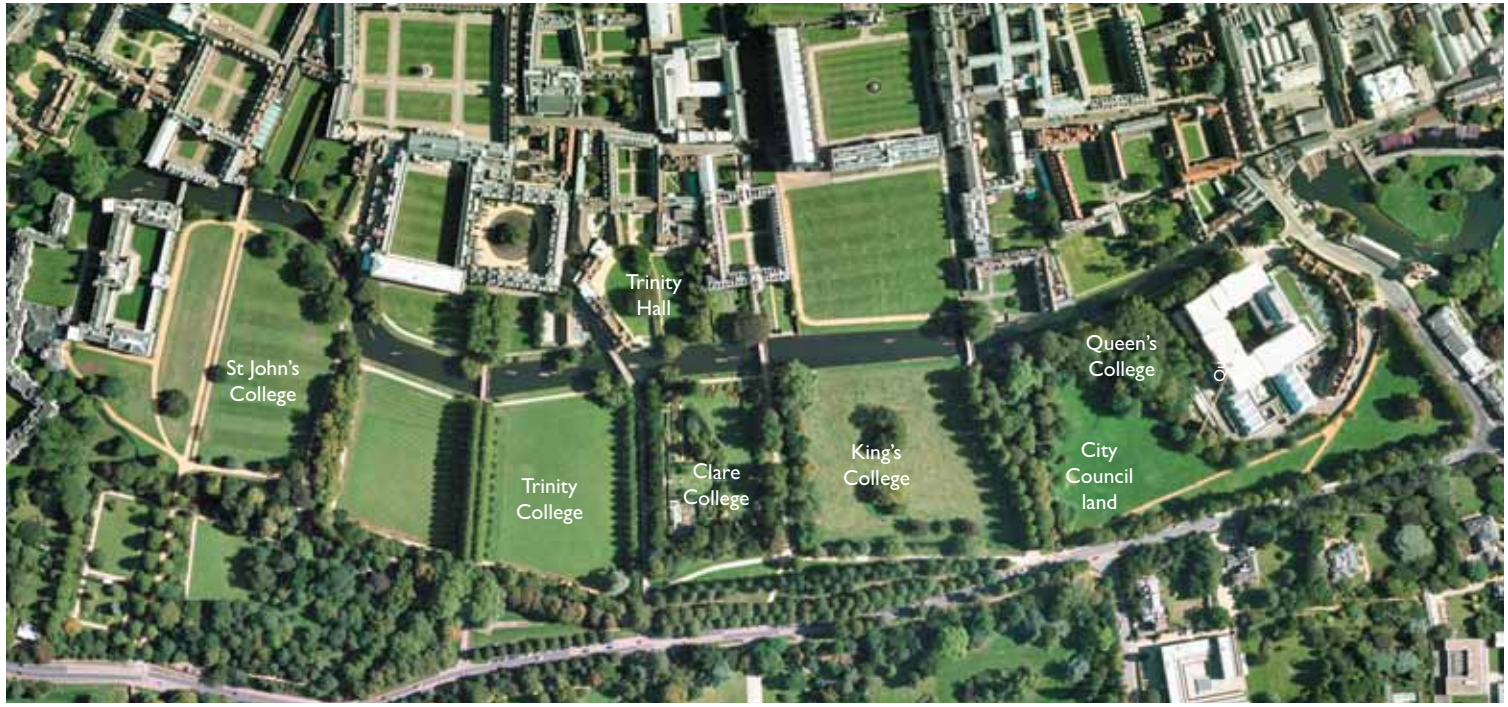

Fig 1: The Colleges of the Backs

St John's College New Court

St John's College Backs

The River Cam from King's Bridge

King's College & Clare College

Queen's Grove & King's Bridge

1.0 Introduction

1.1 This report has been prepared by Robert Myers Associates on behalf of the Backs Colleges, including St John's, Trinity, Trinity Hall, Clare, King's and Queen's Colleges. It follows a period of survey, research and consultation carried out by RMA from March to September 2007.

1.2 This study defines the Backs as the visual compartment that runs from Queen's College in the south to St John's College in the north, bounded by Queen's Road to the west and the rear of the Colleges to the east. The recommendations are made within a 50-year timeframe. They are intended to set a broad framework for the future evolution of the Backs as a designed landscape, within which individual Colleges will make their own decisions regarding individual trees as conditions dictate.

1.3 The Backs is an iconic landscape recognized around the world as a landscape of outstanding beauty. The current landscape is the result of over 400 years development; historically, much of the land was used by the Colleges for functional purposes such as grazing livestock or growing fruit, with the River Cam an important commercial route. With the Spirit of Improvement in the eighteenth century and the influence of several important landscape designers including Lancelot 'Capability' Brown, this landscape has evolved into a series of 'back gardens' for the Colleges as well as a landscape setting for the buildings and a unique piece of the Cambridge townscape.

1.4 Whilst the Backs landscape is in multiple ownership partitioned by ditches and avenues, the landscape has a remarkable coherence by virtue of the River Cam which threads through the space, and the use of a common palette of tree species. The Colleges recognize that they share a common interest in the future of the Backs in terms of management of the existing tree stock, as well as planting of new trees.

2.0 A Brief Landscape History

The Sixteenth Century Landscape

2.1 One of the earliest drawings of the Backs is contained in a plan of Cambridge engraved by Richard Lyne in 1574. At this time, the Backs was a simple landscape of unimproved marshy pasture, with scattered gardens, orchards and outbuildings behind the Colleges on the east side of the river. The River Cam took a slightly different course to today, and included a large island ('*Garret Ostell greene*') to the rear of Trinity College. A number of simple timber bridges crossed the river, the most significant being those at St John's, King's and Queen's Colleges. The River Cam was an important commercial route at this time to the mills to the south. The drive to St John's College was lined with trees, the first appearance of the avenue as an element in this landscape, but otherwise the Backs was not divided along ownership boundaries as it is today.

2.2 However, John Hammond's bird's eye view of 1592 indicates that towards the end of the sixteenth century the land to the west of the river had been planted around with formal lines of trees, with avenues leading up to the bridges. To the east of the river the land was still divided into small walled orchards and formal gardens (including a maze at Trinity College) behind the Colleges, and a row of small buildings lined the east bank of the river at Kings College.

Loggan Plan: 1688

2.3 The University engraver David Loggan was responsible for producing the first accurate plan of Cambridge in 1688, which features in his *Cantabrigia Illustrata* published in 1690. Loggan's plan of the Backs illustrates a considerably more structured landscape, characterized by more trees and water, than the landscape we are familiar with today. The Backs of 1688 contained trim avenues and closely planted trees, although many of the trees at this time were merely bushes.

Fig 2: 1574 Engraving by Richard Lyne

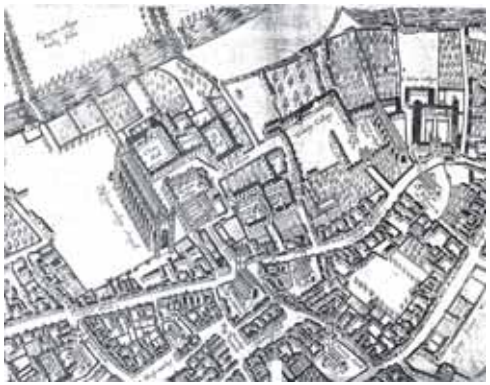

Fig 3: 1592 'Birds-eye' view by John Hammond

2.4 At Queens' College in the south, the Grove was heavily planted and without paths. A bridge existed at the northern tip of the Grove across to Queen's Green, where formal trees lined the Queen's Ditch. The Queen's Green and Queen's Road in contrast were open and devoid of tree planting. To the north of the College were a series of formal gardens and orchards, with a large walled garden on the island site (where Cripps Court stands today). There was also a bridge from the Grove to the Bowling Green on the eastern side of the Cam.

2.5 At King's College the 1688 plan reveals significant differences with the current landscape. King's Bridge was to the north of its current position, midpoint between the boundaries of Clare and Queens'. To the east of the bridge were plots of grass divided by avenues, with a wall along the river. To the west of the river King's Grove was a densely planted area of 'wilderness', probably groves of Elms, containing a large oblong pond with a planted island.

2.6 The Backs at Clare College, Trinity College and Trinity Hall in 1688 were structured much as they are today, with the Clare lime avenue planted in 1638, and the two 'paddocks' at Trinity divided by a double avenue planted in 1671-2. At Trinity, the trees along the eastern banks of the river had no relationship with the western facade of the recently completed Wren Library.

2.7 At St John's a double avenue of trees crossed the St John's College meadow to the St John's Bridge, while to the north, where New Court now stands, a collection of fish ponds were separated from the rest of the backs by a watercourse (which now runs beneath New Court). To the north-west, the area of the present Fellows' Garden was a bowling green with formal walks.

Fig 4: 1688 - Loggan's Plan (from Cantabrigia Ilustrata)

Custance's Plan: 1798

2.8 By 1798 and the publication of Custance's '*New Plan of the University and Town of Cambridge*', the structure of today's Backs landscape had begun to take shape, including the 'ladder' of avenues across the Backs. Many of the most significant changes during this period occurred at King's College, and also at St John's.

2.9 At King's College, 'The Gibbs' building (designed by James Gibbs) was constructed from 1724, forming the southern side of a new court to the south of the Chapel. It is known that the landscape designer Charles Bridgeman was consulted by King's College at the same time, although what his proposals contained is not known. However an unrealised scheme published by James Essex in 1741('*Prospect of King's College, Cambridge*') includes several features including a 'great square' in front of the Gibbs building, with tree-lined walks and a formal canal carved out of the Cam, which may have been an interpretation of Bridgeman's proposals.

Peter Spendlowe Lamborn's late 18th- Century Engravings
Fig 5 (Top): The Old Bridge at King's College
Fig 6 (Bottom): Trinity College Bridge

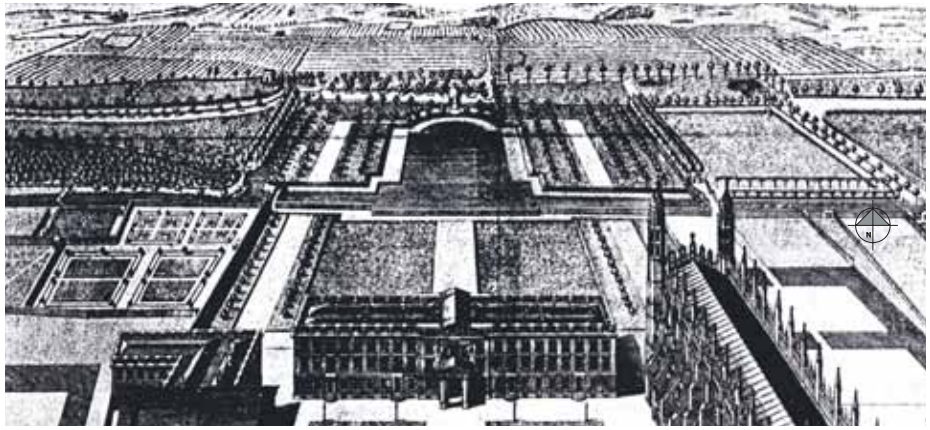

Fig 7: James Essex 1741 - Prospect of King's College, Cambridge

2.10 In the 1770's, the walls adjacent to the river were lowered to ground level, and in 1795 the ditch running from the river to Clare Hall Piece was filled in. The King's Bridge was still located centrally on the Gibbs building, but to the west of the river, the pond and planting in King's Grove had been removed, leaving a central avenue from King's Bridge to Queen's Road across an open meadow. In front of the Gibbs building the tree planting was removed to form the 'Great Square' of grass (the 'Back Lawn' today).

2.11 At Trinity, the area in front of the Wren Library was levelled in 1746-7, with turfed areas and paths introduced in 1760. The trees in front of the Wren Library were removed and North-American Poplars & Weeping Willows were introduced along the river banks. This was potentially the first introduction of weeping willow into the Backs landscape, which is still a significant feature of the Backs planting at Trinity today.

2.12 At Queen's College, tree planting along the Queen's Road was introduced at Queen's Green, and the tree planting in the Queen's Grove was noticeably thinned. By 1798 Queen's Ditch no longer flowed from the mill pool; in order to bring in materials for the construction of the Essex building, the bridge was replaced with a conduit to increase its strength. Likewise, the bridge connecting Queen's Grove to the Bowling Green was removed in 1793.

Fig 8: 1798 - Custance's Plan

Fig 9: 'A plan presented to the University of Cambridge for some alterations - by Lancelot Brown, 1779'

Fig 10:Extract of 'A plan presented to the University of Cambridge for some alterations - by Lancelot Brown, 1779'

2.13 In 1765, St John's College consulted Charles Miller the first curator of the Cambridge Botanic Garden (and son of Philip Miller the author of the *Gardener's Dictionary* and head gardener at the Chelsea Physic Garden), regarding potential improvements to the gardens. It is not known what his advice contained, but in 1772 the celebrated landscape designer Lancelot 'Capability' Brown was consulted to give advice regarding the College grounds. Brown laid out the westernmost part of the grounds, now known as the 'Wilderness', where he remodelled the formal seventeenth-century layout into a more organic and natural landscape. The Bowling Green was moved westwards and enlarged into a spacious lawn, and much of the area was planted with trees. Subsequent purchase of the orchards to the north of the 'Wilderness' allowed the continuation of the avenue from St John's Bridge to Queen's Road.

2.14 Subsequently 'Capability' Brown recognised the potential for change across the Backs landscape as a whole, and in 1779 he presented the University with an ambitious plan for the Backs, entitled '*A Plan presented to the University of Cambridge for some Alterations, by Lancelot Brown, 1779*'. Brown interpreted the Backs landscape in terms of a Palladian house in its parkland setting, with the Gibbs building cast in the role of the great house. Brown proposed that the River Cam be widened into a serpentine lake, with planting along the east bank framing views of the Gibbs building, but obscuring the other colleges. Beyond the river, Brown proposed his signature clumps of trees and winding walks, with a serpentine shrubbery along the Queen's Road. Brown's plan implied enormous expense and major technical issues, but the main obstacle to its implementation was the removal of the bridges at King's, Clare and Trinity and also the historic boundaries between the Colleges. The plan was never implemented.

Fig 11:Clare College, Lime Avenue, Looking West

Fig 12: Trinity College, Lime Avenue, Looking West

Fig 13: Trinity College, Lime Avenue, Looking West (From east side of bridge)

Fig 14: Trinity College Gate, Looking West to Queen's Road

Figs 11-14: Late 19th-Century Photographs
(Reproduced by kind permission of the Banks Archive, The Hergest Trust)

Fig 15: Clare College Gate from Clare Hall Piece

Fig 17: Bishop Hostel Bridge

Fig 16: St John's New Court

Fig 18: Clare Bridge

Late 19th-Century Photographs

(Reproduced by kind permission of the Banks Archive, The Hergest Trust)

The Nineteenth Century

2.15 Between 1798 and 1888, the strict formality of the Backs became diluted, and by 1903 the structure of today's landscape had been cemented. At King's the old bridge on its central axis was demolished, and rather than replace it in the same position, it was decided to construct a new bridge at the south-west corner of the Great Lawn, designed by William Wilkins in 1819, with a tree-lined serpentine path leading up to it. This created a more picturesque approach to the College, with an element of surprise on arrival at the bridge and the panoramic view of the Gibbs building, King's Chapel and Clare College across the Great Lawn. The avenue that crossed the King's Meadow (Scholar's Piece) was broken up into clumps of trees on two mounds, that are reminiscent of 'Capability' Brown's approach to planting (although not proposed by Brown in this location). These mounds remain today, and the remnants of the avenue can be traced through to the King's Fellows Garden to the west of Queen's Road.

2.16 During the 1820s, there was much construction activity by the Backs Colleges. At St John's College the fish ponds were filled in and New Court was constructed on a timber raft over the watercourse, forming an important landmark at the northern end of the Backs. At the same time, the avenue from the Bin Brook to the St John's Bridge was removed to open up views from New Court to the south, although the footpath remained. The cast iron bridge linking the St John's Batchelors Walks to those of Trinity was erected across the watercourse in between. In 1823, William Wilkins' additions to Trinity College and King's College were commenced, and the Clare Fellow's Garden was created in its current position in the 1830s.

Fig 19: 1888 - Ordnance Survey Plan

Twentieth Century developments

2.17 The second half of the nineteenth century, and indeed the first half of the twentieth, saw little dramatic structural change. In 1948, the Garden Committee at Trinity College took the controversial decision to replant the Lime avenue, which had become leaning and gnarled with several missing trees. The trees to the east of the bridge were retained, but the forty-four Limes in the main avenue were replaced. The outer avenue of Cherry trees was subsequently replanted, following much debate, when it too reached the end of its useful life in 1987. In 1956, an Oak tree was planted in the corner of the Trinity paddocks, to commemorate the 80th birthday of the historian GM Trevelyan.

2.18 At St John's College, the current Fellows' Garden and Scholars' Garden were laid out in 1951 by landscape architect Sylvia Crowe, while the Lime avenue, which had been replanted in the 1950s, was thinned out by removing alternate trees in the 1970s.

2.19 Episodes of building in the 1960s and 1970s saw the creation of the Cripps Building at St John's College (1964-67) to the north-west of New Court, and Cripp's Court at Queen's College on the site of the walled Fellows' Garden in 1974. Both buildings had a significant impact on the character of the Backs landscape.

2.20 By the late 1940s the spectre of Dutch Elm Disease was looming large over the Cambridge Backs, which was dominated by many fine Elm trees such as those on the south Trinity Piece, Clare Hall Piece and on the King's Scholar's Piece. Although the disease had reached Cambridge in the 1930s, it was not until the mid-1970s that the full extent of the problem became apparent. Despite many attempts to treat the trees, by 1980 most of the Elms on the

Fig 20: 1903 - Ordnance Survey Plan

Backs had been felled. However two eighteenth-century elm trees, presumably disease resistant, did manage to survive the epidemic and still stand today in the Queen's Grove. These are thought to be the two tallest specimens of Elm trees in the British Isles.

2.21 The tragedy of Dutch Elm Disease, which changed the face of the Backs, led to a joint approach to the replanting of the Backs by the Colleges, with advice from John Workman of the National Trust in 1976. They joined forces with the City Council to become the 'Backs Committee' in 1979, which continued to meet until 1994.

2.22 John Workman's brief report made various detailed recommendations, many relating to the replacement of elms, but other general comments that are still relevant today. Workman proposed that the avenues should be replaced on a phased basis so that the impact of removals was reduced (a programme phased over 200 years was proposed). He also proposed that traditional species should be used on the Backs, with more gardenesque and exotic trees reserved for use to the west of Queen's Road. A variety of species should be used to guard against future epidemics.

2.23 Following the Workman report, a tree survey was commissioned in 1978, the results of which were summarized in a report prepared by Max Walters (curator of the Cambridge Botanic Garden) at King's College in 1979. This report noted that the loss of the Elms, whilst distressing, was not a crisis, as Elms were not the commonest tree on the Backs (only 8% of specimen trees). This was partly due to the policy of not planting Elms which had been followed since the first occurrences of the disease in the 1930s. In 1978, the Sycamore was the most dominant native broadleafed tree, and

Fig 21: 1927 - Ordnance Survey Plan

Yew the commonest evergreen. Plane and Horse Chestnut were the most important non-natives. The report noted that the Backs trees were essentially a nineteenth century collection, with few trees dating beyond 1820.

2.24 The area perhaps most devastated by the loss of Elm trees was Clare Hall Piece, and this was replanted comprehensively by King's College in the 1980s, using a mixture of Oak as a forest tree and Alder as a nurse crop, with an understorey of Hawthorn. Many Lime trees were planted in this period (eg: along Queen's Road, at Trinity and around the Wilderness), and today it is the Lime, together with the Horse Chestnut, that dominates the landscape of the Backs.

Fig 22: Current Aerial Photo

Fig 23: Current Landscape - Based on Ordnance Survey

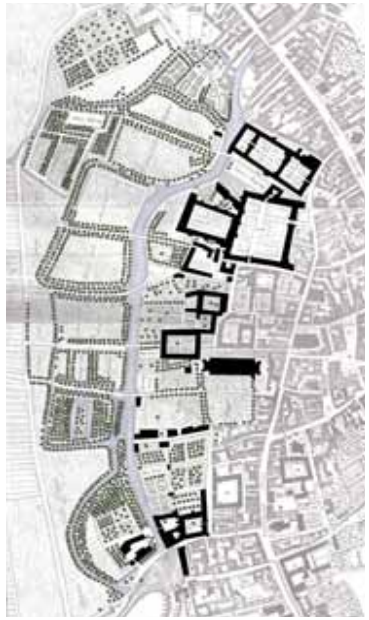

Fig 24: **1688 - Loggan's Plan (from Cantabrigia Ilustrata)**

A landscape of trees & water, trim avenues & closely planted trees.

King's Bridge located centrally, with axial avenues.

'King's Grove' with oblong pond & island.

Meadow where now Clare Fellow's Garden, but avenue planted 1638.

Trinity avenue much as today.
No relationship between Wren Library & planting.

Formal walks at St John's planted with trees.
Fish ponds where New Court now stands.
Double avenue from St John's Bridge to the west.

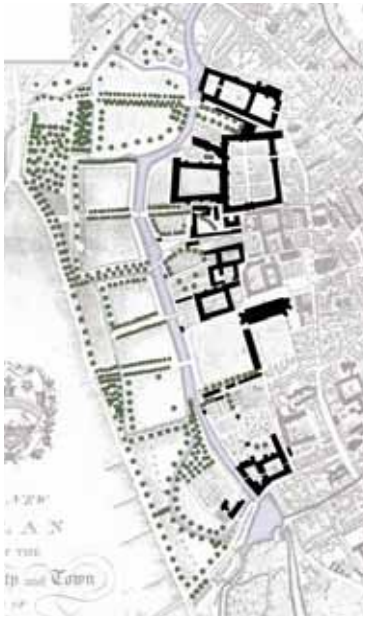

Fig 25: **1798 - Custance's Plan**

Formal planting along Queen's Road.
Queen's Grove thinned.

King's Gibbs building constructed.
Avenue, pond & planting in the grove removed to form a 'great square'.

Trinity trees removed in front of Wren Library.
Weeping Willows introduced.

'Capability Brown' consulted by St John's
John's Wilderness laid out by Brown (1779).

Fig 26: **1888 - Ordnance Survey Plan**

King's Bridge re-built to south with serpentine tree-lined walk approach.

Removal of King's walk across meadow, forming trees into clumps on mounds.

St John's New Court constructed (1825).
Removal of avenue up to bridge.

Planting of Clare Fellow's Garden.

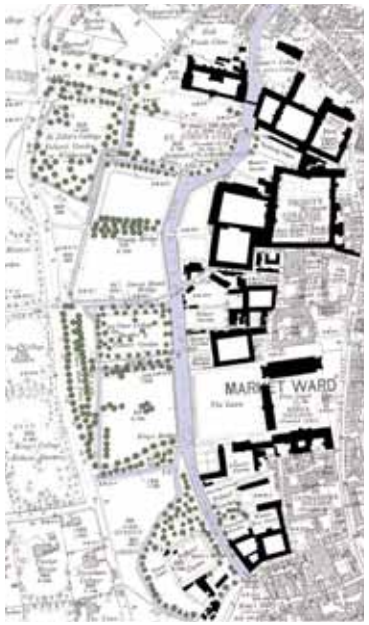

Fig 27: **1903 - Ordnance Survey Plan**

Further redevelopment of Clare College Fellow's Garden.

Little dramatic change.

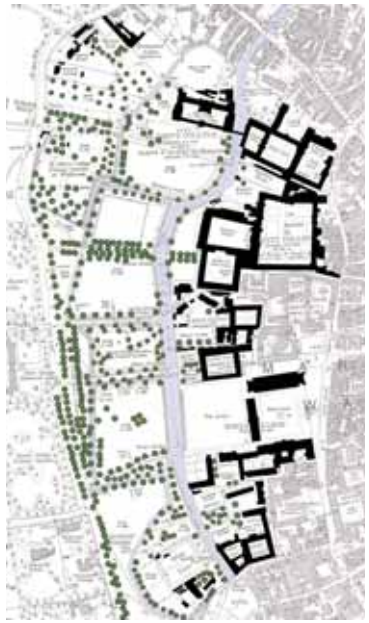

Fig 28: **1927 - Ordnance Survey Plan**

Clare Memorial Court constructed to west of Queen's Road (1922).

Fig 29: 1968 Aerial Photograph

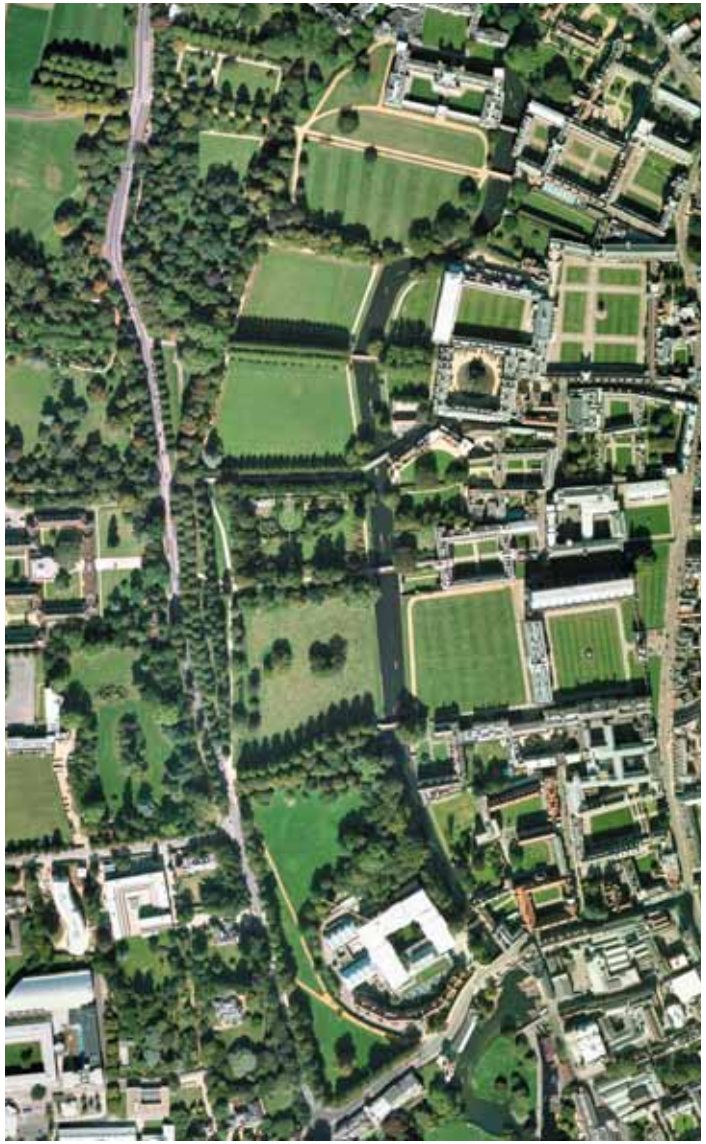

Fig 30: Current Aerial Photograph

Figs 29 & 30:

Aerial photographs from 1968 and 2007. Note the thinning of the St John's College avenue during this period, and the phased replanting of the Trinity avenue of Limes and Cherries. Clare Hall Piece is also replanted after the loss of the Elm trees there. A clump of Elms also dominates the south-west corner of King's Scholars' Piece in 1968. Note in 1968 the newly completed Cripps Building at St John's, but at Queen's College Cripps Court is yet to appear on the site of the Fellows' Garden.

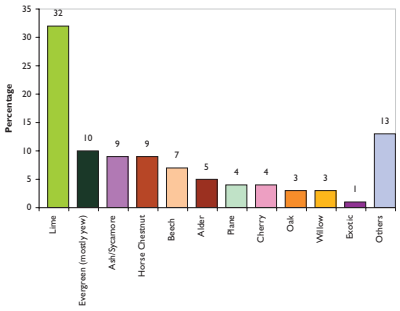

Fig 31: Tree Species Distribution

Fig 32: Tree Species Distribution Diagram

Fig 33: Trinity's Lime & Cherry avenue

Fig 34: Trinity's Lime & Cherry avenue

Fig 35: Chestnuts between Trinity & St John's

3.0 Tree Survey

A survey of the trees on the Backs was undertaken by RMA in March 2007 with arboriculturalist Dr David Brown. The species distribution, approximate age and condition of the main trees on the Backs was mapped, as well as the analysis of the main views and existing landscape structure. The tree survey did not include a full condition survey to BS 5837, or a climbing survey, and the results are general observations rather than detailed recommendations.

Tree Species Distribution (see fig 32)

3.1 Mapping of the species distribution on the Backs shows a heavy reliance on Lime (*Tilia* sp.), accounting for approximately 30% of the trees. The Lime is used for most of the structural tree planting on the Backs, including the street trees along Queen's Road and Silver Street, the planting framing the Trinity College paddocks, the avenues at Trinity and St John's Colleges, the informal avenue at King's College and the now incomplete Clare Avenue. This single species approach has replaced the former dominance of Elm and provides a level of coherency to the Backs as a landscape unit.

3.2 Horse Chestnut (*Aesculus hippocastanum*) has also been heavily planted (9%), particularly within the Trinity College Backs with the northern boundary of the Paddocks defined almost entirely by this single species. Five large Horse Chestnuts form the south-western side of the King's College avenue, and require regular pruning to keep them in a safe condition. A large specimen forms a focal point at the southern end of Queen's Green, and there is a line of mature trees (with gaps) to the west of the southern Trinity Paddock. A row of some of the oldest Horse Chestnuts on the Backs has recently been felled in the Fellows' Garden in Trinity Hall.

3.3 Beech (*Fagus sylvatica*) has been used for the creation of secondary avenues, for example along

Fig 36: The hidden Beech avenue within Queen's Grove

Fig 37: The Oriental Plane within King's Scholars' Piece & specimen Copper Beech at Clare College

Fig 38: Oaks, Alders and Willow on Clare Hall Piece

Fig 39: Weeping Willows along the River Cam at Trinity

Fig 40: The clumped Hornbeams and Poplar within King's Scholars' Piece

the northern end of Queen's Road (to the south of the St John's College wilderness), and the 'hidden' avenue within the Queen's Grove. Beech also appears in the copper form (*Fagus sylvatica* 'Purpurea') as mature, individual specimens, for example in the Master's Garden adjacent to Clare Bridge, on the Latham Lawn at Trinity Hall and adjacent to King's Bridge, all now trees of considerable age and size.

3.4 Plane trees (*Platanus* sp.) are not well represented (4%), but the few that are present form some of the finest specimen trees on the Backs; the Oriental Plane (*Platanus orientalis*) adjacent to the river at the north-eastern corner of the King's Scholars' Piece and the Plane trees that form the western end of the Trinity avenue adjacent to Queen's Road. Recently planted Planes (*Platanus x acerifolia*) around the Queen's Green have not prospered, and this is thought to be due to poor nursery stock from the 1970s that had inherent structural defects. However Plane trees (particularly Oriental Plane) should be well-suited to Cambridge and the Backs in particular, and could be planted more widely.

3.5 Oaks (*Quercus robur*) are similarly poorly represented, and are limited in the main to the young trees in the 1980s plantation on Clare Hall Piece where they have not thrived, and a young, sparse line along the path across the Queen's Green. An outstanding veteran Oak from c. 1750-70 stands on a bend in the river on the east side of the St John's Paddock opposite Trinity, and is probably now the oldest tree on the Backs. A single, bushy Holm Oak (*Quercus ilex*) sits in the lawn alongside the path in front of St John's New Court.

3.6 Willow, in the form of the Weeping Willow (*Salix alba* 'Tristis' and *Salix babylonica*) and White Willow (*Salix alba*) are present along the river Cam and other watercourses on the Backs. Groups of Weeping Willow appear on the river at Trinity to the north and south of the Wren Library, giving this stretch of the river a unique character, and new trees have been recently planted here. A number of White Willows, no doubt self-seeded, appear along the ditch on the west side of the King's Scholars' Piece. However for a riverine landscape the Willow is not generally well represented (2%). A mature Weeping Willow tree recently toppled into the river at Trinity Hall.

3.7 There are only 10% evergreen trees, and these are almost entirely Yews (*Taxus baccata*). Tall belts of Yew separate the Clare College Fellows' Garden from Garrett Hostel Lane and Clare Hall Piece, and Yews have been planted to screen the St John's Wilderness from the Queen's Road. Large Yews frame views of St John's New Court .

3.8 Ash (*Fraxinus excelsior*) and Sycamore (*Acer pseudoplatanus*) appear in the St John's Wilderness, along the south side of the Clare College avenue and to the north of Queen's Green. Italian Alder (*Alnus cordata*) was planted widely along the west side of the Backs, particularly in the Clare Hall Piece and an untidy row to the east of the Wilderness still exists. Italian Alder makes up 5% of the trees on the Backs.

3.9 The St John's Wilderness area contains a wide range of trees including False Acacia (*Robinia pseudoacacia*), Plane (*Platanus x hispanica*), Turkey Oak (*Quercus cerris),* Holm Oak *(Quercus ilex),* Sycamore (*Acer pseudoplatanus*), Oak (*Quercus robur*), Birch (*Betula pendula*), Ash (*Fraxinus excelsior*) and Yew (*Taxus baccata*) with understorey planting including spring-flowering Cornelian Cherry (*Cornus mas)*. Around the Cripps Building to the north, is an informal scattering of Sycamore (*Acer pseudoplatanus*), which have been recently thinned and pruned by St John's College.

3.10 Other trees of note include the remarkable pair of surviving eighteenth-century Elm trees within the Queen's Grove (although they are now exhibiting signs of *Ganoderma* fungal decay and should be closely monitored), thought to be the tallest in the British Isles. The clumps of

Fig 41: Tree Age Diagram

young Hornbeams (*Carpinus betulus*) planted on the mounds in the King's Scholars' Piece make a significant contribution to the parkland character of this part of the Backs. A large Hybrid Black Poplar looks somewhat incongruous as part of this group, but provides good screening. Exotic trees include a tall Swamp Cypress (*Taxodium distichum*) in the Clare College Fellows' Garden and a young Coast Redwood (*Sequoia sempervirens*) on the west side of the St John's paddock. There is also a mature, and somewhat incongruous Birch (*Betula pendula*) in this area. Conifers and other exotics appear in the St John's College Scholars' and Clare College Fellows' Gardens. Around the boundaries of Cripps Court at Queen's College, the remnants of garden planting line the ditch, including *Parrotia persica*, Crab Apple (*Malus* sp), Cherry (*Prunus* sp) and Whitebeam (*Sorbus aria*).

Age and Condition (See Figs 41 & 42)

3.11 An analysis of the existing tree population shows that few of the trees present pre-date the nineteenth century. There has clearly been a history of replacement and a slow evolution of the precise tree distribution while maintaining the general historic pattern.

3.12 The majority of the trees present on the Backs have been assessed to be between 50-100 years old and therefore in their prime. However, there are a small number of mature trees of high visual significance that are now approaching the end of their useful lives. For example, the three Copper Beeches, one at Clare College Bridge, one at Kings College Bridge and one at Trinity Hall, are likely to fail within the next 30-40 years. Decline tends to be rapid in Beech and good strong specimens have a useful life of about two hundred years and most have died by two hundred and forty years. Thought should therefore now be given to replacement of these trees.

Trees removed since tree survey

Trees requiring replacement within the next 40yrs

N

Fig 42: Tree Replacement Diagram

Fig 43: Chestnuts at Trinity

Fig 44: Copper Beech at Clare

Fig 45: Chestnuts of King's Avenue

Fig 46: Mature Elms within Queen's Grove

3.13 The Limes that form the remnants of the avenue that lined the approach to Clare College present a similar challenge. They are approaching the end of their useful lives and the avenue effect has been lost.

3.14 The trees are generally in good condition and well-managed, with each College carrying out regular inspections and tree surgery. This has been demonstrated by the regular deadwooding every three years of the Limes and Chestnuts on the King's Avenue. However there has been a reluctance perhaps to thin out tree planting at the appropriate time, which partly explains the inferior lines of Limes and Italian Alders that surround the St John's Wilderness to the south and east. These trees have developed poorly, leaning at awkward angles, and similar problems have occured at Clare Hall Piece. The Yews to the north of the Clare College Fellows' Garden have been allowed to become overly tall. A number of the Trinity College Willows have perished from honey fungus (*Armillaria mellea*) and this fungus continues to be a problem across the Backs.

3.15 There is currently great concern regarding the future of the Horse Chestnut as a species in England. Successive years of Horse Chestnut Leaf Miner infestation have not only damaged the appearance of so many fine trees, but have weakened the health of the trees. Far worse, the last few years have seen the rapid advance of a far more serious disease, Bacterial Flux. This has still not been identified and named scientifically but the tarry spotting that is symptomatic of the disease can now be seen on many Horse Chestnuts. The future of Horse Chestnut as a commonly planted tree is therefore currently a major arboricultural concern, and the Backs has already seen the loss of several fine Horse Chestnuts, for example in the Fellows' Garden at Trinity Hall and in the row to the west of the Trinity Paddocks.

Fig 48: Landscape Compartments Diagram

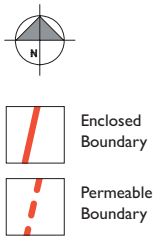

Fig 47: Landscape Structure Diagram

4.0 Landscape Survey

Landscape Structure (See Fig 47 & 48)

4.1 The spatial definition of the Cambridge Backs is created largely by the lines and blocks of trees that create a series of 'visual compartments', which control views to the historic Colleges across the River Cam. This pattern of spaces is still broadly similar to that shown on Loggan's plan of 1688. Broad, formal open spaces are separated by the avenues leading to the Colleges, and enclosed to the west by the planting along the Queen's Road.

4.2 The avenues running east/west up to the Colleges have a clear purpose and legibility in the landscape, and can be thought of as 'rungs on a ladder'. Other formal planting of trees has tended to dilute this clarity, for example the lines of trees that have been planted recently around the St John's Wilderness, and the rigid plantation of trees on the Clare Hall Piece (where formality is perhaps inappropriate).

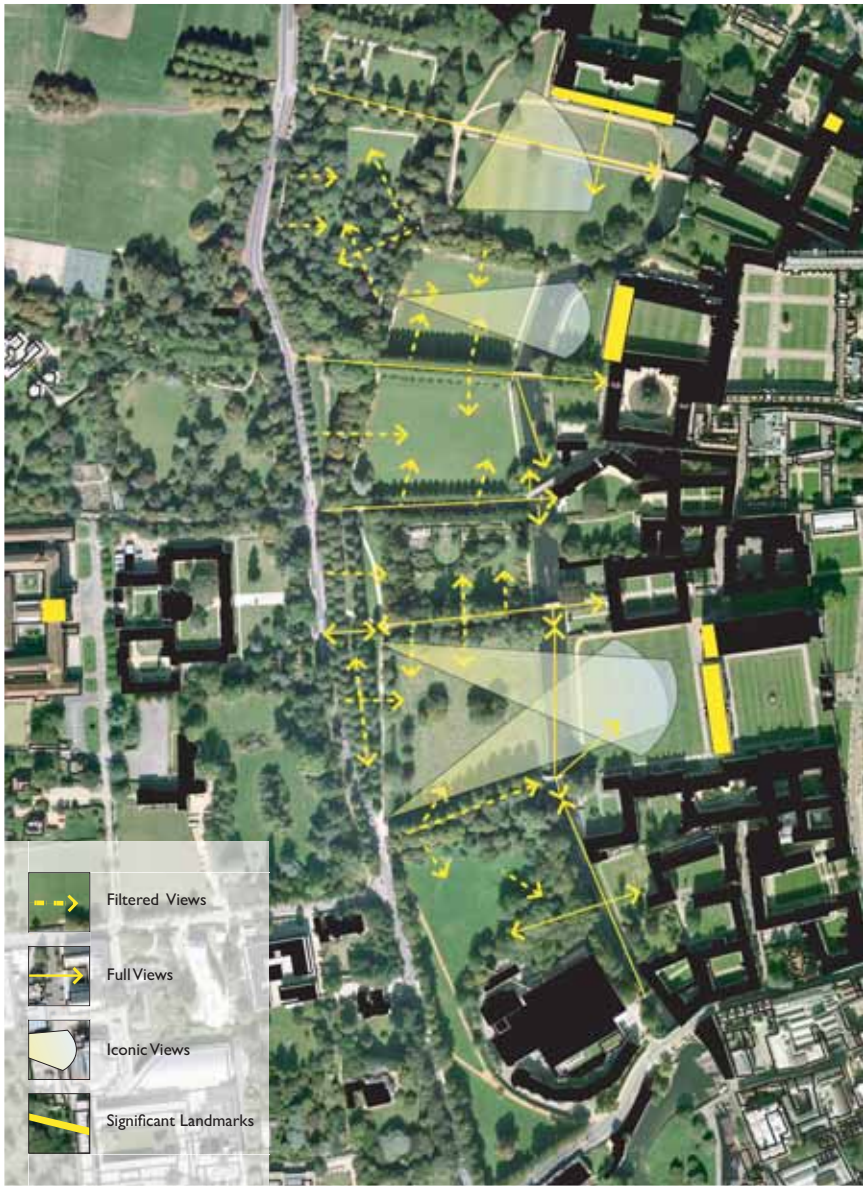

Fig 49: Landscape Views Diagram

Fig 50: St John's New Court with stunted Holm Oak in foreground

Fig 51: Trinity's Wren Library

Fig 52: View from Clare Bridge looking north to Garrett Hostel Bridge

Fig 53: King's College Chapel and the Back lawn

Visual Analysis (See Fig 49)

4.3 The visual structure of the Backs closely follows the pattern of the landscape structure. Long views are afforded from the various bridges, along the river to north and south where the elevated position allows wide views across the Backs. Elsewhere, there are long axial views along the various avenues running east/west, and filtered views into the compartments that are defined by the avenues.

4.4 Views within the Backs are contained by the strong line of evergreen planting on the west side of Queen's Road, which prevents any long-distance views from the west, and the St John's Wilderness which blocks views of the northern Backs from Queen's Road. The Clare College Fellows' Garden also forms a self-contained visual unit, with the tall Yew hedges surrounding it effectively preventing any visual continuity across the Backs from north to south. St John's College New Court effectively contains the Backs visually to the north.

4.5 There are a number of significant landmark buildings that dominate views within the Backs by virtue of their scale and location. These include New Court and the Chapel Tower at St John's College, the Trinity Wren Library, King's College Chapel and the Gibbs Building, and beyond the Backs itself the ever present University Library tower. The Cripps Building at St John's College, completed in 1967, is very successfully integrated into the woodland landscape towards the north of the Backs and has little visual impact. By comparison, at Queen's College, Cripps Court (1974) is highly visible from the Queen's Road and the southern Backs, contrasting visibly in scale and tone with its neighbouring buildings.

4.6 'Iconic' and much photographed views on the Backs include views from Queen's Road across the King's Scholars' Piece and Back Lawn to the King's College Chapel, Gibbs Building and Clare College; the view across the Trinity Paddocks to the Wren Library; and views across the St John's paddock to New Court.

Fig 54: Looking across Trinity's North Paddock at the Wren Library

Fig 55: Clare College Fellows' Garden

Fig 57: King's College Scholars' Piece

Fig 59: The River Cam from Garrett Hostel Lane Bridge

Fig 56: The 'Wilderness' at St John's

Fig 58: King's College Back Lawn on the East bank of the River Cam

Fig 60: Queen's Green looking North to King's Avenue

4.7 From the Queen's Road, there are distant, filtered views of the Colleges through tree planting. There are also reciprocal views from the Colleges to the road (which is becoming ever-busier and more visually obtrusive), particularly from King's College Gibbs Building, where views of the University Library tower are also felt by some to detract from the westward view.

Landscape Character

4.8 The views of the College buildings across the Backs are internationally renowned. The simplicity of the river, trees and lawns provides an ideal foreground that unifies this unique group of buildings. However, within what is overall a very coherent landscape, there are various identifiable landscape characters.

4.9 Towards the north, and the paddocks of both St John's and Trinity, the landscape is one of wide, trim lawns surrounded by formal tree planting. The River Cam and its punting traffic is a dominant landscape feature winding serenely though the scene. In strong contrast, the adjacent 'Wilderness' has the character of light unstructured woodland, with informal planting of trees and flowering shubs and an abundant ground flora of bulbs and wildflowers.

4.10 The Clare College Fellows' Garden in the centre of the Backs is similarly a self-contained, inward-looking private space. Here the character is more gardenesque, with shrub and herbaceous borders, lawns, a formal pond garden and exotic planting. It is a character more associated with the gardens to the west of Queen's Road, and is an unexpected contrast to the simplicity and relative openness of the rest of the Backs.

4.11 At King's College, the character changes again, and here the Scholars' piece has a parkland character. The grass is longer and grazed by livestock, with the clumps of trees reminiscent of a country house landscape. Across the Cam to the east however, there is a return to simplicity and elegance with the perfection of the Back Lawn.

4.12 To the south, the Queen's Green, common land in the hands of Cambridge City Council, is a public space and despite the proximity of Queen's College, the space takes on a personality more associated with the town than the University. It is more municipal and less intensely maintained perhaps, but also more actively used.

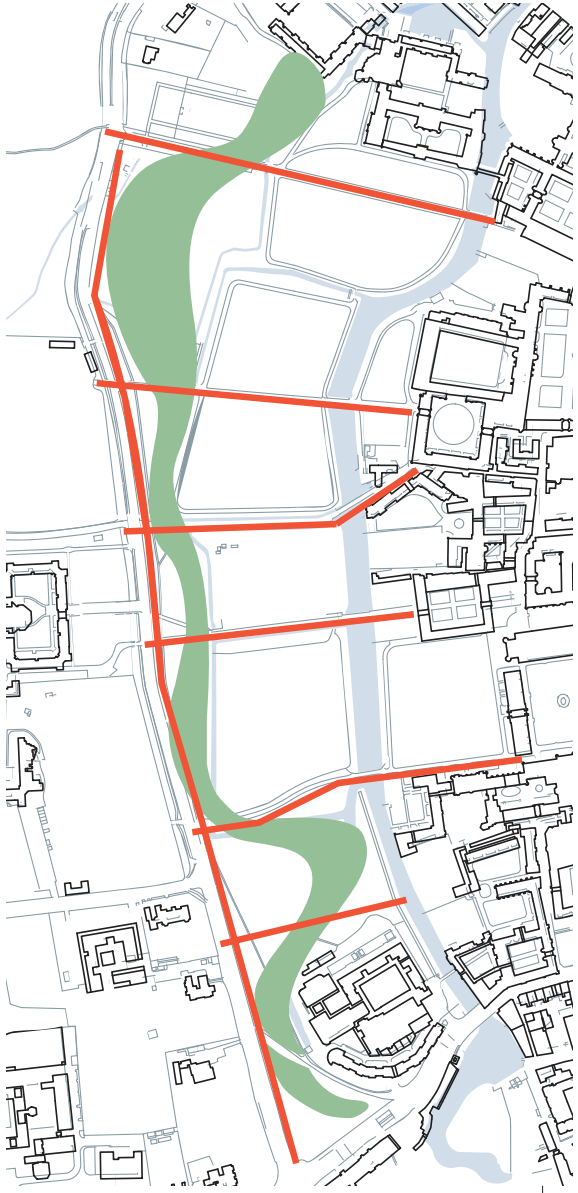

Fig 61: Proposed Landscape Concept Diagram

5.0 Landscape Strategy

Guiding Principles

5.1 Much of the tree planting on the Backs is formal in nature (including avenues, single lines and blocks) and inherently relies on a strict even-aged structure. There are two difficulties that are innate in this planting system, and both are in evidence on the Backs. The first is that this level of rigidity cannot respond to variations in growth and quality of its components. The second is that replacement requires sudden substantial changes to the visual environment. In order to minimize the impact of these issues, it is important that when formal groups of trees no longer form a coherent group they are replaced as a unit. This should happen across the Backs on an agreed, phased basis.

5.2 The most pressing example of this is the avenue at Clare College, which now has so many missing trees that it no longer functions as a true avenue. Replacement of the avenue is desirable now, but in order to be successful would require the removal of the aging, but healthy, Lime trees that remain. Gauging the best time to make this necessary change will be a difficult decision, but one that now needs to be made nevertheless.

5.3 The recent block of planting on Clare Hall Piece along the Queen's Road presents a different problem. After the Elms in this area were removed, much thought was given to their replacement. Oak was selected as the ideal long-term tree and this was planted in a grid pattern with a nurse planting of Italian Alder and an understorey of Hawthorn. Some thirty years later the Alders have grown well but the Oaks are generally disappointing and several have failed. The original thinning intention is therefore not a workable option. By contrast, the uneven age distribution and species diversity of St John's College Wilderness allows the replacement of individuals without losing the character of the area. A more flexible and diverse system of planting, producing a 'steady state' woodland area would similarly benefit other areas on the Backs, not least the Clare Hall Piece.

5.4 Following the loss of a great number of Elm trees in the 1970s, the Backs landscape is now dominated by the Lime, particularly in the formal planting areas. The future of the Backs is currently reliant on the continuing good health of the Lime, this creates an inherent vulnerability within the landscape, which should be addressed when existing planting is replaced.

5.5 There is also currently great concern regarding the future of Horse Chestnut, as described previously. This masterplan strategy assumes that, on the basis of current information, many of the Horse Chestnuts on the Backs will require replacement during the next 50 years. Similarly, it is assumed that certain individual trees such as the specimen Copper Beeches at Clare and King's are likely to reach the end of their useful lives during this period.

5.6 There is a general desire to reduce the visual impact of the traffic queuing on Queen's Road on the character of the Backs landscape by introducing additional planting. This is a particular concern at King's College, where traffic queues at the traffic lights at the junction with West Road. It would seem appropriate to screen views of the road, and traffic from within the Backs, with new planting.[1] However it is important that views of the river and Colleges from the public footpaths that run along the west side of the Backs are retained,[1] and that any new planting does not compromise public safety and security.

[1] This strategy might be reviewed if traffic on Queen's Road were to be reduced by traffic management/pedestrianisation or even in the longer term, putting the road underground.

Fig 62: Proposed Landscape Plan

5.7 From this a number of general principles are proposed, as follows:

a. The Backs is in the joint ownership of the Colleges and City Council, and whilst each 'compartment' has its own landscape character and a particular set of issues, it is essential that works are carried out in the context of the long-term vision for the Backs. The continued existence of a 'Backs Committee' following this current project would greatly assist this necessity.

b. The replanting of structural tree planting (especially avenues) should be carried out on a phased basis, agreed between the Colleges, to retain a mixed age structure, so that all avenues would be replaced over a period of, say, 200 years.

c. An over-reliance on one particular species should be avoided. Species diversification would provide a more robust and reliable framework for the future.

d. Consideration should be given to planting replacement trees in good time. Where trees are known to be approaching the end of their useful lives (eg: the Beech trees), or are vulnerable to disease (eg: the Horse Chestnuts) the planting of replacement trees, where appropriate or desirable, should be carried out. This will enable the new trees to establish before the mature trees are lost.

e. Any new planting should be carefully sited so as not to close valuable views across to the College's architecture from public footpaths. These views are internationally valued and their closure through ill-sited planting is to be avoided.

Landscape Proposals (See Figs 62 & 63)

5.8 A landscape masterplan has been developed in consultation with the Colleges and City Council to guide decision making over the next 50 years. This masterplan is designed to retain and enhance the underlying landscape structure; address various arboricultural concerns; improve the legibility, coherence and visual quality of the landscape as a whole; and address a number of concerns expressed by individual Colleges. This will involve a combination of tree removal and new planting.

5.9 As described previously, the avenues and formal planting leading across the Backs to the Colleges provide a strong landscape framework, akin to the 'rungs of a ladder'. This should be retained, managed and reinforced, for example by replanting the Clare Avenue, and exposing the 'hidden' Beech Avenue in the Queen's Grove, and extending it into Queen's Green.

5.10 Conversely the rigid tree planting that has occurred on the banks around the St John's Wilderness, and on Clare Hall Piece, has not been successful and is somewhat inappropriate. The rigidity of this planting serves to dilute and detract from the clear structure created by the avenue planting running east to west. It is proposed that the lines of Limes and Alders, planted around the south and east sides of the Wilderness, be removed and replaced with a more informal planting of mixed species, and moved to the top of the bank. Similarly when the formal planting of Lime to the west of the Trinity Paddocks is replaced, (as well as the Chestnuts to the north if they succumb to bacterial flux), a more informal, mixed approach is proposed. This would act as a counterpoint to the formality of the main avenue planting. This approach is summarized on the *Design Concept* diagram, fig 61.

5.11 In order to resolve the inherent problems within the Clare Hall Piece planting, and to help screen the Backs from the Queen's Road, a strategy has been developed to extend the concept of the 'wilderness' planting from St John's in the north.

This would take the form of a serpentine, linear ribbon of loose planting along the Queen's Road to Queen's Green in the south. The planting would comprise informal groups of trees, shrubs and bulbs and would extend the unique springtime landscape of the St John's Wilderness and the bulb planting of the Trinity Backs across the whole of the western Backs. This style of informal planting will allow views to be controlled and traffic screened, create coherence and a degree of unity to the western Backs, help to create structure in areas such as the Queen's Green, improve the visual quality of the Backs and enhance biodiversity. Consideration should be given to relocating the footpath away from the Queen's Road and planting in between.

5.12 It is proposed that the species mix in this planting would graduate from north to south, and could include larger trees such as Oriental Plane and Turkey Oak together with smaller trees and shrubs such as *Amelanchier* and *Cornus mas* and a proportion of evergreens such as Holly and Yew. Other possible tree planting might include species such as Sweet Chestnut, Chestnut-leaved Oak, possibly Elm, if a disease resistant cultivar is proven to be successful in the future (see list below). At Clare Hall Piece, some of the existing Oak trees and Alders could be retained in this mix, but thinned into clumps. An increase in suitable exotics as specimen trees would add further interest. Suitable exotics would mean those appropriate to a country house parkland setting rather than the more highly ornamental trees; coloured leaf forms, for example, should be avoided. Pine on the other hand, grows well in Cambridge and would add to the existing character, especially in the winter months.

5.13 This informal and sinuous planting along the western Backs, helping to screen the Queen's Road, is reminiscent of the proposed serpentine shrubbery along this boundary proposed by 'Capability' Brown in his unrealized plan of 1779. While it is intended to be a continuous ribbon of planting, it will be necessary to take account of the open space requirements for public recreation on Queen's Green, the temporary car parking on the grass at Trinity, the bulbs that currently exist at Trinity, and the importance of retaining certain key views, such as glimpses of the King's Chapel and Trinity Wren Library. It should also be planted at a height and density that does not compromise public safety.

5.14 In relation to the replacement of avenue planting, alternatives to Lime might be considered. See list below for list of possible alternatives that would be appropriate for avenues of this scale.

5.15 Further specific measures are described in Section 6: Detailed proposals.

Possible Species to be considered as alternative to Lime for Avenue planting:

Beech	*Fagus sylvatica* (for wider avenues)
European Hop Hornbeam	*Ostrya carpinifolia*
Maidenhair Tree	*Ginkgo biloba*
London Plane	*Platanus x hispanica* (for wider avenues)
Turkish Hazel	*Corylus colurna*
Turner's Oak	*Quercus turneri*
Pin Oak	*Quercus palustris*

Possible Species for 'Wilderness' Planting Mix:

Trees:

Sweet Chestnut	*Castanea sativa*
Oriental Plane	*Platanus orientalis*
Turkey Oak	*Quercus cerris*
Holm Oak	*Quercus ilex*
Chestnut-leaved Oak	*Quercus castaneifolia*
Pin Oak	*Quercus palustris*
Cambridge Oak	*Quercus warburgii*

Small Trees and Shrubs:

Cherry	*Prunus avium*
Cornelian Cherry	*Cornus mas*
Hazel	*Corylus avellana*
Holly	*Ilex aquifolium*
Juneberry	*Amelanchier canadensis*
Maple	*Acer griseum, A. davidii* etc.
Portugal laurel	*Prunus lusitanica*
Yew	*Taxus baccata*

Possible Specimen Trees

Beech	*Fagus sylvatica*
Cambridge Oak	*Quercus 'Warburgii'*
Chestnut-leaved Oak	*Quercus castaneifolia*
Corsican Pine	*Pinus nigra*
English Oak	*Quercus robur*
Oriental Plane	*Platanus orientalis*
Pin Oak	*Quercus palustris*
Scots Pine	*Pinus sylvestris*
Swamp Cypress	*Taxodium distichum*
Sweet Gum	*Liquidamber styraciflua*
Turkey Oak	*Quercus cerris*
Weeping Willow	*Salix alba* 'Tristis'


Acer griseum


Quercus castaneifolia


Cornus mas


Platanus x hispanica


Prunus avium


Corylus avellana


Fagus sylvatica


Amelanchier canadensis


Corylus colurna

Fig 63: Landscape Proposals (See Section 6 for detailed proposals)

Fig 64: Detailed Landscape Proposals - St John's

Fig 65: Existing Landscape - St John's

Fig 66: Existing Aerial Photo - St John's

St John's College Landscape Proposals

1. The St John's College 'Wilderness' is to be retained and managed in its current form. The nature of this planting will be a model for the planting in the western Backs further south.
2. Remove poor planting of lines of Limes and Alders on the banks surrounding 'Wilderness', and replace with less formal planting of trees and shrubs further up the bank, using species present in the existing 'Wilderness'. The removal of this hard line of planting will allow the 'Wilderness' style of planting to be continued to the south.
3. The isolated evergreen Oak serves no purpose and should be removed.
4. Proposed formal planting to frame St John's New Court entrance, and views to the south. This could be small formal trees or clipped Yew.
5. The ageing and slightly incongruous Birch is to be replaced with a more substantial, but upright tree.
6. Proposed Yew to frame New Court and create visual separation between New Court & Cripp's Building.

Fig 67: Detailed Landscape Proposals - Trinity

Fig 68: Existing Landscape - Trinity

Fig 69: Existing Aerial Photo - Trinity

Trinity College Landscape Proposals

1. On the assumption that the Horse Chestnuts will succumb to Bacterial Flux, in the future these trees should be replaced as and when they fail, with an informal belt of perhaps 2 or 3 different species.

2. The recent addition of evergreen planting beneath the Limes along the south-western boundary should not be allowed to grow up to block views of the Wren Library, and should be thinned.

   When the Lime trees fail or are removed, they should be replaced with an informal belt of perhaps 2 or 3 different species relating to the 'Wilderness' planting, with views through to the existing 'Wilderness' from the east.
   Remaining trees to be pruned and managed as a tree belt.

3. On the assumption that the Horse Chestnuts will succumb to Bacterial Flux, these trees should be replaced with Planes to continue the avenue up to Queen's Road.

4. On the assumption that the Horse Chestnuts will succumb to Bacterial Flux, in the future these trees should be replaced as and when they fail, with an informal belt of perhaps 2 or 3 different species, under-planted with 'Wilderness' type species.

5. Consider transplanting the recently planted Willows on the eastern side of the River Cam, which will in time obscure views of the College.

6. Under-plant existing trees along Queen's Road and around edges of the space to continue the 'Wilderness' planting from St John's College. Ensure sufficient space is retained for part-time car parking and for the existing bulb planting to thrive.

7. Consider thinning out planting of Limes on south side of the south Paddock by 50%; this depends upon whether the College envisages the trees growing up close together forming a wall of thinner trees, or allowing them to develop their more natural form.

NOTE: Items 1,2 & 4 to be carried out on a phased basis if possible to ensure continuity of tree cover

Fig 70: Detailed Landscape Proposals - Trinity Hall

Fig 71: Existing Landscape - Trinity Hall

Fig 72: Existing Aerial Photo - Trinity Hall

Trinity Hall Landscape Proposals

Note: Existing Horse Chestnut trees & Willow in Fellows' Garden are now removed.

1. Oriental Plane (*Platanus orientalis*) to be planted at south-west corner of Fellow's Garden to screen views into back yard of Trinity Hall, and in time to provide a replacement for the large Copper Beech at Clare College.

2. The Weeping Willow lost recently adjacent to the river wall should not be replaced; the views of Trinity Hall and the large Copper Beech are much improved without it.

3. Replacement tree planting in Fellows Garden to include Yews to screen rear of Clare College.

4. Consider planting replacement for Copper Beech in advance of its failure.

Fig 73: Detailed Landscape Proposals - Clare College

Fig 74: Existing Landscape - Clare College

Fig 75: Existing Aerial Photo - Clare College

Clare College Landscape Proposals

1. The replanting of the now incomplete Clare Avenue will require the removal of 5 late mature Limes. Options other than Lime might be considered in light of the over-abundance of Lime on the Backs.

2. Lower the high screen of Yew along the boundary with Garrett Hostel Lane to allow visual connection between the northern and southern halves of the Backs, eg: from Clare Bridge. Trees to be lowered to previous pruning height, approx 4m above ground. This will help to thicken up the Yews here, and improve conditions on Garrett Hostel Lane.

3. Assuming the Oriental Plane is planted at Trinity Hall behind the Master's Garden wall, there will be no need to replace the Copper Beech when it declines. This will open up and greatly improve the view of the Master's Lodge and west elevation of the College.

4. Clear ditches and remove Sycamore, Elder etc from Yew belt along Queen's Road.

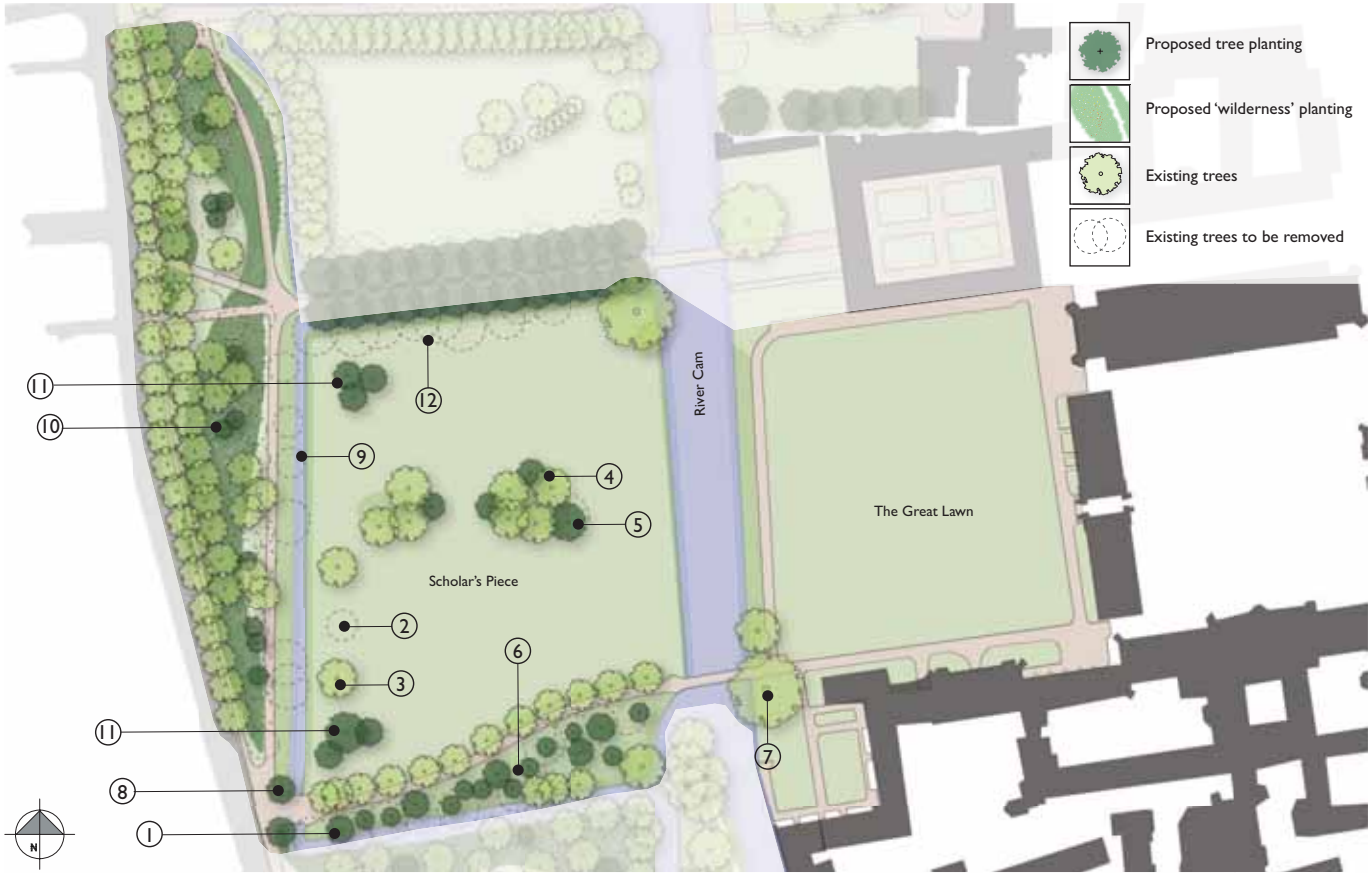

Fig 76: Detailed Landscape Proposals - King's College

Fig 77: Existing Landscape - King's College

Fig 78: Existing Aerial Photo - King's College

King's College Landscape Proposals

1. On the assumption that the Horse Chestnuts will succumb to Bacterial Flux, all the trees on the south side of the 'avenue' should be removed and replaced with less formal planting. Alternatively the whole avenue could be replaced, (to be in a phased programme with Clare College avenue).
2. The young Oak has a spreading crown and no distinct leader, and will potentially grow up to obscure views of King's College; this should be removed now.
3. The adjacent Beech should be crown lifted to maintain views beneath.
4. The Hornbeams planted on Scholar's Piece are in a good condition and work well; they could be reinforced with additional trees.
5. Once the Hornbeams have grown sufficiently to screen the unwanted view of the University Library, the Hybrid Black Poplar should be removed.
6. The banks of the stream along King's southern boundary should be cleared of young Sycamores. This would improve conditions for the water vole. 'Wilderness' type species could be continued here.
7. When the ageing Copper Beech fails it should be replaced. There is probably not room here to plant a future replacement now.
8. Plant evergreen trees to frame main gates at end of Avenue.
9. Remove Willows along the western edge of 'Scholar's Piece'.
10. On Clare Hall Piece, extend the 'Wilderness' planting through this space as a unifying element. Thin alders & oaks into clumps. Consider moving path away from road and planting in between.
11. Add clump of trees to help screen views of traffic. Consider additional Hornbeams, or trees with clean trunks such as Turkey Oak, Beech etc. Ensure views of King's Chapel are not lost.
12. Thin/prune Sycamore, Yew, Plane e.t.c, as and when Clare avenue is replaced and established.

Fig 79: Detailed Landscape Proposals - Queen's College & Queen's Green

Fig 80: Existing Landscape - Queen's College & Queen's Green

Fig 81: Existing Aerial Photo - Queen's College & Queen's Green

Queen's College/Queen's Green Landscape Proposals

1. Extend the 'Wilderness' planting to the south from King's, and alongside Queen's Ditch, maintaining sufficient open space for recreation. This will filter and soften views of the Cripps Court building from Queen's Road as well as improving the structure and quality of these spaces.
2. Monitor 2 large Elms with signs of *Ganoderma*.
3. Extend Beech Avenue from Queen's Grove across to Queens Road.
4. Continue and infill gaps within the line of recently planted Oaks.
5. Plant a future replacement now for the large Horse Chestnut, which may succumb to Bacterial Flux.

Bibliography

Brown, J. (2002)	Trinity College: a garden history
Queen's College (2000)	Queens College Record 2000 - The Grove Elms www.queens.cam.ac.uk/Queens/Record/2000/Fabric/Grove.html
Walters, S.M. (1979)	The Future of the Backs: A memorandum summarising the results to date of discussion and action initiated by King's College Garden Committee in 1974, with recommendations for future coordinated action.
Whiffen, M. (1947)	Academical Elysium - The Landscaping of the Cambridge Backs
Workman, J (1976)	The Backs (An outline for the Formation of a joint policy for the Conservation of the Trees and Landscape...)