University of Nottingham
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Jubilee Campus

Landscape management plan: 2017–2022

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Summary

This management plan follows a previous plan that was produced in 2013, covering the period from 2013 until 2016. This plan is a 5 year plan that covers 2017 to 2022.

It intends to bring together the management, maintenance and development of Jubilee Campus, in an overall framework. The plan is intended to be both a working document and a reference document. A working document in that it contains actions and timetables that will need to be implemented and reviewed, and a reference document in that the plan does not contain every piece of information needed to run the campus. It provides references to other documents, policies and strategies and explores their implications for the campus. As such, the plan has to be read in conjunction with these documents to manage, maintain and develop the campus.

The revised plan has been brought together by a number of university staff. The following staff have been involved:

Lead Officer: Jamie Whitehouse, Grounds Manager with assistance from: Lee Reed, Assistant Grounds Maintenance Manager, David Beadle, Grounds Maintenance Manager, Greg Smith, Grounds Maintenance Manager (Sport), Kerry Bostock, Team Leader (Acting) for Jubilee Campus, Gavin Scott, Environmental Manager and Stuart Croy Assistant Head of Security.

The plan is intended to be read by managers, staff and visitors to the Jubilee Campus. In the plan there is a strong emphasis on sustainability in the built environment and landscape which will be noted later in this plan, the concept of the development regeneration of a brownfield industrial site with a strong emphasis on sustainability, energy conservation, habitat creation, biodiversity and community access.

The Location

The Jubilee Campus is a modern purpose built campus which extends 70acres. The initial phase was opened by Her Majesty the Queen in 1999.

The postal address of the site is:
University of Nottingham
Jubilee campus
Wollaton Road
Nottingham
NG8 1BB

For directions, go to:
https://www.nottingham.ac.uk/about/visitorinformation/mapsanddirections/jubileecampus.aspx

If using a satellite navigation, use NG8 1BB as the postcode for Jubilee Campus and NG7 2TU for Innovation Park.

The Jubilee Campus is completely open on almost all sides, there is unrestricted public access along the length of Triumph Road, other entrances include:

- Orston Road South end of the site, pedestrian and cycle
- Wollaton Gate NE corner of the site pedestrian, cycle and vehicle
- River Leen and a new Lake footbridge East boundary of the site
- Middleton Boulevard Access NW corner of the site, pedestrian and cycle

Freedom of access by the local community is encouraged, there are four cafes, a sports centre offering community use on a booking basis, ample outdoor seating, an area of field to the South of the site used for informal games by students and visitors.

The site has 24 hour Security provided by the University, with many CCTV cameras operating throughout the site, which is well illuminated at night.

The campus is still under development with two further teaching buildings planned over the next 2 years, which are located towards Derby Road: the Advanced Manufacturing Building and the RAD (Research Acceleration & Development) Building.

Since 2008 a number of new buildings have met the BREEAM Excellent or Outstanding Awards, in terms of landscape infrastructure around the buildings a consultant ecologist has been involved in the landscape design and management recommendations for many of the sites.

More information about BREEAM can be found at: www.breeam.com/

Some brief details on the sustainable attributes of the Innovation Park 2007 onwards can be read in section 6 Environmental Sustainability.

The Jubilee Campus overall is a good example of brownfield site regeneration for the benefit of the environment, business, community and wildlife.

The University of Nottingham

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Jubilee Campus Boundary

UoN Owned Land (Awaiting LR No.)

The Estate Office

Loacation Plan
Jubilee Campus

05 January 2017
NTS

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Jubilee Campus
& University of Nottingham Innovation Park (UNIP)
Western Boulevard A6514
Crown Island
MAIN ENTRANCE
24hr gatehouse
Melton Hall
PD
G
SC
Wollaton Road A609
Middleton Boulevard A6514
To University Park Campus (0.5 miles)
The University of Nottingham
Jubilee Campus
Nottingham
Postcode for satellite navigation: NG8 1BB
Ilkeston Road A609
Nottingham 1
To city centre
Faraday Road
Business School North
1
The Sir Harry & Lady Djanogly Learning Resource Centre
2
3
The Exchange
Triumph Road
Southwell Hall
Manor Villages
Computer Science
4
5
Dearing Building
6
BC
Newark Hall
Sports Centre
30
Railway
Business School South
7
YANG Fujia Building
10
17
18
16
Raleigh Park
Auditorium
8
11
13
14
Amenities Building
Si Yuan Centre
9
12
Sir Colin Campbell Building
The University of Nottingham
Innovation Park
Nottingham
Postcode for satellite navigation: NG7 2TU
19
50
Jubilee Conference Centre
31
Sports ground
Tennis courts
51
Riverside Point
Pedestrian and cycle route to campus
Gatehouse Lodge
60
Pedestrian and cycle route to campus
To city centre
Derby Road A6200
To University Park Campus (0.5 mile)
N
0 metres 100
The University of Nottingham
UNITED KINGDOM · CHINA · MALAYSIA
Academic schools and departments
Chemistry 31
Computer Science 4
Engineering 13/16/18
Education 2/6/10
International Office 10
Nottingham University Business School 1/7/9/10
Other services
Admissions 60
Auditorium 8
Banks/Retail 2
Cafés 2/5/7/11/30/50
Estate Office - Grounds 51
Faith/Prayer rooms 11
Graduate Centre 11
Libraries 3/7
Security Control 12
Sports 30
Student Service Centre 2
Students' Union 10
The University of Nottingham Innovation Park
Aerospace Technology Centre 18
Energy Technologies Building 16
GSK Centre for Sustainable Chemistry 31
Institute of Mental Health 17
Ingenuity Centre 19
Innovation Park Reception 12
Nottingham Geospatial Building 13
Romax Technology Centre 14
Academic buildings
Residences
Off-campus student residences
Other services
Under construction
The University of Nottingham Innovation Park (UNIP)
Footpath
PD Pay & Display visitor parking
Blue-badge parking
G Gatehouse
BC Barrier-access control
SC Secure cycle parking
Hopper bus stop
Public bus stop
Public/Hopper bus stop
Building public entrances
Aspire sculpture
24-hour security contact
(0115) 951 3013
24-hour ambulance/fire/police
(0115) 951 8888
07/2016
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SECTION 1 HISTORY AND DEVELOPMENT

Section 1 History and Development

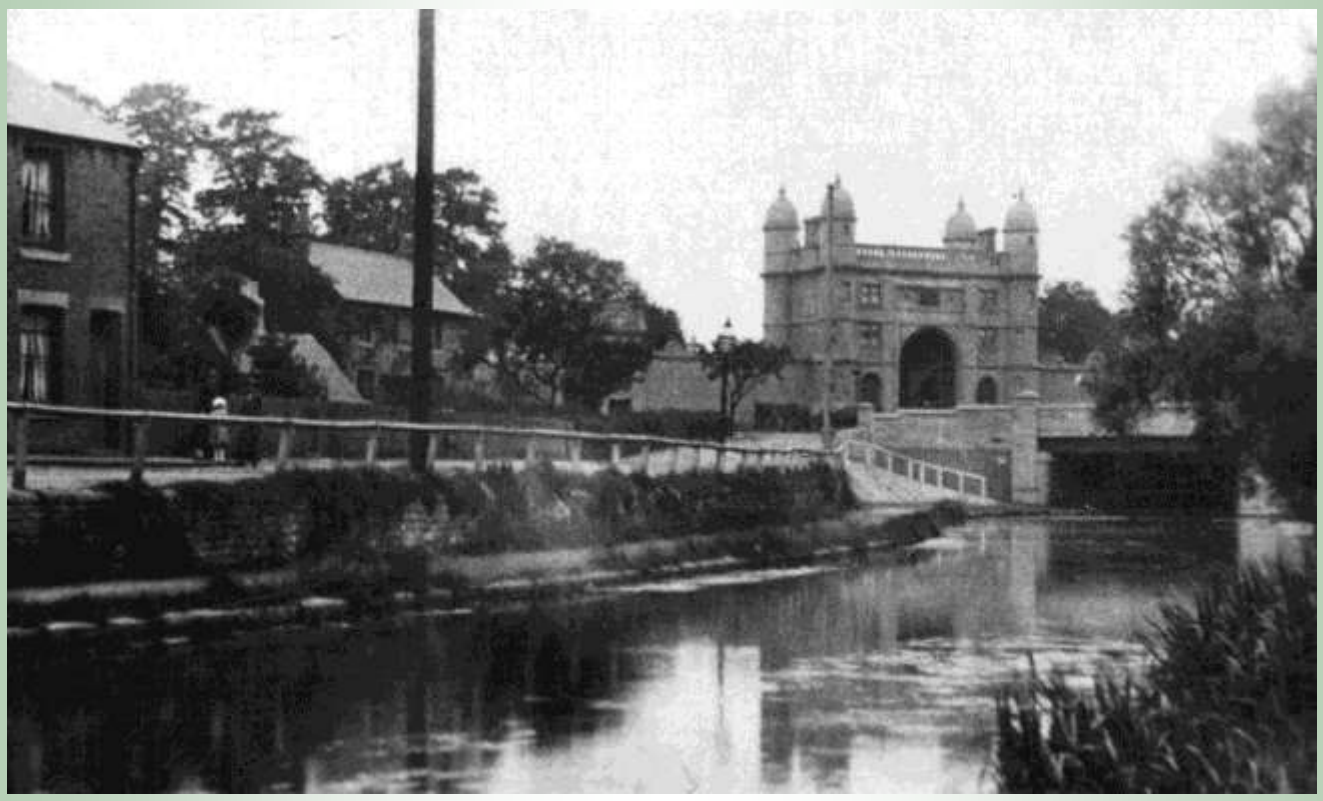
The Jubilee Campus site has a long industrial past, in 1819 it housed the Radford Colliery and in 1883 the Nottingham Canal passed through the site this was abandoned in 1954 by 1996 the canal was culverted and no evidence remains except in an underpass at the North end of the site. There was a school on the site from 1901 onwards this was demolished in the 1990s for site development. In the 1960s Raleigh Cycles occupied most of the site with a factory which was in use until the 1990s, immediately South of this a now closed Dairy Crest Milk distribution factory. To the North East side of Triumph road a gasworks now demolished. To the North of the site alongside Triumph Road and Wollaton Road is the John Player Cigarette Factory 3 huge white listed buildings which dominate the site, which are in private ownership.

The initial Jubilee campus phase 1 development was completed in 1999. The former Raleigh factory site was developed to a design by Sir Michael Hopkins with landscaping by Battle McCarthy. The initial development of 5.4 hectares included two lakes and buildings associated with the School of Education, the Business School and Computer Studies.

Subsequent to that a third lake, together with the National College of School leadership building was constructed in 2001, which is now known as the Jubilee Campus Conference Centre and a second building was added for the Business School in 2003. All of these are situated on the West side of Triumph Road.

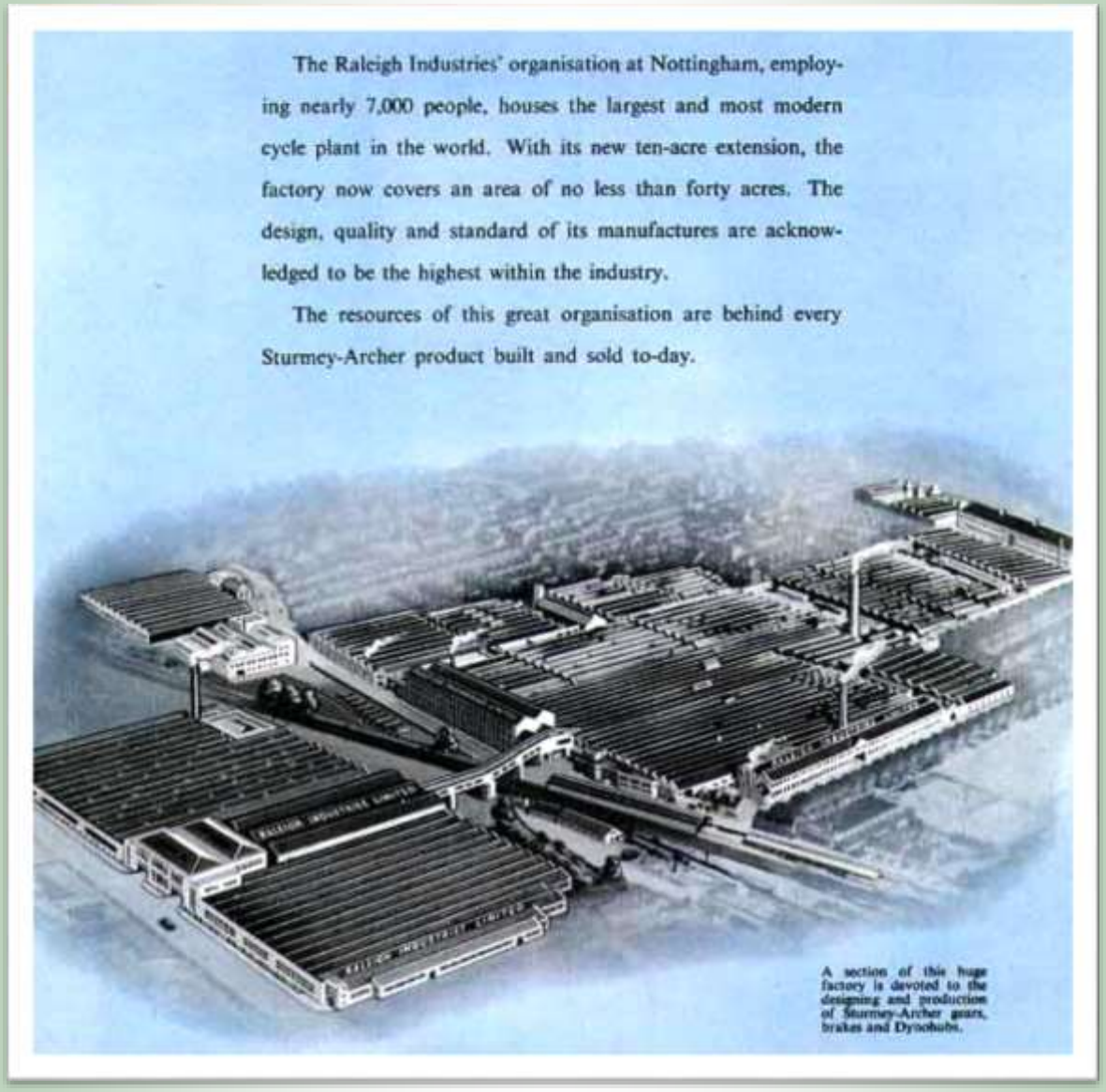
In 2007 development commenced on the next phase of the development ,International House ,the Amenities Building on the West of Triumph road and the Sir Colin Campbell building which crosses the re-aligned road.

This development includes a 280 metre long paved boulevard with water features, an avenue of sixty trees, a 60m sculpture called Aspire, the Aspire Café is located within the Amenity Building.



Above: a picture of Gatehouse to Wollaton Park and the Nottingham Canal— Circa 1900

The Nottingham Raleigh Factory—Circa 1960



The Development of Jubilee Campus

1	2
3	4

1 - 1995 The Raleigh site acquired by the University

2 - 1999 Jubilee Campus Phase 1 is complete

3 - 2007 Jubilee Campus expansion under construction

4 - 2014 Jubilee Campus expansion under construction

The East side of Triumph Road is referred to as an Innovation Park, development commenced in 2007, the site includes the Energy Technology Building, Nottingham Geospatial, the Aerospace Technology Building and the Institute of mental health, the latter resides alongside the University Sports centre and Starbucks Coffee shop opened in 2012.

A fourth lake and footbridge was created adjacent to the River Leen improving further wildlife and accessibility to the campus.

In 2014 the Romax Building was completed, located on Innovation Park. Romax has Incorporated environmentally friendly building technologies within its move such as sustainable construction techniques including biomass heating, building heat recovery and reuse, waste water recycling, solar shading and a biodiverse green roof and it's achieved BREEAM Excellent rating.

To increase the ecology value, new bird boxes were located on walls to the East of the main building. Sustainable build initiatives also include vehicle electric charging points and covered cycle stores to encourage sustainable transport.

In 2016 two further buildings were completed, the Ingenuity Building and the more notable Carbon Neutral Laboratory for Sustainable Chemistry. The building itself incorporates the latest technologies to allow it to be carbon-neutral over its lifetime. The laboratory is built from natural materials and energy required to run the laboratory is met by renewable sources such as solar power and sustainable biofuel. Excess energy created by the building provides enough carbon credits over 25 years to pay back the carbon used in its construction and is being used to heat the nearby office development on campus.

Currently there are two other buildings being constructed: The Advanced Manufacturing Building, which will connect the campus to Derby Road and the adjacent Gatehouse Lodge, and the Research Acceleration and Demonstration (RAD) Building, which is being built on the former Dairy Crest site, fronting the spine Road. The building has been designed to achieve BREEAM Excellent and will include Passivhaus measures to reduce energy requirements.

All design aspects of Jubilee Campus have high environmental standards within both buildings and the landscape. The landscape design is based on habitats comprising of lakes, wetlands, meadows woodlands, with some areas of high horticultural excellence.

SECTION 2
LANDSCAPE COMPOSITION

Section 2 Landscape Composition

The site divides primarily into Lakes, Wetlands, Conservation Areas and Amenity Areas, together with associated buildings, roads and car parks.

2.1 Lakes and Wetlands Phase 1 and 2 (Innovation Park)

The first two lakes in the initial development form an integrated drainage system with the whole site. These collect all the drainage water from roofs and car parks. This enters via a system of ditches that run between the spine road and the buildings. Although these are linked to the main lakes through 450mm pipes that run under the buildings, the level is such that any oil that enters the ditches from the car parks is trapped within the ditches. Only when rainfall is excessively high does the lake reach its upper maximum and drainage water leave the system via a weir to the floodwater drainage system. The lakes extend to 14500,000m2.

There are a series of pumps that circulate the water throughout the system. At the Melton Hall end this is in a clear flow pattern, with the lake water being pumped into the ditch at a higher level and passing over a series of small weirs and then back to the upper lake.

Another pump collects water from the lower lake and pumps it into the top lake where it drops over a weir and back to the lower lake. Other pumps circulate the water from the main lake to the ditches to avoid water becoming stagnant. All pumps are controlled by time clocks to work during daylight hours and regularly serviced.

The lakes also include a series of aerators operated from compressors mounted on the Western side of the lake. These allow for air to be introduced to the water as needed. Growth of algae and water temperatures are monitored to decide on the operation of these.

Lake 3 by the Jubilee Conference Centre is a system on its own connected to a moat in front of the building. The main lake is divided by a wide weir and water is pumped from the lower level up to the higher level. This lake is topped up automatically with water from a borehole.

Marginal plantings have been successfully established around all lakes and the ditches. These are generally left undisturbed. Dead growth each autumn is left to decay naturally providing a range of habitats. The only exception to this is more formal areas of the ditches where annual cutting back takes place. At some future stage there may be a need to reduce the encroachment of vigorous species.

Attempts to establish water lilies were less successful and despite three attempts these remain largely unsuccessful except on the small lake by Melton Hall. On each occasion ducks have destroyed the plantings, despite protection. It would be ideal to attempt the establishment of alternative floating aquatics. Amphibious bistort (Polygonum amphibium) and Fringed Waterlily (Nymphoides peltata) will be trialled in submerged cages. A variety of waterfowl have colonised the lakes including swans, ducks, coots, moorhens, herons and inevitably Canada Geese. Most of these are successfully breeding. Populations of Canada Geese are controlled by egg pricking. The public are discouraged from feeding the wildfowl.

A small quantity of Koi Carp were introduced to the main lake following a request from a neighbour. In addition a large number of wild carp have appeared and these have multiplied to the extent that they have become a nuisance making the water generally murky and diminishing wildlife by eating amphibian eggs and small invertebrates such as dragonfly larvae. Some were relocated in 2007 and it is likely this exercise will need to be repeated with the aim of removing the majority of the fish.

Blanket weed and algae has been a problem since the inception of the lakes. The shallow depth of water, coupled with the occasional use of potable water for topping up gives ideal conditions for algal growth. To alleviate the problem, various products were also originally used together with herbicide application under licence during the initial stabilisation .

In recent years this has been replaced with the use of barley straw which seems to keep algal growth at a reasonable level in all but very hot weather. Duckweed has developed in the ditches but so far has not spread to the main lakes. With the range of other aquatic plants present, chemical control is neither desirable nor feasible. Excess quantities are removed by hand in summer.

2.2 Conservation Areas

When Jubilee Campus was developed, the University was able to purchase a narrow ribbon of land that contained existing mature trees. These include, ash, lime, sycamore, alder, willow and plane. Maintenance is minimal and restricted to safety issues and problems associated with nuisance to adjacent properties. This area is an important barrier between the campus and the local residents. Access to it is limited meaning that it gets little disturbance. As part of the initial landscaping additional native trees and shrubs were added and these are now largely well established. Bird boxes have been added to the older trees in this area and some habitat piles established.

Grassland under these trees is managed on a meadowland basis with an annual cut in August/September and removal of the mown material. An attractive and diverse sward is developing. Paths are mown through this to allow walkers to use the area although usage is not high as there is no clear route through.

A series of mounds was also constructed behind the lakes. These were initially turfed and planted with wildflower plugs. They are mown annually in August/September. Native trees and shrubs together with some ornamentals attractive to wildlife were added to soften the outlines of these mounds.

As part of the development of the Jubilee Conference Centre site, a new meadow was also seeded to the West of the lake. The land here is built up from the pulverised remains of the old factory buildings which provided a poor quality substrate which has been very successful in providing the low nutrition levels that promote a rich grass and herb content in Meadow grass communities. Common Orchid and Bee Orchid flourish in some areas of the site. 26000 cubic metres of processed rubble from factories and low grade subsoil was used to create the substrate.

2.3 Horticulture and Amenity Landscape

Both phases of Jubilee Campus have limited areas of amenity landscape. In phase one tree planting included a high proportion of Horse Chestnut and various Whitebeam trees.

There are strong blocks of boundary planting that are now well established. The spine road and associated car parking is well planted with a mix of deciduous and evergreen ornamental shrubs. Establishment of grasses and broad-leaved species was slow but a valid meadow now exists that is attracting many species including blue butterflies. This too is mown annually. No herbicides or fertilisers are used in any of the conservation areas.

Boundary and screen plantings are generally left undisturbed with minimal pruning to allow for maximum impact and to provide a greater opportunity for habitat development.

There are two small gravelled courtyards with planting and seating and grassed courtyards within the Southwell and Newark Halls of residence. Trees are fed on an annual basis with a slow release fertiliser. Amenity planted areas are now mulched regularly and the use of residual herbicides has been suspended.

Amenity grass areas are mown on a seven / ten day cycle and the arising are not collected.

All of these areas are maintained by the University's grounds management teams using established techniques.

The first phase of this development is dominated by the Boulevard boardwalk, a wide paved walkway which separates the buildings from the two larger lakes. This is swept and scrubbed on a regular basis. Bins for general waste, recycling and cigarette waste are strategically placed and emptied on a regular basis. The whole site is also regularly litter picked by the site based grounds team which is 5 strong.

Phase 2 of the Campus development includes the Boulevard linking West and East sides of Triumph Road with a strong avenue of Sophora japonica and linked fountains, within a marble finish paved surface.

The Innovation Park landscape to the East of Triumph Road also has strong features of biodiversity and sustainability with the extensive planting of native trees and shrubs, species rich meadow turf supported with 5 year management plans written by a consultant ecologist, this can be seen in the appendix of this report.

There are however ornamental plantings in the vicinity of the buildings and car parks although overall the concept is of open flowering meadows with groups of native trees and shrubs within amenity turf areas.

The Boulevard which extends across the Triumph Road East to West and provides a central high quality landscaped area for pedestrian and cycle movement.
Below A plantation of Silver Birch within wildflower meadow providing habitat creation as part of the BREAAM Acredditation Scheme for new developments. The meadow areas have a very diverse composition and is of the same type supplied to the Olympic Park.

Water Features contribute to a high quality landscape, above this attractive fountain and sitting area to the West end of the boulevard, built in 2008

Water Feature at the Si Yuan centre built in 2012

Dearing Building Quad

Developed as a community seating and study area whilst improving pedestrian access between buildings. The design has a strong emphasis on all year around interest and colour, the scree of Cotswold chippings with weed suppressant mat beneath has excellent drought resistance properties.

The area was previously badly worn lawn with a scruffy hedge on the North boundary, a series of snug areas with stainless steel seats provide good semi secluded spaces within this busy campus, developed in July 2012 at a cost of £38k.

Atria

Jubilee Campus includes a number of atria planted with interior plants. These are primarily Ficus logifolia and Magnolia grandiflora. Although these atria are unheated, the plants seem to grow and thrive successfully.

Irrigation is automated and activates daily. The regime can be altered between winter and summer. Pruning is carried out as needed at least once a year, together with a feed with slow release fertiliser. A monthly monitoring watches for pests and diseases. Pest control when necessary is carried out by means of biological control. Additional interior planting is provided on a contract by Cannon Horticulture.

Lakeside boulevard.

A small courtyard alongside the lakeside boulevard.

Jubilee Conference Centre

The Jubilee Conference Centre Building has a more extensive area of landscape around it and backs on to a grass sports area. Some of the species originally included here such as native bramble were over aggressive and had to be removed. The boundary planting here, although successful in terms of screening, is dominated by elder, which needs thinning or stooling to allow slower species such as holly to develop their full potential.

This area in turn joins a small sliver of land with rough grass and trees that runs down to the back of the old gatehouse on Derby Road. The area is given low maintenance with monthly grass cutting and tree maintenance for safety only.

Jubilee Campus - Phase 2 (Innovation Park)

The second phase of this development on land both sides of Triumph Road embraces the same principles of sustainability. Similar elements have been included, which should given time be equally successful in providing a range of habitats, which will stretch right across to the River Leen to the East of the site.

Whilst particular attention has been given to improving the biodiversity of the site, planting includes both exotic as well as native species. This is entirely appropriate considering the international status of the University and also the inclusion of Yang Fujia Building within this current development.

In very general terms the landscaping to the west of Triumph Road and around the Boulevard is more amenity based and blends to a conservation style to the east of Triumph Road going towards the new water feature and the River Leen

Amenity Areas

The landscaping around the new buildings will be amenity based with combinations of good landscape plants including, trees, shrubs, groundcover plants and prairie planting.

Boulevard

This formal paved feature stretches for 280m from the Phase 1 site across to Phase 2, straddling the Triumph Road. This is a high quality hard landscape complete with granite paving, a series of canals, fountains and granite seating. The Boulevard is lined with an avenue of sixty Sophora japonica, the Chinese Scholar's Tree. These were planted as semi-mature trees, in an irregular avenue in March 2008.

Car Park Areas

Parking to the east of Triumph Road is on stabilised grass. The areas surrounding this will be contoured grass mown on an occasional basis. Planting over these banks will include groups of native trees and shrubs managed for wildlife. Pruning is when necessary, will take place outside of the nesting season.

New Lake/River Leen

The water feature acts as a focal point at the end of Boulevard and a link with the adjacent River Leen. The lake itself is relaxed in shape and has been complemented with a pebble beach that wraps around the end of the paved Boulevard, that itself stretches across the whole site. The lake and its beach will be surrounded by a small area of mown grass, which links with the Boulevard.

The ends of the lake is framed with trees and shrubs which are largely native or chosen because of their wildlife value. Trees will include crack willow, thorn, rowan, Scot's pine and oak. Amongst the shrubs will be dogwood, willow, holly, spindle, and wayfaring tree planted in bold groups.

Around the edges of the lake are native aquatics such as marginal plantings of water mint, marsh marigold, reed mace, purple loosestrife soft rush and yellow flag iris. These were established using pre-planted coir rolls or direct planting into a substrate. The native white and yellow water lilies, fringed water lily and a range of submerged oxygenators will be included within the body of the water.

It is noted that the River Leen is a stronghold for water voles. The nature of the existing river bank with its steel sheet piling means that the river surrounds are unlikely to be disturbed. The sides of the new lake is 'soft engineered' using coir rolls to provide a possible habitat for water voles. The new lake was filled with water from the River Leen rather than potable water. A pedestrian and cycle footbridge was added to cross the lake in 2012.

SECTION 3 ACTIVITIES AND FACILITIES

Section 3 Activities and Facilities

3.1 Leisure Provision

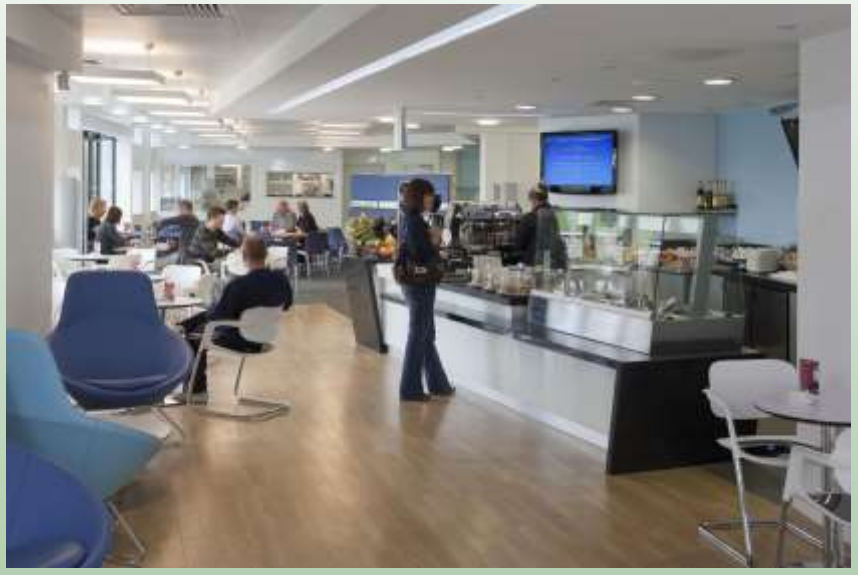
The Jubilee Campus is open to all visitors for the purposes of recreation there is a field to the South end of the site known as Charnock Field where informal ball games and active pursuits take place.

The Campus is a very good venue for walkers and those wishing to sit quietly or picnic. All the cafeterias are open to the general public and there are no exclusions, University policy is to welcome all visitors to the campus.

Above.: Charnock Field where informal games take place daily, this open space is used by the University members and the public.

Starbucks Coffee unit adjacent to the Sports centre Triumph Road

The Atrium Restaurant adjacent to the middle lake capacity for seating 350



The Aspire Cafe

Above The lakeside boulevard note a high level of provision for seating is available

Below Aspire Café Terrace and contemporary furniture

3.2 Sports Centre Triumph Road

The sports centre provides facilities to approximately 14,000 facility users from the University community of Staff, Students, Alumni and Associates.

The sports centre is open Mon-Fri 7.00am-10.30pm, Sat/Sun 9am-10pm and fully accessible to wheelchair users. Membership for students for a full year is just £199 which provides access to courts, classes and fitness facilities. Staff of the university can enjoy access to facilities from £27.50 per month. The membership also provides access to the other two University sport centre facilities, one at Sutton Bonington and the David Ross Sports Village at University Park.

Members of the University community not wishing to buy into a membership can access facilities across the campuses on PAYG basis from £6.50 per visit. By comparison to local alternatives the membership offers great value for money to its members.

Whilst offering a timetable of structured training to 20+ of the University's 70+ student sports clubs through term time and in the region of 50 physical exercise classes per week the sports centre also hosts external competitions/tournaments for National Governing Bodies such as Netball England, Badminton England and Volleyball England at select weekends throughout the year. The sports centre also hosts Physical Education classes for local schools Hollygirt Girls Schools, Ellis Guilford and Bluecoat Academy. The sports centre is also called upon to host events/tournaments for Nottinghamshire Football Association as well as Nottinghamshire Schools FA.

To further address the demand from the Jubilee community population the Sports Centre opened a new fitness suite in September 2014 and a full size 3G pitch in May 2015. The new fitness suite increases in equipment provision from just 30 stations to 100. This along with the outdoor 3G, which have both been developed on a Brownfield site previously owned by National Grid, represent a significant increase in provision to the community of Jubilee Campus.

New 100 station fitness suite, 3G football and outdoor table tennis

3.3 Play Areas

There are no formal play areas for children on the Jubilee Campus and it is unlikely that childrens' play areas would be adopted by the University, however all open space is accessible to families visiting the site.

3.4 Sculpture

The Aspire sculpture dominates the landscape of Jubilee Campus. The 60m tall red and orange steel sculpture weighs 854 tonnes and cost £800,000. It was designed by world renowned architect Ken Shuttleworth, who also designed the Gherkin building in London. And it's taller than Nelson's column (51m) and the Statue of Liberty (46m). The base of the sculpture is set back from Triumph Road, where there is a community seating area which is in regular use.

3.5 Signage and Information

The Jubilee Campus is well signed from approach roads, cycle routes and footpaths; within the site information is provided clear on green and white signs and Campus Plans displayed in park notice form. Finger posts are also used to direct pedestrians and cyclist within the site. Some buildings have green and white tombstones to inform visitors.

The security gatehouse on Wollaton Road main and public entrance acts as a welcome and information point for visitors; Campus plans and other information is available from the Security Officers 7.30am until 4.30pm.

There is also a security office in the Exchange Building, which has a plan and a model of the campus to help visitors and is the visitor hub of the site.

Below Large scale campus plans are situated close to key access points

3.6 Interpretation Boards

During 2014 new lecterns were placed at entry points to the campus explaining the value of Green Flag Parks and East Midland in Bloom awards. The lecterns have contact, security and comment details and act as an information and welcome point.

Section 4 Safety, security and cleanliness

4.1 University Health & Safety

Safety is a line management responsibility and the immediate responsibility for safety within any work area is borne by the appropriate Head of School, or Administrative or Support Services Section. Within the Halls of Residence and flats this responsibility is borne by the Director of Nottingham Hospitality and through line management.
The foregoing persons are responsible for ensuring that arrangements for safe working with their areas have been set up and published. These local arrangements form part of the University Safety Policy. The Safety Office has produced a detailed document , which is used as the basis for all Health and Safety Management within the University Community.

4.2 Estates Health and Safety

The Estates Department is very aware of Health and Safety and has its own Safety Committee. The committee is comprised of representatives from all sections of the Estate Office including the Grounds Section and a representative from the University Safety Office. The committee has responsibility for overseeing all aspects of Health and Safety related to works undertaken by the Estate Office.

The Grounds Section also hold regular health and safety meetings to address issues as part of grounds management meeting, whom meet weekly and Team leader meetings, which are held monthly.

The day-to-day responsibility for safe working practices within the Grounds Section is devolved to the Grounds Maintenance Manager and Assistant Maintenance Managers. Risk Assessments and safe working procedures are in place for all tasks.

All risk assessments are currently being reviewed, with assistance / engagement from various team members and a programme of review is currently being developed. Risk assessments and Health and Safety policy documents are available to grounds staff in published form.

COSHH Assessments are recorded and updated as necessary. All this information is readily available for grounds section and other staff.

Risk assessments are also produced for Grounds Events in particular those involving potentially hazardous volunteer work and events days, a trained member of staff is always present when volunteers are on site. The risk assessment is issued and explained to each volunteer by the grounds manager or grounds team leader.

J:\Sustainability\Grounds\Safety\Risk Assessment\Events,Opendays & Volunteers Risk Assessments

4.3 Tree Safety

A new approach to Hazard Tree Survey was undertaken in 2016/17 by the Grounds Section, which covers all sites. An external consultant is currently assisting in the preparing of our Tree Risk Management (TRM) strategy which moves away from the compulsion to tag and survey every tree and moves towards a hazard and target driven approach. Individual sites are assessed on usage level in the proximity of large trees and then categorised into red, amber or green zones with red equating to high risk, down to green, low risk. The professional surveyor makes this assessment which is logged on a hand held data collector using Pear GIS. Technology. The nature of the zone dictates the frequency of inspection and during the inspection process tree defects are noted and corrective orders raised via the Grounds Maintenance Manager for Trees.

4.4 Hazard identification and risk management

In 2017, a new system of risk management was developed and introduced. This is set out in the table below:

Management	Specific element	Grounds Section responsibilities	Partner responsibilities
Risk management	Building safety (Grounds)	Report any defects to the Helpdesk.	Overall building safety examined by Building and Engineering Technical Services
	Infrastructure safety	Infrastructure bins, benches, gates, barrier footpaths and fencing undertaken by Grounds Section. (External Cleaner / Assistant Maintenance Manager).	
	Water safety	Risk assessment for water safety undertaken by Grounds Section (Assistant Maintenance Manager). Life buoys to be checked twice weekly by External Cleaner.	Legionella testing undertaken by Building and Engineering Technical Services
	Grounds Maintenance	Operational risk assessments undertaken by Grounds Section. Assistant Maintenance Manager / Team Leader to ensure they are adhered to.	
	Tree maintenance	Tree risk management system currently being developed. Operational risk assessments and inspection co-ordinated / inspected by Grounds Maintenance Manager for Trees.	

4.5 Security

The University employs a 71 strong Security Team, providing 24 hour uniformed presence on all campus sites and is managed by the Head of Security Gary Stevens. Mobile and foot patrols are available to respond to all incidents.

The Jubilee Campus, incorporating Innovation Park is well provided for with high and low level lighting, the Grounds Section planting policy allows where possible for good visual permeability, in particular around car parks where hedges are maintained below 1.5m to discourage criminals from lurking behind these.

The Security provision at the Jubilee Campus is two uniformed foot patrols on a 24 hour basis, supported by a dedicated Gatehouse Security Officer and at least two mobile patrols covering all Campuses. There is also provision for providing additional Officers, if necessary, from a larger team based at the nearby University Park Campus. A dedicated mobile patrol has now been introduced at the Jubilee Campus.

The Gatehouse Security Staff welcome visitors to the site and provide information on various matters, Security are also supplied with campus maps and garden guides to issue to visitors, the gatehouses are often the first point of contact for visitors to the Park.

The Jubilee Campus benefits from the provision of CCTV which is primarily used in the prevention and detection of crime. There are 54 cameras on site of varying types with many of the latest cameras being high specification, appropriate signage is in place. Intruder alarms are also installed at a number of locations.

Around 1,800 vehicles per working day visit the Campus and this includes staff and students of the University. There are 909 parking spaces available, including visitor parking, charges and restrictions apply, with very limited student parking. The Jubilee Campus in common with all University Campus sites offers free parking outside normal working hours; this includes evenings, weekends and bank holidays.

For a Campus which is located within the City Boundary, crime levels are relatively low with only 47 minor crimes being recorded in the past year (30 being thefts of pedal cycles). Crime overall on University sites has reduced by some 70% over the past few years, mainly attributable to the robust provision of Security resources and other crime prevention initiatives that have been introduced by the University with the full cooperation of the local Police.

All crime incidents within the University are recorded and published in an annual statistical report. This information is used to identify problem areas and used to develop policies to control these problems. The annual report can be viewed at: http://www.nottingham.ac.uk/estates/documents/security/security-annual-report-2015-16.pdf

Crime figures for the University sites are considerably lower than for general areas of Nottingham and they are therefore considered as safe sites.

There are telephone numbers available for the Security Office at the Gatehouses, car park information notices and on other notices within the campus.

The Security Section also provides best practice advice on crime prevention and detection of illegal activities. This service is available to students, visitors and staff.

Traffic management, administration of the University's traffic management policy to include car parking permit issue is the responsibility of Security.

The service at the Jubilee Campus is supported by a Security Administration Office during normal working hours and a 24 hour Control Room, both located at the University Park Campus. Full details of the service can be found at: http://www.nottingham.ac.uk/estates/security/home.aspx

4.6 Cleanliness

The Jubilee Campus benefits from both a frequency and performance based cleaning and litter collection regime.

There is one full time external cleaner and road sweeper operator who undertakes a daily routine of cleaning and litter collection. There is also a University wide mobile external cleaner who can assist during busy periods or as holiday cover. The service is flexible and in terms of quality the University has a litter free policy, which although difficult to achieve has been very successful. All collected litter is recycled under agreement with the main contractor Wastecycle, aspects of which will be discussed under section of this document 6 Environment and Sustainability.

A small road sweeper, Scarab Azura, which was replaced in 2016 is used to clean the boulevards and other hard surfaces, this is operated by the designated external cleaner. Frequency is daily, Monday to Friday to meet core use times of the site.

There are ample external waste bins on the Jubilee Campus and many ash stands or combination bins for the collection of cigarette butts, there are two designated external cleaners who empty bins and ash mounts on University sites within Nottingham.

4.7 Maintenance of Water Features

There is a member of staff appointed to clean and maintain the extensive water features within the Jubilee Campus, these comprise of

- Ditches
- 4 lakes 16000m2
- Canal on the South side of Jubilee Conference Centre
- Lake Fountains and aeration equipment.
- Boulevard rills and fountains
- Institute of Mental Health rill and fountains
- Si Yuan fountain

The formal water features, Institute of Mental Health rill and fountains, Boulevard rills and fountains, Si Yuan fountain are attended to by the in-house team about twice weekly during October to March and three times weekly during April to September. On a quarterly basis, an external specialist attends site to service the plant / system.

Spillage of Oil in Lakes – Emergency Procedure

The lakes and ditches at Jubilee Campus are so designed that under most circumstances, an oil or petrol spillage will be retained in the ditches. It is of paramount importance that the lakes are kept at their correct level in order to prevent oil passing from the ditches into the lake.

We adopt the pollution control hierarchy when dealing with any spillages full detail can be found in our Emergency response procedure for leaks and spills document (available upon request), but in summary:

- Ascertain the extent of any spillage and notify the Environmental Manager and the Assistant Grounds Maintenance Manager
- Contain the spillage in line with the pollution control hierarch
- Contain at source
- Contain close to source
- Contain on the surface
- Contain in the drain
- Contain on or in the watercourses

There is equipment available on site to be able to deal with containment of spills in the first instance. Major spillages will utilise the experience of external specialist – Lab Waste Ltd – 07967 311505

4.8 Waterfowl Management

Recommended levels of Wildfowl populations advise 20 Ducks per hectare and 5 Geese per hectare, notably Canada Geese. The geese foul the turf areas and footpaths and present a continual problem for site users, their excrement also adds to biological pollution in the lake.

It has been extremely difficult to exclude Canada Geese and these are currently controlled by the University, under licence, by preventing the eggs from hatching by painting the eggs with a mineral oil shortly after they have been laid and returns them to the nest.

The Duck population has not required any control and tends to remain constant.

4.9 Gritting and Snow Clearance

During the winter months road gritting and snow clearance is dealt with by the Grounds Section staff. Tractor mounted gritting equipment is used for clearing all areas defined as highways in the morning and major pedestrian and cycle routes thereafter normally clearing all areas before 10.30am.

A call out system is in operation, when temperatures are low the Security Section staff call out the Grounds Section. A snow plough is available for heavy snow , the Jubilee Campus site has bus routes that have priority.

4.10 Dog Fouling Policy

The University, unlike Local Authorities do not have the power to fine dog owners who allow their pets to foul open space. In 2010 after consultation with the City Council Ranger Service a number of additional bins and notices were placed in the Charnock Field area South of the site where dog fouling had become a problem. Since this time very few complaints have been received, however dog fouling does take place at a much reduced level.

Persistent offenders can be asked by University Security to leave the site and this requirement can be supported by the local constabulary if need be. If security teams witness fouling they will approach and speak to the dog owner.

The policy although passive has improved the incidence of fouling, until 2010 complaints were regularly received by the grounds section management.

4.11 Management of Tall Vegetation

The grounds section maintains tall vegetation at 1.2-1.5m tall in the vicinity of f footpaths and car parks this reduces the likelihood of lurking places for criminals, fortunately incidents of physical threat are very rare on the Jubilee Campus.

Vegetation control is also carried out to enable the optimum function of security cameras, these have doubled in number since 2013 from 27 to 57.

4.12 Graffiti

The University has a fast response to incidents of graffiti which can be reported to the Estates Office Helpdesk where a Works Request is raised. Response time can be stated as urgent or non-urgent.

The estates office helpdesk can be contacted on

http://www.nottingham.ac.uk/estates/estateshelpdesk/estateshelpdesk.aspx

Phone: 0115-9516666

Email: estates-helpdesk@nottingham.ac.uk

The helpdesk is open to all university members, staff and the public and is a vital tool in managing requests internally and externally on all University sites.

Section 5
Maintenance and Resources

Section 5 Maintenance and Resources

The Jubilee Campus benefits from the following resources

5.1 Staff / Labour

The Grounds Section employs the following in house labour on the campus, staff have a work base at Woolpack House.
1 x Assistant Grounds Maintenance Manager
1 x Grounds Team leader
3 x Trained staff in amenity horticulture staff to NVQ level 3.
1 x External Cleaner, who's able to operate the Road sweeper if required.

The staff are present on site during each working day and are supported in some task areas by a mowing team based at University Park Nottingham and other external cleaners based elsewhere in the University.

Staff allocations across the sites allow flexibility for busy periods.

Technical and managerial advice is available from the Grounds Management Team based at University Park, comprising of
Grounds Manager
Grounds Maintenance Manager
Assistant Grounds Maintenance Managers.

5.2 Current Grounds Maintenance Arrangements

Grounds maintenance works are carried out by the University Grounds Department. The operations that are routinely carried out are:

Operation	Overview of works undertaken
Grass cutting	Amenity grassland is cut every 7 - 10 days. Strimming around obstacles would be undertaken at the same time.
Hedge cutting	Ornamental hedges are cut once / twice annually depending on species.
Paths and hard standing	Main areas are cleaned weekly using a mechanical road sweeper. The External Cleaner will clean the priority smaller areas with a pedestrian power brush, in such places as the rills.
Weed-kill control	Weed control kept to a minimum. All hard surfaces are treated 3-4 times per year.
Litter removal	Sweeping and litter collection undertaken daily; bins are also monitored daily and empty as required.
Leaf collection	Fallen leaves are cleared and removed during the autumn. All main areas such as roads, cycle paths and footpaths are blown daily.
Shrub beds	The team works methodically throughout the campus— fortnightly visit during the growing season.
Grass	Grass encroachment is removed from edges of paths and hard standing annually, as part of the winter works programme.
Meadows	Meadows are cut in September / October and once again in early spring.
Football 3G Pitch	Maintained by Sports team— brush / clean surface, check goals weekly and deep clean the surface using an external specialist as required.

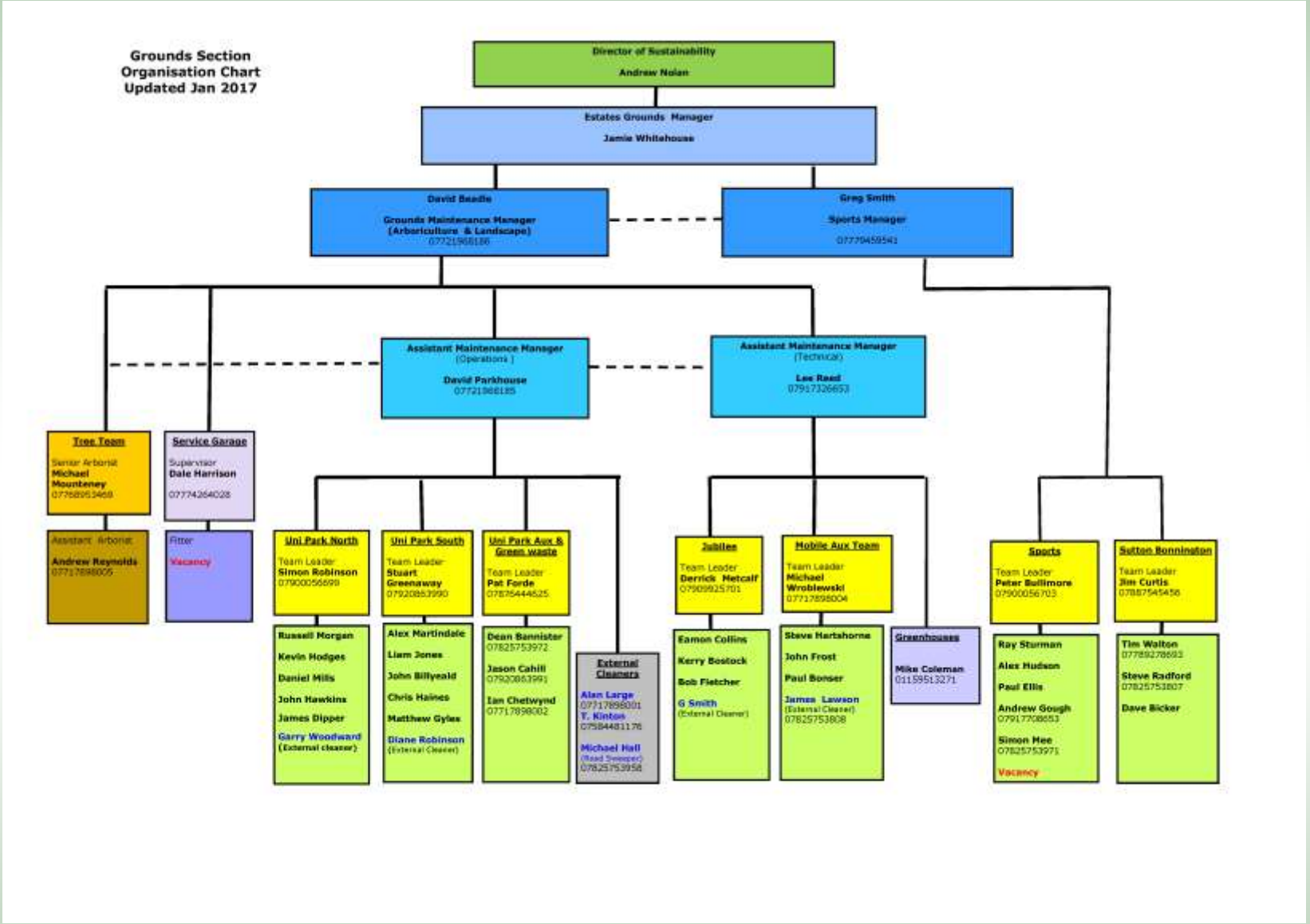
5.3 Grounds Quality Monitoring

The grounds team leaders on all University Sites including the Jubilee Campus are encouraged to monitor the presentation of their areas, at the same time the detailed inspections of the team leaders area can provide a very useful health and safety check on external landscaped areas.

Quality sheets are collated and dealt with by the two assistant grounds maintenance managers. A sample of the sheet for the Jubilee campus is shown in the appendices, an original copy is kept on file within the grounds office University Park.

5.4 Key contacts & Organisational Chart

Jamie Whitehouse	Grounds Manager Tel. 0115 9513649 Email: Jamie.Whitehouse@nottingham.ac.uk
David Beadle	Grounds Maintenance Manager—Arboriculture Tel.0115 9513605 Email: David.beadle@nottingham.ac.uk
Lee Reed	Assistant Grounds Maintenance Manager (based at Jubilee) Tel. 0115 7484547 Email: lee.reed@nottingham.ac.uk
David Parkhouse	Assistant Grounds Maintenance Manager Tel. 0115 9513637 Email: david.parkhouse@nottingham.ac.uk
Kerry Bostock	Team Leader Jubilee Campus (Acting) Tel. 07909925701 Email: Kerry.bostock@nottingham.ac.uk
Michael Mounteney	Senior Arborist Tel. 07768953469 Email: Michael.Mounteney@nottingham.ac.uk
Dale Harrison	Garage Fitter Tel. 07774264028 Email: dale.harrison@nottingham.ac.uk
Helpdesk	Tel. 0115 9516666 Email: estates-helpdesk@nottingham.ac.uk
Security (24hrs)	Tel. 0115 9513013
Security/gatehouse	Tel. 0115 846678
Security (emergency only)	Tel. 0115 9518888


Grounds Section
Organisation Chart
Updated Jan 2017
Director of Sustainability
Andrew Nolan
Estates Grounds Manager
Jamie Whitehouse
David Beadle
Grounds Maintenance Manager
(Arboriculture & Landscape)
07721986186
Greg Smith
Sports Manager
07779459541
Assistant Maintenance Manager
(Operations)
David Parkhouse
07721986185
Assistant Maintenance Manager
(Technical)
Lee Reed
07917326653
Tree Team
Senior Arborist
Michael Mounteney
07768953468
Assistant Arborist
Andrew Reynolds
07717898005
Service Garage
Supervisor
Dale Harrison
07774264028
Fitter
Vacancy
Uni Park North
Team Leader
Simon Robinson
07900056699
Russell Morgan
Kevin Hodges
Daniel Mills
John Hawkins
James Dipper
Garry Woodward
(External cleaner)
Uni Park South
Team Leader
Stuart Greenaway
07920863990
Alex Martindale
Liam Jones
John Billyeald
Chris Haines
Matthew Gyles
Diane Robinson
(External Cleaner)
Uni Park Aux & Green waste
Team Leader
Pat Forde
07875444625
Dean Bannister
07825753972
Jason Cahill
07920863991
Ian Chetwynd
07717898002
External Cleaners
Alan Large
07717898001
T. Kinton
07584481176
Michael Hall
(Road Sweeper)
07825753958
Jubilee
Team Leader
Derrick Metcalf
07909925701
Eamon Collins
Kerry Bostock
Bob Fletcher
G Smith
(External Cleaner)
Mobile Aux Team
Team Leader
Michael Wroblewski
07717898004
Steve Hartshorne
John Frost
Paul Bonser
James Lawson
(External Cleaner)
07825753808
Greenhouses
Mike Coleman
01159513271
Sports
Team Leader
Peter Bullimore
07900056703
Ray Sturman
Alex Hudson
Paul Ellis
Andrew Gough
07917708653
Simon Hee
07825753971
Vacancy
Sutton Bonnington
Team Leader
Jim Curtis
07887545456
Tim Walton
07789278693
Steve Radford
07825753807
Dave Bicker

5.5 Machinery and Equipment

The staff at the Jubilee Campus have the following equipment available for use on a permanent basis, the grounds operation is supported by tractor mounted gang mowers and other larger ride on equipment.

X2 Stihl Back pack blowers
X1 Stihl Hand Held Blowers
X1 Gilly Goat Pedestrian Blower
X4 Husqvarna Pedestrian rotary mowers
X4 Stilh Strimmer/bush cutters
X1 Stihl Long reach Hedge cutter
X2 Stihl Hedge cutter

1 Citroen flat bed vehicle
1 Kubota Compact Tractor & trailer also has mowing deck for all the mowing
1 small ride on John Deere Grass cutting machine
1 Scarab Azura road sweeper (Shared & based at University Park)

Numatic industrial wet and dry Vacuum for Water features
2 Water Pumps
4m Honwave inflatable boat for lake work

5.6 Machinery Replacement Programme

A rolling replacement programme has been set up for replacing machinery to avoid undue peaks in expenditure. The programme is flexible to ensure opportunities to review changes to grounds maintenance procedures which may require monies to be diverted to alternative purchases. Senior grounds staff attend major events (such as the annual Institute of Groundsmanship Show) to keep up to date with new equipment trends. They are then consulted on the most appropriate equipment available within budget to undertaken given tasks. Major purchases are then put out for competitive quotation before purchase to meet sustainable procurement.

Large items of equipment are leased for a period of 4/5 years then replaced, the leased fleet is substantial and includes road vehicles.

5.7 Machinery Servicing

The Grounds Section workshop is based at King's Meadow Campus and is staffed by one fitter dedicated to maintaining and repairing horticultural machinery. The workshop is well equipped with a hydraulic ramp, modern Bernard Express dual grinder and Anglemaster, welding and lifting equipment and all the usual workshop tools.

There is a van available for on site repairs and a van and trailer for return to base repairs.

All pedestrian machinery are serviced and repaired in-house and all sit on machinery is serviced by an external provider.

Citroen flat bed vehicle and Kubota Compact Tractor and mowing deck are leased and would be serviced as part of the agreement.

All machinery is serviced annually to comply with Provision and Use of Work Equipment Regulations 1998 (PUWER) Regs. The records are maintained by the Grounds Maintenance Manager.

Machinery is assessed regularly by the operator to ensure it remains safe to use. Hard Arm Vibration and noise are assessed at time of purchase to ensure suitability for purpose.

Machinery is reassessed, every year for Hand Arm Vibration levels by an external consultant. Where the findings of the review identify machinery levels as unacceptably high then the equipment is assessed for repair or replacement. This may impact on machinery replacement with some equipment being replaced earlier than scheduled.

5.8 Grounds Training Strategy

The University is committed to staff training and development and to this end the Estate Office has evolved its own training policy. Internally there are various courses open to all staff in addition to which we use various training agencies.

A training matrix have been produced and all staff have been trained in their responsibilities under Health and Safety legislation. All staff are encouraged to contribute to the updating process of COSHH, Risk Assessment and Safe Working Procedures.

There are three basic levels of training:

i) Training essential to complete the task to a required standard and to comply with appropriate safety legislation. This level is always approved.
ii) Training which is of benefit to both the University and the individual and will enhance the individuals performance in his job. This level is usually approved.
iii) Training which is of benefit to the individual but has no significant benefit to the University. This level is unlikely to be approved.

The Grounds Section has identified certain training as being essential for all staff to undertake their work safely,

- Manual Handling
- Safety at Work
- Fire Safety Training
- Risk Assessment training
- COSHH
- First Aid Essentials
- Safe Use of Ladders
- Lantra Tractor training
- Equality & Diversity

These courses are run internally and attendance is compulsory.

The requirements are determined according to the work undertaken by individuals. Where work is determined to be of a high technical nature, outside training providers are employed and the trainees are expected to achieve satisfactory levels of competence under independent assessment. In this respect a uniformity in training provided and skills developed is achieved amongst staff whether in gardens teams, sport or arboriculture.

This type of training is particularly effective when dealing with subjects such as specialist machinery and is an industry requirement for arboricultural operatives. The University Arborists are all trained and certificated to appropriate NPTC CS level including CS 38, 39 & 41 for aerial working and CS 47 for use of Mobile Work Platforms. All drivers of tractors, utility vehicles and ride-on mowers are required to undergo Lantra training and assessment for these units as a minimum.

Training agencies provide specific skills training on site for small groups of staff providing a high level of individual tuition. This has proved very successful: courses are tailored to our own needs and staff feel less threatened when undertaking training in familiar surroundings with their own equipment.

Staff requiring more formal academic training, leading to BTec or NVQ's would attend an appropriate horticultural college on a day-release basis.

There is an supported programme of staff attending these courses and usually two or three staff each year are at some stage in this training programme. Our team leaders in particular are all expected to achieve NVQ2 as a minimum with additional training aimed at achieving either NVQ level 3 or ILM Team Leader award.

A team leader's training course is provided by Nottingham University Professional Development.

In addition established staff are occasionally given the opportunity to further their educational knowledge in amenity horticulture and turf, with a view to gaining National Diploma, HND or degree level courses at Nottingham Trent University for which assisted funding and study leave may be provided by the University.

Three further FE Colleges act as training providers to the University, these include, Brackenhurst, Broomfield and Brooksby.

5.9 Street Furniture

Wherever possible landscape elements used throughout the campus are standardised to give a level of conformity. A standard green paint, 14C39 is used for all signs, streetlights, railings and most other external surfaces.

Litter Bins are of two types. Westminster style from Amberol in dark green with the University logo and hooded tops. Bollards are black recycled plastic from DPR. Cycle stands are the Sheffield style hoops again in dark green, or stainless steel often set in block-paved surrounds.

External seating is an important provision. To enable some uniformity of design and materials on the site it has been agreed that 3 types of bench can be used, the Wollaton and Grosvenor range from Redtree and the stainless steel Benchmark range model CL005 is preferred.

There are different styles of furniture outside the Aspire Café and Costa Coffee Bar on Triumph Road. The boulevard and some buildings, notably Nottingham Geospatial have marble cubes that are used for seating purposes.

This policy has enabled easier street furniture maintenance plans and better material choice for the great variety of historic and modern areas within the site, it is hoped the furniture will complement the built environment. On occasions seating is donated and then bears an engraved brass plaque.

Cigarette ash stands are the approved method of collection for smokers' waste and these are all of the same material and design, although some litter bins also include an ash tray in the design, e.g. model Ashguard 4L produced by Glasdon UK.

5.10 Recycling units

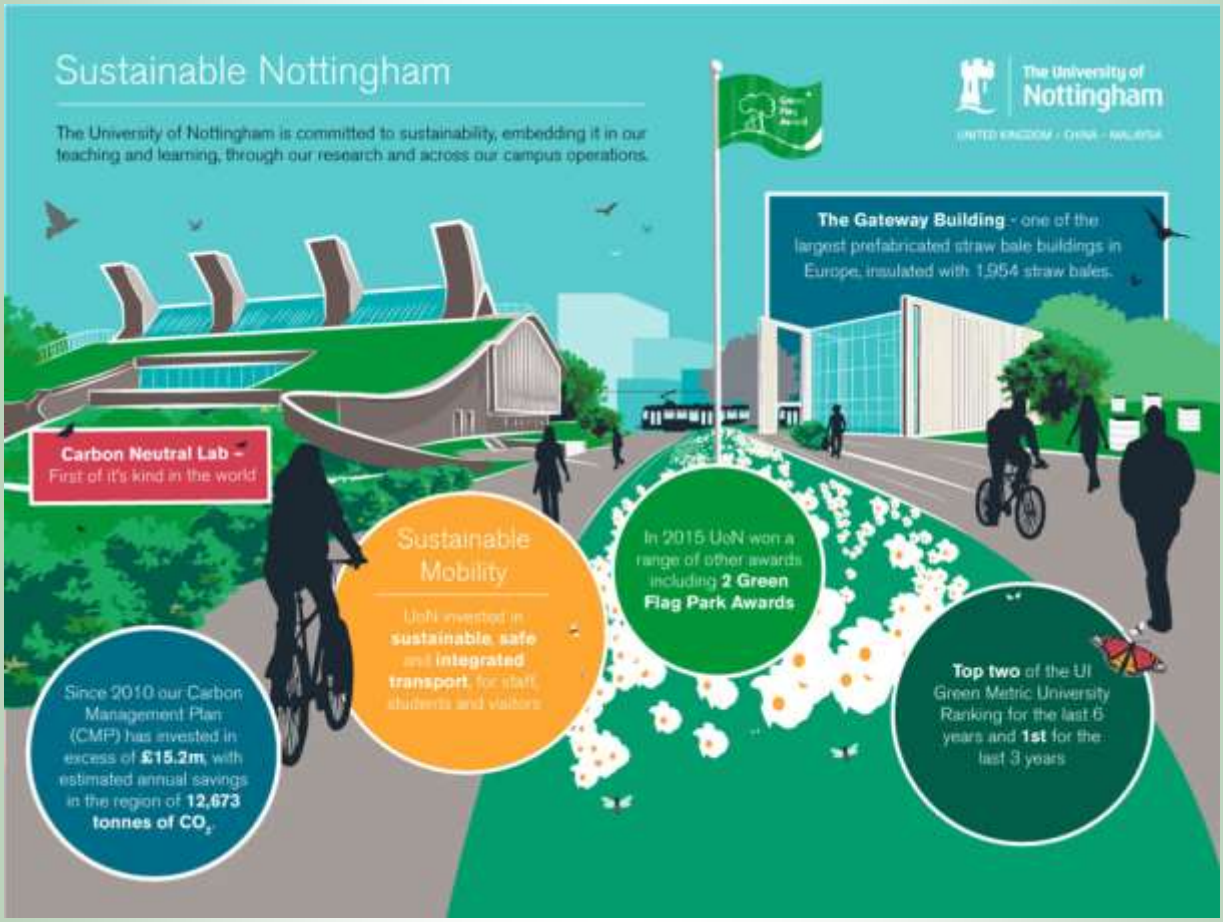
The on site / street external recycling facilities are supplied and managed by the Grounds Section. The units are checked daily by the External Cleaner and emptied as required.

The recycling nodes (below) are managed by the Environmental Team, who in collaboration with a number of Universities, such as Leicester & Loughborough procure a waste specialist to collect and process the material. The current contractor is Wastecycle. The nodes are owned by the university and emptied twice weekly, Tuesdays and Thursdays.

Section 6 Environmental Sustainability

Section 6 Environmental Sustainability

The University of Nottingham is well known for its commitment to sustainability and, increasingly, we are successfully demonstrating how we are embedding this in our teaching and learning, through our research and across our campus operations.

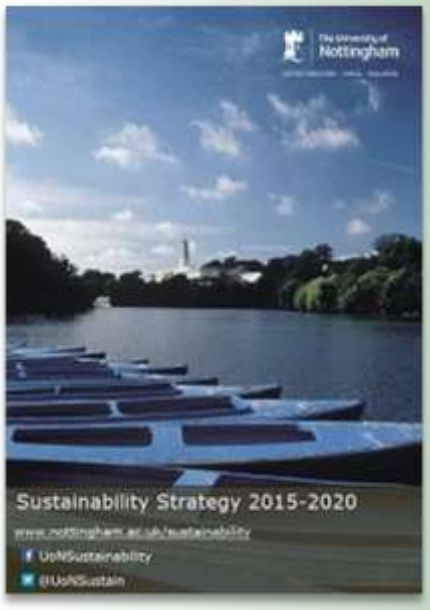


The University continues to be placed in the top two of the UI Green Metric World University Ranking carried out by the University of Indonesia. This league is a global metric of sustainability and in the latest table included over 500 institutions from across the globe.

We continue to win awards for our environmental performance across all areas and details on our programmes can be found at: www.nottingham.ac.uk/sustainability

6.1 University Global Strategy 2020 / Sustainability Strategy

The University continues to ensure that sustainability is embedded within its teaching, research and operations. In recognition of this, the University's Global Strategy 2020 sees a clear commitment towards sustainability and social responsibility that considers a wider social, economic and environmental commitment. In 2016 we published a new Sustainability Strategy that sets the framework for activity to 2020. This strategy builds upon our successes and sets out a framework focusing on six strategic areas:



1. Student Experience
2. Education for Sustainability
3. Research for Sustainability
4. Partnership and Engagement
5. Operations for Sustainability
6. Governance and Quality Assurance

6.2 Sustainability Strategy: Landscape and Grounds

Explicitly within the Operation for Sustainability section of the strategy our overarching aim is to:

Aim 5:
To reduce the impact of our operational activities and make a positive contribution to the local environment through the effective management of our estate and operations.

More specifically relating to Landscape and biodiversity we:

Aim 5.5:
to protect and enhance the rich biodiversity we have on our campuses

Objective: to enhance our campuses to improve their ecological and social value
Supporting documents: Landscape Management Plans, Biodiversity Strategy and BREEAM assessments.

More subtly within the wider contents of the strategy there are lots of synergies with supporting the broader grounds and landscape resource to enable more access for the community, enhancing what we have, using our landscape as part of a living laboratory to support our teaching and learning and enhancing the student experience.

A full copy of the sustainability strategy can be found at:

http://www.nottingham.ac.uk/sustainability/strategy/strategy.aspx

6.3 Street Scene & Food Waste

We have continued to roll out more on-street and internal recycling infrastructure to further enhance the opportunities for the University community to recycle. This has resulted in us continuing to see our overall landfill diversion rates increase with more than 99% of the total waste generated through our main waste contract being diverted from landfill, with just under 40% of that waste segregated at source through our comprehensive bin provision for recyclable material and food waste. We have over recent years also seen a 15% reduction in waste produced per student .

We have seen a continued year-on-year increase in the amount of food waste that is being diverted from general waste to dedicated food waste collection, which not only cleans up the general waste but also allows the waste to be processed and its energy recovered via anaerobic digestion thereby creating usable energy.

6.4 Estates Strategy

The Estates Strategy supports the Global Strategy 2020 and provides the framework of our key priorities. Within this strategy there are clear priorities that support sustainability and more specifically the *management and enhancement of our outdoor environment,* including;

- *Investing in campus-wide maintenance of internal and external spaces, services, infrastructure to support the day to day activities of the University.*

- Setting challenging standards and objectives in our capital programme using tools such as the *Building Research Establishment Environmental Assessment Method* (BREEAM) Excellent/Outstanding for each capital project.

- Investing in infrastructure that delivers carbon and cost reduction, supports the student experience and provides additional resilience to the University, e.g. wind turbines, solar panels/ hot water, combined heat and power, double glazing, insulation, ground source heat pumps etc.) in line with University's carbon management plan.

- Support sustainable, accessible, mobility through investment in infrastructure that supports walking, cycling and public transport, including the enhanced connectivity of the tram to both the Medical School (QMC), University Park and Highfields and actively reduced the impact of the Estate Office fleet.

- *Develop and enhance our external campus environments to support biodiversity including the creation, over time, of an arboretum across University Park.*

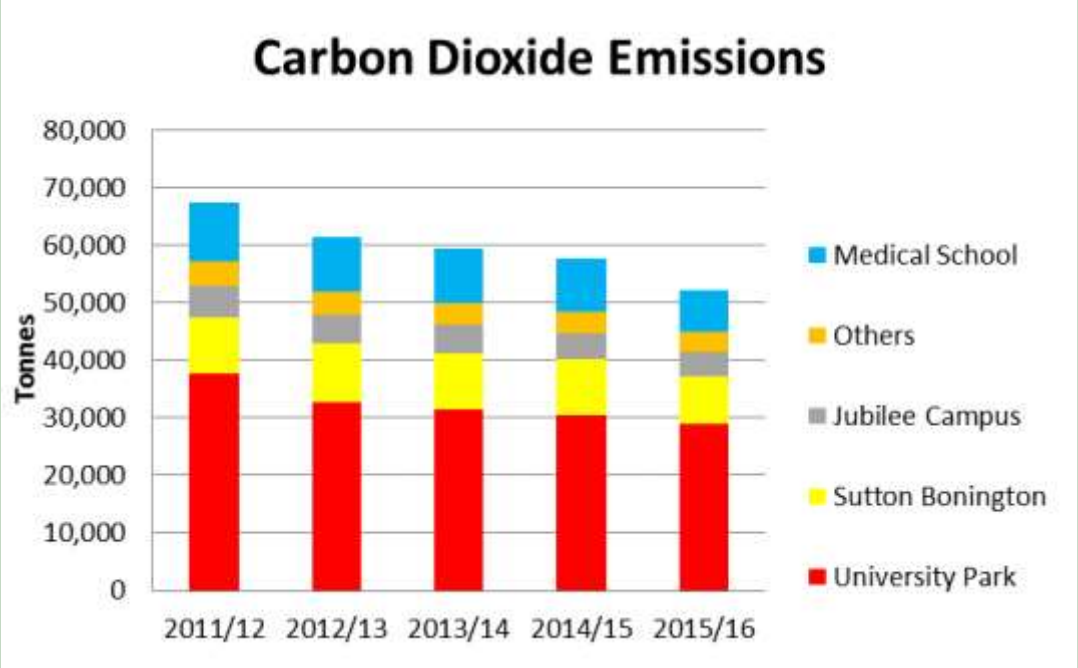
- *Develop and continue to achieve Green Flag Award standards for quality of green spaces at University Park and Jubilee Campus and continuing to offer a biodiverse, rich and inspiring landscape setting at each of our campuses.*

- Supporting the development of Highfields Park and continuing to support Nottingham Lakeside and the wider cultural offer through and across our campuses, including promotion and marketing of cultural events.

6.5 Carbon Management Plan

The University's carbon management plan (CMP) was refreshed in 2015/16 and includes targets for reductions in emissions of CO_2 from energy consumption. It identifies the principal areas of energy use and our investment programmes to improve energy efficiency, reduce consumption and generate energy from lower carbon and renewable energy sources.

In 2015/16 our Scope 1 and 2 carbon dioxide emissions have shown an absolute reduction of 9% (5,312tonnes) from 2014/15 and down 15,714 tonnes from 2009/10 baseline of 67,998tonnes CO2.



Since 2010 our CMP has invested in excess of £15.2m, with estimated annual savings in the region of 12,673 tonnes of CO_2.

6.6 Sustainable Transport

The University is committed to increasing transport choice for students, staff and visitors to our campuses. With a University population in excess of 35,000 we are larger than some small towns and the impact of our travel activities could be significant.

Mindful of this the University has developed a suite of creative projects mainstreaming sustainable, healthy travel options that has reduced single-occupancy car use.

The University recognises the need for connectivity between its campuses and encourages walking and cycling as well as providing a free intercampus hopper bus service, £1 million (2016) annual cost. This service started initially to Sutton Bonington and has grown to include all campuses as the estate expanded. Each year this carries in excess of 900,000 million passengers. As the University grows the demands on this service will change.

In addition to our hopper buses we have developed a partnership approach with local bus providers which has resulted in a significant increase in both connectivity to and from our campuses, but also an increase in opportunities for staff and students to travel at a discount via advanced purchase schemes.

Since the launch of U Cycle project in 2010 we have continued to invest in facilities and support for staff and students who choose active travel and have significantly increased provision on Jubilee Campus. A major part of the scheme was the establishment of a student bike hire scheme, this has now been passed on to Enactus to run on behalf of the University. This project is based at Jubilee Campus. Our two cycle to work schemes continue to be popular with more than 500 staff members taking advantage of them each year. At the same time we have seen significant investment in on-site facilities for those cycling, which has included:

- Cycle lanes built on both University Park and Jubilee Campus to provide safe and efficient connectivity
- Additional lockers installed across the University for cyclists
- A significant increase in cycle parking availability from 3,600 in 2010 to over 4,800 today
- More than 2,200 bikes parked on campus every day
- Newly constructed card accessible compounds on all campuses and provision of more than 25 covered cycle parking areas
- Installation of fix-it stands on all campuses so that cyclists can carry out repairs whilst on campus

Significant research around alternative fuels is on-going throughout the University with one of the first hydrogen refuelling stations in the UK in operation at Jubilee Campus. Various departments over the years have run alternative fuel vehicles with the Faculty of Engineering running a hydrogen van and 20% of the new Estate Office vehicle fleet being 100% electric.

At the same time we have invested in infrastructure to support alternative fuel use. We have installed publicly available electric vehicle charge points on our four main campuses.

As a result of this investment we have seen a reduction in staff travelling to the University by vehicle from 57% in 2010 to 47% in 2015, and at the same time seen an increase in staff choosing active travel (cycling and walking) from 21% in 2010 to 16% in 2015, and over the same period student use of public transport has increased from 22% to 30%.

6.7 Sustainability Initiatives at Jubilee Campus

GlaxoSmithKline (GSK)

The University of Nottingham, in partnership with GlaxoSmithKline (GSK), set about to deliver a carbon neutral laboratory building. In order for the carbon neutral concept to be achieved the building needed to make no overall contribution to greenhouse gases or the acceleration of climate change throughout the entire carbon footprint of the design, from offsite procurement, site construction, occupation and to eventual demolition.

The building has been constructed to achieve both LEED 'Platinum' and BREEAM 'Outstanding' status, as a result of which high standards of construction and site management must be achieved. Throughout every stage of the project, from its inception to completion, great care was taken to minimise the impact of the building on its environment (both in the local and wider contexts).

'This is bigger than just a building – it's a whole philosophy. It's the way that we will *process and deliver the science, and the way that we will target our science to sustainability-****driven challenges,'*** Centre Director, Prof Peter Licence.

The nature of the carbon neutral target of the building has led to careful consideration of each element of the building and its construction. From the selection of local and reclaimed materials and a modular basis to the design throughout, to the use of off-site manufacturing, every effort has been made to ensure waste was minimised throughout construction. This also ensured the site itself was a safer working environment, reducing manual handling and limiting the risks of working in hazardous situations. The efficiencies in construction resulting from the kit-of-parts form of the building have not only led to reduced construction time but reduced energy consumption while doing so. To obtain an accurate carbon cost, every aspect of construction was evaluated, including not only the embedded carbon in the materials used (such as the 'sequestered' or trapped carbon in the timber frames), but also their transportation to site and construction. In addition, by generating more energy each year than it consumes, the building gradually pays back the carbon cost of construction, becoming climate neutral within 25 years.

The energy supply for the building is met from over 1000m^2 of photo-voltaic panels to provide energy for running the building during its operational life. A Combined Heat and Power (CHP) engine has also been installed to operate on low-carbon fuel (fish oil) to heat the laboratory building and the nearby Romax and Ingenuity buildings. The building is a naturally ventilated laboratory and is seen as a landmark development and the first of its kind.

Determining appropriate materials involved detailed analysis of products readily available and ideally produced locally to the site. Information available through Environmental Product Declarations has been assessed to assist in material selection. Where EPD's have not been available, manufacturers have been required to provide detailed data before their use has been permitted. Detailed studies determining embodied carbon and recycled content have been a fundamental aspect in developing proposals prior to construction.

The new GlaxoSmithKline Centre for Sustainable Chemistry provides unrivalled facilities for chemistry. The focus on sustainability is reflected in the building itself, which incorporates the latest technologies to allow it to be carbon neutral over its lifetime. The centre has already attracted significant interest not just for its striking architecture, but for the world-leading research it hosts. In 2016 we hosted a national S-Lab conference welcoming over 200 guests from the higher education and private sectors to see the facilities first hand.

This building is already winning regional and national accolades including:

- Nottingham Evening Post, Environmental Development Award
- Best Sustainable Building on a Brownfield site

Student Switch off

Building on the interhall competition that we have run for a number of years we have joined up with the national Student Switch Off campaign run by the National Union of Students to further enthuse and engage students within our on campus halls. In simple terms it is an energy saving and recycling competition
The Halls compete to see who can save the most energy by taking easy and effective actions. The Hall that saves the most energy wins an end of year party and Ben and Jerry's ice cream for everyone in the Hall.

There are lots of Student Switch Off competitions and events throughout the year which are advertised on the University of Nottingham Student Switch Off Facebook page.

Enthusiastic and environmentally-minded students living in Halls will be invited to attend Student Switch Off Ambassador training, where we will help them to develop skills in communication, social media and environmental campaigning.

6.8 Biodiversity

The Jubilee Campus phase 1 and phase 2 Innovation Park benefited from advice and management details from professional ecologists, this provided a biodiversity audit followed by recommendations relating to development of this brownfield site which resulted in a broad range of habitats being created from what was a derelict industrial site.

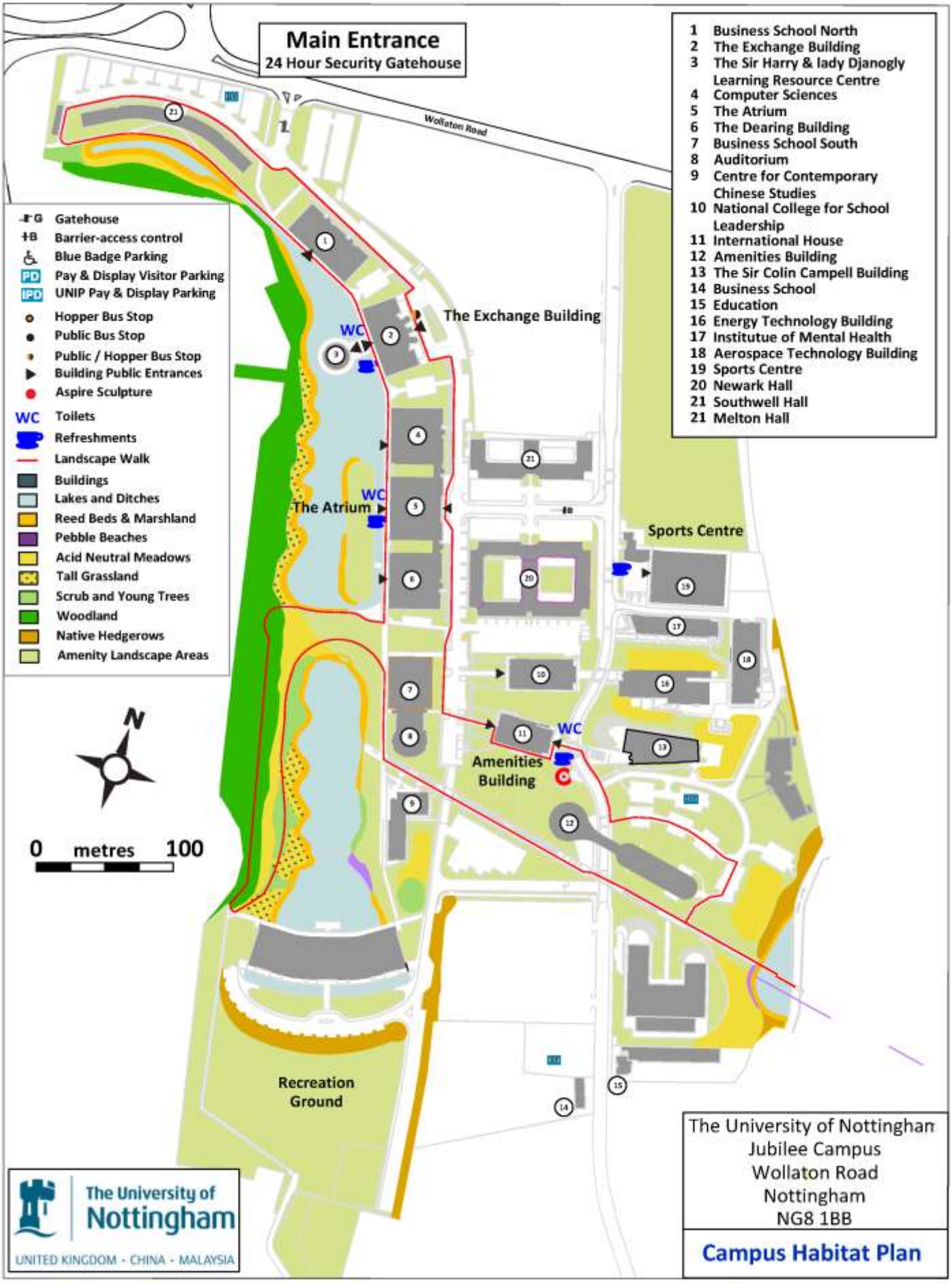
Details of the Habitat 5 year Management plans for the new builds within the Innovation Park are included in the appendices. This type of management plan prepared by a professional ecologist will support future developments on the campus and meets the sustainability policy the university has adopted.

Biodiverse habitats on the campus include:

- Lakes and wetlands, open water plants
- Marsh and waterside plants
- Open beach areas for waterfowl and wading birds
- Acid / neutral managed meadows
- Native hedges
- Tall grassland communities
- Bat and bird boxes
- Woodland
- Scrub
- Green roofs

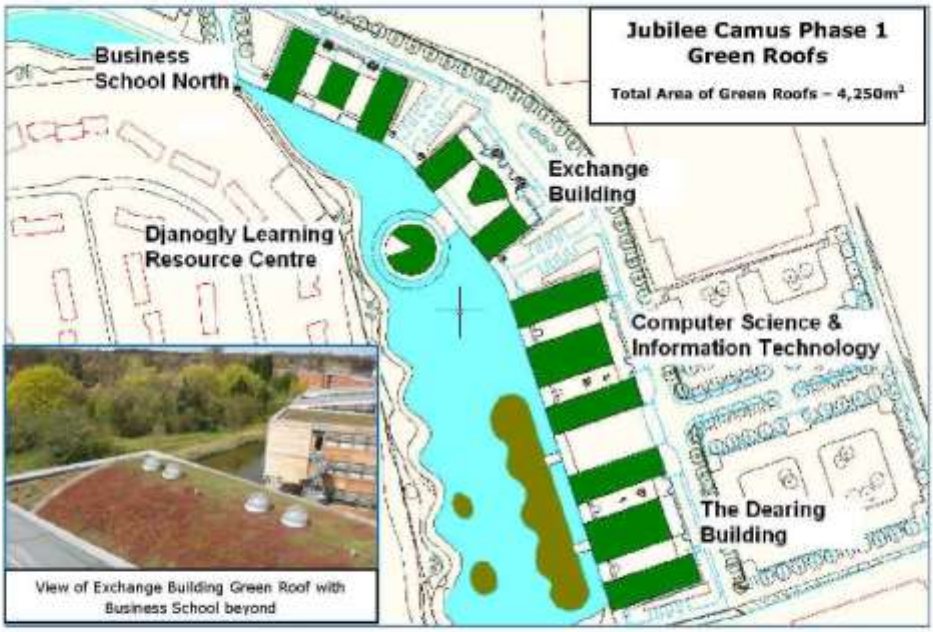
There is a strong emphasis on native planting within all new building developments, this is balanced in some instances with ornamental planting close to buildings.

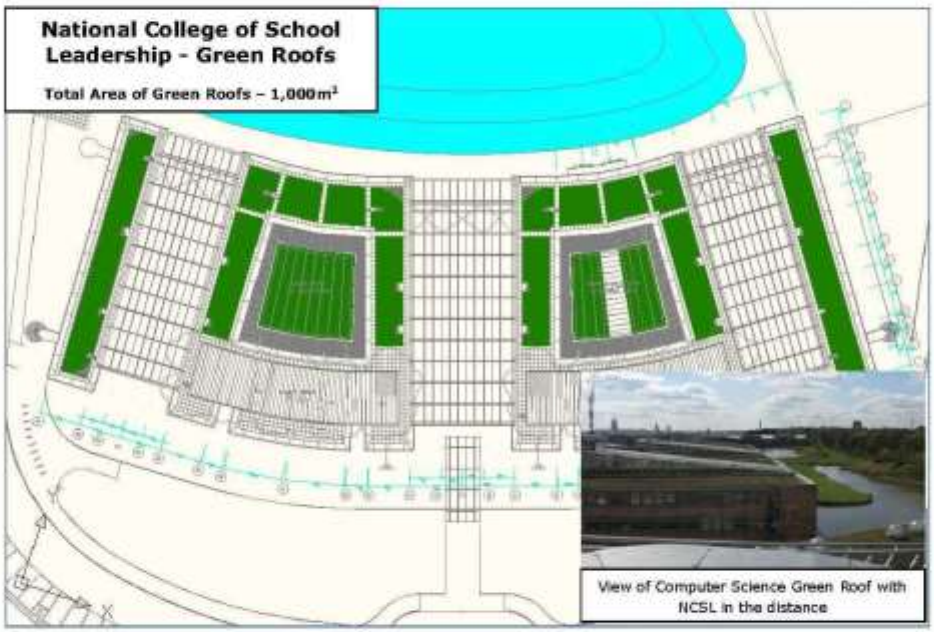
With the existing areas of habitat seral change is encouraged in areas of open water, marsh, copse, wood and scrub. Meadow management involves a hay cut once/twice a year which takes place between August and September, dictated in part by prevailing weather. At the moment material from hay cutting are composted on site at Jubilee Campus, large Stronga Skip Loader units are used to transport green waste to minimise journeys with small tractors and trailers, which minimises the carbon emissions associated with transport.


Main Entrance
24 Hour Security Gatehouse
Wollaton Road
1 Business School North
2 The Exchange Building
3 The Sir Harry & lady Djanogly Learning Resource Centre
4 Computer Sciences
5 The Atrium
6 The Dearing Building
7 Business School South
8 Auditorium
9 Centre for Contemporary Chinese Studies
10 National College for School Leadership
11 International House
12 Amenities Building
13 The Sir Colin Campell Building
14 Business School
15 Education
16 Energy Technology Building
17 Institutue of Mental Health
18 Aerospace Technology Building
19 Sports Centre
20 Newark Hall
21 Southwell Hall
21 Melton Hall
G Gatehouse
B Barrier-access control
Blue Badge Parking
PD Pay & Display Visitor Parking
IPD UNIP Pay & Display Parking
Hopper Bus Stop
Public Bus Stop
Public / Hopper Bus Stop
Building Public Entrances
Aspire Sculpture
WC Toilets
Refreshments
Landscape Walk
Buildings
Lakes and Ditches
Reed Beds & Marshland
Pebble Beaches
Acid Neutral Meadows
Tall Grassland
Scrub and Young Trees
Woodland
Native Hedgerows
Amenity Landscape Areas
The Exchange Building
WC
The Atrium
Sports Centre
Amenities Building
Recreation Ground
N
0 metres 100
The University of Nottingham
UNITED KINGDOM · CHINA · MALAYSIA
The University of Nottingham
Jubilee Campus
Wollaton Road
Nottingham
NG8 1BB
Campus Habitat Plan

The University of Nottingham

Jubilee Campus – Location and Area of Green Roofs





Above Wetland plant communities looking from the West side of the lower lake toward the Si Yuan Centre

Below Area of woodland and scrub on the West side of the lower lake. Note the regeneration of Birch and Alder as succession takes place. Management of these areas is minimal although rogue non native trees and shrubs are controlled.

6.9 Pesticides

The use of pesticides Campus on Jubilee and all University sites is kept to an absolute minimum, mainly to the use of herbicides for weed control on hard surfaces, these are applied on a performance or need basis rather than the less-favoured frequency-based preventative method adopted in the past. Pesticide use is generally limited to hard surfaces and derelict land, glyphosate is the preferred contact systemic pesticide for all purposes.

Pesticides are not used on the interior plants within the University, these are replaced if problems develop because of the lack of suitable controls. Biological control can be considered in some situations, certainly within buildings no pesticides are permitted.

6.10 Peat

No peat based products are used for soil amelioration, instead university garden waste composted on site at Jubilee Campus is used as a soil ameliorant.

For mulching borders processed bark or wood chip produced on site is used in a similar way, although insufficient is produced to meet demands.

In terms of container plants purchased from external suppliers, the University has a wide planting policy and it is difficult to obtain plants from growers that do not use peat; it is also difficult to ask for ornamental crops to be contract grown since many projects have just a one year lead time.

From 2011 policy has been to request peat free alternative growing media for all container grown plants supplied externally, where available. This should reduce the amount of peat growing media being consumed on University sites. The percentage of peat free container plants should therefore increase under this strategy.

6.11 Grounds Green waste

Horticultural waste is recycled to produce compost or mulching materials. We have a Gandini Bio-matich Shredder 89TTS and a Greenmech Chipmaster. Composting takes place in the recycle compound on Jubilee Campus. Shredding volumes reach 1000 cubic metres a year, generating some 200 cubic metres of compost. The material produced is used as a low cost soil ameliorant over all University sites, including the Student Allotment site and development sites. Staff aim to segregate softer material, including autumn leaves, for composting into a rich soil ameliorant. Woody material is processed separately into a coarser product used as a surface mulch. Christmas trees are also recycled after Christmas.

Above Reed beds marginal areas and wood with Birch regeneration visible along the West boundary of the Jubilee Campus. *Below*. Si Yuan Centre for Chinese Pergola with Wisteria and integrated sitting area facing South over an area of lawn and meadow

6.12 Water Conservation

All new projects are bark mulched for water conservation. New trees are all fitted with water tubes to direct water to the essential rootzone. Tubs and hanging baskets used throughout the park in the summer months contain water-retaining granules to reduce the amount of watering needed.

The Prairie Beds developed to the West side of the Amenities Building and Yana Fujia Building are planted with a selection of drought resistant grass varieties, Birch, Rhus and herb plants, these have been very successful in terms of water conservation requiring no irrigation since establishment.

In 2012 a community sitting area was developed in the space known as the Dearing Building Quad, the planted areas were carpeted with weed suppressant fabric mat dressed with Derbyshire Golden Gravel quarried locally, this has required irrigation only for establishment.

6.13 Sustainable Drainage

The Buildings of Jubilee Phase 1 drain surface water and water from cooling units into a series of ditches, an energy siphon expels surplus water into the 3 lakes making good use of drainage water to create a hydrosere habitat. To maintain the water level in the ditches water is also circulated from the upper North lake into the ditches that stretch from Melton Hall East side along the service road to the Dearing building.

The system is complex, essentially water is pumped from the large lower lake South end of the site into the small North lake/pool which is the size of a canal, from here it moves into the series of interconnecting ditches.

The buildings of phase 2 Innovation Park tend to drain into the River Lean East lake, surplus water being expelled into the river.

The campus applies good practice in the area of sustainable drainage.

6.14 Lake Source Heating and Cooling Systems

A bank of heat exchanger units were installed in the middle of the 3 lakes in 2010, the units function to keep the buildings cool in summer using a minimum of energy in comparison to other methods of cooling a building. A good example of the landscape integrated with the built environment.

Yang Fujia Building.

The building has a sustainable drainage system surface water collected from the roofs pours into two drainage sumps which are dressed with beach cobbles, the water then provides a habitat for ditches to the West of the building.

In the foreground prairie borders are visible, planted with a variety of grass plants, Birch, Rhus and flowering prairie plants they are a drought resistant low maintenance feature.

Section 7
Conservation and Heritage

Section 7 Conservation and Heritage

7.1 Heritage

The Jubilee Campus site was essentially an industrial site almost completely covered with Triumph Cycle, Raleigh and Sturmey Archer Factory buildings from the 1960s until the mid 1990s. A comparison of the site then and now can be seen on the next page, the change is dramatic.

In terms of heritage very little of interest or value could be preserved when the University commenced development in 1997.

However on the front cover of this section is the sandstone carved freize from the Sturmey Archer Factory which was located on the East side of Triumph Road. The freize now stands adjacent to the boulevard.

On the NW site of Triumph Road are 3 huge concrete buildings which were the factory site of John Player Cigarettes of Nottingham, the buildings and land are now in the ownership of the university.

The North East area of the site was a gasworks and gasometer, this remained until 2010 when it was demolished.

Regeneration of a Brownfield Site

Above: 1995 The Raleigh site acquired by the University

Below: Jubilee Campus with its lakes and greenspaces January 2017

7.2 Geology and Soils

Due to the industrial heritage of the site there is very little parent soil within the site, except narrow strips alongside the West and Southern edge where a heavy clay loam is present formed from Nottingham sandstone and glacial drift. The remainder of the site comprises mainly of a mix of subsoils and crushed rubble from buildings this is neutral to acidic in nature, in all 26000cubic metres of material was returned to the site as a landscape media.

The poor quality low nutrient substrate has helped the establishment of species rich neutral meadow areas and it has been a very successful example of recycling and sustainability.

7.3 Landscape Planning

The initial phase of the Jubilee Campus 1997-2000 had a structured landscape plan and landscape management plan produced by consultants Battle McCarthy which had been followed by grounds maintenance procedures. The campus continued to develop from 2007 at speed, the more recent building developments, in particular those within the Innovation Park 2008 onwards have 5 year landscape management plans in their own right, this document can be viewed in the appendix. Phase 1 was therefore a complete landscape project with management recommendations, in contrast stage 2 the Innovation Park has not been as strategically planned yet has the strong elements of sustainability and increasing biodiversity so successful in phase 1 of the development.

7.4 Wildlife

Biodiversity audits were completed for the site by Battle McCarthy and for recent new buildings by EMEC ecology consultants. There has been a substantial increase in biodiversity within the site since 2000 when phase 1 was completed and new builds subscribe to sustainable landscaping with natural meadows and a high percentage of indigenous planting within the schemes.

Above Caltha palustis Marsh Marigold flowering in May

Section 8 Community and Marketing

Section 8 Community Involvement

8.1 Community Access & Involvement

The Jubilee Campus is completely open on almost all sides, there is unrestricted public access along the length of Triumph Road, other entrances include:

- Orston Road South end of the site, pedestrian and cycle
- Wollaton Gate NE corner of the site pedestrian, cycle and vehicle
- River Leen and a new Lake footbridge East boundary of the site
- Middleton Boulevard Access NW corner of the site, pedestrian and cycle

Freedom of access by the local community is encouraged, there are four cafes, a sports centre offering community use on a booking basis, ample outdoor seating, an area of field to the South of the site used for informal games by students and visitors.

As a University our primary 'customer' base is quite different from most public parks. The majority are our students, those that live on campus and those that live elsewhere who come onto the park each day for their studies. A few members of staff live on campus but numbers are relatively small and there are very few families with children.

There will also be large numbers of staff that will come onto the campus for their daily work. In many respects our main customer base is and will remain 30,000+ students and 5000+ staff over all campus areas.

Results of surveys made within the University community show that the landscaped environment is valued by the majority of students and in some cases was instrumental in choosing to come to Nottingham.

The Jubilee Campus is by design very accessible to the local community, Triumph Road is open and there are no barriers to visitors and this is encouraged, the pedestrian and cycle bridge over the River Leen to Radmarsh Road has made the site much more accessible to visitors from the local community. During the working week 5 food outlets are available, refreshments are available early until late from University owned Starbucks outlet on Triumph Road. Within the Exchange Building the cafeteria is often open for mornings at the weekend, there is a Blackwells Bookshop and Student Union general store, all available for use by the local community.

There is a picnic area on the island of the middle of the 3 lakes adjacent to the Business School and this facility is very well used during the summer months.

The Friends of University Park have been offering free community tours of the Jubilee Campus for over 5 years and there has been a lot of interest locally.

Members of the Friends of University Park are trained to provide landscape tours of the Jubilee Campus and this includes some knowledge of the sustainable initiatives incorporated into the buildings. Also available are tours for garden clubs, societies and other organisations.

Pictured is an organised tour with ecologist Mark Willis.

In January 2017 the Friends of Jubilee Campus working group started with representatives from the university, local community, Nottingham Wildlife Trust, ward councillors, Neighbourhood Officers from Nottingham City Council. The aim in 2017 is to develop a events programme to encourage different audiences onto campus. There is a terms of reference which is currently in draft that can be seen in the appendices.

The Campus is used as part of the 'Ambition' programme, where the university is encouraging widening participation amongst schools in the local area. Its pre 16 programme provides support to students as they make progress through years 9 to 11.

It is also used by the Business School, whereby they have organised some events with local primary schools, which has included nature walks and Christmas activities.

The University has a student volunteer centre and the estates section works with the volunteers on various small projects most involve restoration work, habitat creation or habitat maintenance.

Various Campus buildings offer rooms for various functions, such as seminars and conferences. On-site catering can deliver hospitality for a range of events.

In May in recent years the University holds 'Mayfest' on its campuses with the aim of attracting families throughout the local community. The event attracts over 5000 from the community throughout Nottingham City and the surrounding area. The event showcases the very best of the university.

There are also many Open Days for prospective students and relatives overall attracting 40-60,000 visitors.

8.2 Marketing

The Jubilee Campus is currently marketed on the main University Website

http://www.nottingham.ac.uk/about/campuses/jubileecampus.aspx

The website contains an abundance of information for the visitor this includes

- Directions and Map
- Academic buildings
- Sustainability
- Awards
- Link to restaurant and cafeteria facilities
- Images

http://www.nottingham.ac.uk/hospitality/cafesandrestaurants/cafesandrestaurants.aspx

The Environmental Team have strong relations with both staff and students communication teams and work closely to ensure key opportunities for involvement are advertised to all. The team uses social media such as Facebook and Twitter, where it currently has over 1200 Twitters followers, increasing over 20% in the past 6months. The team also uses Instagram for sharing photographs of campus as well as landscape and biodiversity updates. There is also a Sustainable Nottingham newsletter, which carries stories about reducing the University's carbon footprint and campus related biodiversity events.

The activities organised by the Friends of University Park are currently advertised through the following link:

http://www.nottingham.ac.uk/sustainability/grounds/friendsofuniversitypark.aspx

Within the University Community Message of the Day which appears on all University Computers when the are turned on is effectively employed.

Local media is also used for advertising activities and events

- Nottingham Post Newspaper
- The Beeston Express Newspaper
- Smooth Radio
- Nottingham City Council Area Officers
- Nottingham Arrow Community Magazine http://www.nottinghamcity.gov.uk/index.aspx?articleid=15562
- Green Flag Park Website

Section 9
Action Plan

Section 9 Action Plan

Jubilee Campus Grounds Action Plan 2017 – 2022
How Will We Get There?

The Action plan has been developed to cover 2017 onwards.

The action plan will be monitored quarterly and progress reviewed and reported annually.
An updated action plan for Jubilee Campus is generated during December when the plan is reviewed as part of the University's submission process for the Green Flag Award.

Key:

JW	Jamie Whitehouse, Grounds Manager
DB	David Beadle Grounds Maintenance Manager Arboriculture and Landscape
DP	David Parkhouse, Assistant Grounds Maintenance Manager
G	Greg Smith, Grounds Maintenance Manager Sport
LR	Lee Reed Assistant Grounds Maintenance Manager
GS	Gavin Scott, Environmental Officer
EK	Emma Kemp Environment Assistant
TR	Tim Rudge Energy Manager
SB	Serena Brown, Environmental Assistant
SC	Steve Cavill, Engineering Technical

Objective	Action	Year	Lead officer	Budget / Resource	Update – December 2018
Welcome	Review vegetation / maintenance improvements to the Wollaton Road entrance into the campus	Feb / March 2017	LR / DM	£1,500	Complete
	Clean, apply paint preserver & replant planters at Starbucks coffee shop	March 2017	LR / DM	£300	Completed
	Remove external planters near atrium & dispose	February 2017	LR / DM		Completed
	Introduce winter pruning programme	From 2018	LR		Works commenced on site
Health, Safe & Secure	Inspect lifebuoy stations	Weekly	LR		Implemented LR to monitor
	Introduce tree risk management procedure across all site: including zoning of Jubilee Campus	February / March 2017	JW / DB	£3,000	Complete
	To implement the annual tree risk management inspection using level 4 tree surveyor: Red Zones – annually / eighteen months Amber Zones – Three Yearly Green Zones – Five / Six yearly In house staff to undertake annual inspection of zones outside of their level 4 inspections.	Annually June / July	DB	As above	Survey complete for 2017. All identified trees works being undertaken by tree team.

Objective	Action	Year	Lead officer	Budget / Resource	Update – December 2018
Health, Safe & Secure	Review and implement Grounds maintenance operational H&S arrangements (e.g. risk and COSHH assessments) Trees / Haulage – DB, Sport – GS, Landscapes – DP, Nursery - LR	Complete by April 2018	LR / DB / DP & GS		
	HAVS - Implementation of new Hand held Vibration management system and monitor teams daily and create reports weekly.	February/March 2018	LR / DB / DP & GS		
	Purchase new asset management software for street furniture & provide training – PEAR GIS. Undertake an external furniture audit and upload data on the new GIS asset management software. Produce drawing containing data.	2017 October 2018	DB LR	£1000	Completed
	HAVS - Implementation of new Hand held Vibration management system and monitor teams daily and create reports weekly.	February/March 2018 onwards	LR / DB / DP & GS	£15,000	Order raised
	GSK substation – install a barrier & knee rail and planting around structure.	February 2017	LR	£2,000	Completed
	Reduce dense vegetation along key cycle paths, pedestrian routes and car parks	Inspect monthly as part of Quality Monitoring	LR		Complete for 2017 Ongoing monitoring required
Well Maintained & Clean	Review road sweeping & litter collection – consider opportunities to utilise existing resources, especially through non peak times.	July 2018	LR / DB		On schedule

Objective	Action	Year	Lead officer	Budget / Resource	Update – December 2018
Well Maintained & Clean	Ornamental water features – implement a programme of improvements to improve water quality across all sites	Spring 2017	LR / DB	£35,000	Complete Additional work identified at the rills. Quotes obtained.
	Water features – inspect / maintain 3 times per week from April to September, winter 1 or 2 times per week depending on climatic conditions as per written procedures.	Annual programme in place	LR	£2,000	
	Water features – quarterly servicing of features by external specialist contractor (Tills).	On going	LR	£15,000	
	Water feature – Severn Trent to risk assess for legionella management	2018	SC/LR		
	Recycling green waste – minimise the amount going to land fill. Current performance 99%.	On going	LR		Ongoing
	Quality site monitoring – These are graded to quality targets and action as necessary.	Monthly	LR / DM		Ongoing
	Consolidate / remove planting along rills from triumph Road to Ingenuity Building.	March 2017	LR / DM		Complete
	Review grounds maintenance specification	September 2017	JW / DB		On schedule
	Tree management – introduce a programme of thinning along the Orston Drive lake boundary	October 2017 onwards	DB		Planned for winter 2017

Objective	Action	Year	Lead officer	Budget / Resource	Update – December 2018
Environmental Management	Further expansion of the on-street recycling facilities	April 2017	GS	£25,000	Phase 1 completed - additional recycle bins installed. Second phase to follow
	Expansion of cycling facilities on Campus	On-going	GS	Project by project based	Additional covers / canopy installed on Sheffield stands
	University Photographic competition to promote the campus	May 2017	SB	£5,000	Over 100 entries. Final judging currently being undertaken. To be on public display at 'Wonder' on 17 June (University community open day).
	Development of a guide to Sustainability (including buildings, biodiversity and landscape) at Jubilee Campus	July 2017	GS	TBA	Budget approved (£10,000) and work in progress
	Undertake seasonal bedding reduce peat trial	From February 2017	LR		Complete
Biodiversity, Landscape and Heritage	Production of a Biodiversity Action Plan & review	Review Annually - December	JW		Ongoing. EMEC consultancy / Internship student appointed to undertake survey work and produce a Biodiversity Action Plan – draft produced.
	Submit environmental bid for additional monies to undertake extra survey work and further expand BAP via ecology consultant and update BAP / GIS mapping	Nov 2017	JW	£3500	Verbal confirmation of monies approved.
	Develop conservation projects for students and local FOUP	Review annually	JW / Conservation Society	£500	
	Implement a new landscape design scheme at the Ingenuity Building.	February / March 2017	JW / LR	£60,000	Complete November 2017 – Delays due to leaking district heating system

Objective	Action	Year	Lead officer	Budget / Resource	Update – December 2018
Biodiversity, Landscape and Heritage	Complete bund next to Romax Building Replace birch trees	February / March 2017	JW LR	£5,000	Complete – as above
	Complete planting around GSK substation and install barrier and knee rail	March 2017	LR	£4,000	Complete
	Produce soft landscape design with LA and procure the services of a landscaping contractor to implement design for the Advanced Manufacturing Building.	April 2018	JW	£75,000	Contractor on site
	Design, tender and deliver new soft landscaping planting scheme for the new RAD Building.	Design start: Feb/March 2018	JW	£25,000	Currently at the design stage
	Develop a programme of bulb planting to prolong the seasonal flowering interest	From August 2018	LR	£500	
	Conference Centre triangular border - replant	Winter 2018/19	LR	£400	
Community Involvement	Develop a Friends of Jubilee Campus working group. First meeting	January 2017 onwards	JW		Group established.
	Develop an events programme that promotes access to the local community	Annually / November to February	JW / FOJC	£1,000	Draft programme produced for 2018. Awaiting draft from graphics team
	Develop action plan to further encourage local community access onto campus.	September 2018	JW/FOJC	£500	Scheduled for next meeting with FOJC
Marketing and Communication	Annual review of Grounds / FOJC website	Annual / April	JW / LR		
	Promote Friends working group events programme, on website, on site in paper format & explore using social media.	From March onwards	FOJC	TBD	
	Develop new marketing / social media volunteer role for FOUP	March 2018	JW / FOJC		

Jubilee Campus Management Plan Appendices

Contents

Appendix 1
Jubilee Habitat Management Plan

Five Year Landscape and Habitat Management Plan

Institute of Mental Health Building, Energy Technologies Building, Aerospace Technology Centre, Si Yuan Centre (new China Building), Romax Building and Centre for Sustainable Chemistry at the University of Nottingham Innovation Park

A report to:
University of Nottingham

By:

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Website: www.emec-ecology.co.uk

December 2012
[Updated May 2014]

1. INTRODUCTION

1.1 This Landscape and Habitat Management Plan has been prepared by EMEC Ecology for the University of Nottingham. It provides the recommendations for the management of the habitats created as part of the landscaping at the University of Nottingham Innovation Park. A copy of this management plan should be provided to the estates office of the University of Nottingham. The plan relates to the following buildings:-

- Institute of Mental Health Building
- Energy Technologies Building
- Aerospace Technology Centre
- Romax Building (to be constructed)
- Si Yuan Centre (new China Building)
- Centre for Sustainable Chemistry

1.2 EMEC Ecology's brief was to provide recommendations for the management of the habitats created within the site to ensure they maintain their ecological value. The implementation of the landscape and habitat management plan will be the responsibility of the University of Nottingham.

1.3 The buildings are, or have been, assessed against BREEAM Education 2008 (BRE Global Ltd 2008) with the intention of gaining as many credits as possible. This habitat and landscape management plan is a mandatory requirement of BREEAM (Issue LE6). Further details are included within the Ecological Walk-over Survey and BREEAM Education 2008 Assessment for Ecology reports (EMEC Ecology 2012a, EMEC Ecology 2012b, EMEC Ecology 2012c, EMEC Ecology 2012d, EMEC Ecology 2010a and EMEC Ecology 2010b).

1.4 Habitats Created

The planting scheme for the five buildings includes areas of wildflower grassland (wildflower turf), bulb planting, amenity grassland, hedgerows, introduced shrubs and scattered trees (as shown on Figures 1 and 2 in Appendix 1).

Bird boxes have been recommended for the buildings, and some maintenance and monitoring is recommended for these features.

Green / brown roofs have (or will be) created on the Energy Technologies Building, Si Yuan Centre (new China Building), Romax Building and the Centre for Sustainable Chemistry. The management of these features is not included within this management plan (as these are likely to be provided by the roof contractor / design team).

Information relating to the ornamental areas has been provided by the University of Nottingham. This information has been included in Section 2.4, for completeness.

1.5 Draft Plan

This landscape and habitat management plan is a draft report as the exact landscaping for the Centre for Sustainable Chemistry is still to be confirmed. However the habitats to be created will comprise the same types and composition as the rest of the site. Therefore the recommendations will be the same.

1.6 Nottinghamshire Biodiversity Action Plan

The habitats and ecological features created as part of the developments at the Innovation Park will contribute to conservation measures for species and habitats included on the County Biodiversity Action Plan (BAP).

1.6.1 *Bird Species*

The Nottinghamshire BAP (Nottinghamshire BAG 1998) includes a list of bird species considered to be of conservation concern. Enhancement measures (bird boxes) incorporated within the design of the development will provide potential nesting habitat for swift (*Apus apus*) and house sparrow (*Passer domesticus*), species which are included on this list. The planting of hedgerows and scrub areas will also provide nesting habitat for other bird species included on the list, such as dunnock (*Prunella modularis*) and song thrush (*Turdus philomelos*).

1.6.2 *Habitats*

Although the extent of area will be relatively small, the meadow grassland areas will create diverse, lowland neutral grassland; a habitat type included in the Nottinghamshire BAP (Nottinghamshire BAG 1998). The areas, although small, include species lists as typical of this habitat type, such as common knapweed (*Centaurea nigra*), lady's-bedstraw (*Galium verum*) and ox-eye daisy (*Leucanthemum vulgare*).

The use of native species is a recommendation included within the Habitat Action Plan for Urban and Post-industrial Habitats (Nottinghamshire BAG 1998). The proposed planting scheme for the Innovation Park used predominately native species, in particular with regards to the meadow grassland areas and the hedgerow planting.

2. MANAGEMENT OBJECTIVES AND PRESCRIPTIONS

2.1 Management Objectives

The main objective for the management of the landscaped area is to maintain the ecological diversity of species-rich (wildflower) grassland areas which have been created. Management should also look to maintain and enhance the other habitats created within the landscaping and maximise their value for wildlife where possible. A plan of works are described in Section 3. The habitats are shown on Figures 1 and 2 in Appendix 1. The habitat improvement and management objectives are:

1) Maintain and enhance the wildflower (species-rich) grassland areas.

2) Maintain presence of bulbs (where planted).

3) Maintain bird nesting resource (bird boxes and planted areas).

4) Maintain extent of tree and scrub areas, and manage the hedgerows.

5) Monitor the effects of management on flora.

2.2 Management Rationale

Management Objective		Rational Behind Management
1	Maintain and enhance the species-rich wildflower grassland areas.	Without management the species-rich grassland areas created will lose their diversity and become dominated by common grass species (such as perennial rye-grass). This will reduce the value of the habitat for invertebrates and foraging birds and bats.
2	Maintain presence of bulbs (where planted).	Incorrect management could result in the loss of the bulbs planted. This would in turn result in a loss of botanical diversity and reduction in the ecological value of the area of invertebrates.
3	Maintain bird nesting resource (bird boxes and planted areas).	Although the boxes installed should not require substantial management, if they were to become damaged / full of old nesting material, their value to nesting birds would be reduced. Incorrectly timed management of trees and shrubs could impact active bird nests or foraging birds.
4	Maintain extent of tree and shrub areas, and manage the hedgerows.	The extent of tree and shrub planting should be maintained in order to retain the exiting resource of potential bird nesting habitat. The extent of trees and shrub should also not be allowed to encroach on the grassland areas (and thereby reduced the extent of grassland). The hedgerows should be managed to increase their value to foraging and nesting birds.
5	Monitor the effects of management on flora.	The habitats to be created within the site should be monitored to evaluate the success and potentially inform changes to the management undertaken at the site.

2.3 Management Prescriptions

2.3.1 *Grassland Areas*

a) *Establishment of Species-rich Wildflower Grassland*
Appropriate management of the species-rich wildflower grassland for the first year (and possibly second year) following creation is crucial for the long-term composition of the grassland community. Competition from annual and perennial weeds must be controlled, to avoid stifling the development of the wildflowers. A glyphosate based selective herbicide may be used for this purpose (spot application), or by manual 'weeding'. As the grasslands have been created by using wildflower turves, the potential for weed species is likely to be confined to the joins between the turves. The species-rich grassland areas should not receive any fertilizer.

b) *Species-rich Wildflower Grassland Mowing Regime*
The species-rich wildflower grassland area should be mown once annually in September / early October, after flowering has finished. All cuttings should be removed from the grassland areas and taken off site. Mowing at the end of the summer / early autumn will ensure that the shoots of emerging bulbs (which will occur in late winter / early spring) will not be impacted.

c) *Amenity Grassland Areas*
These areas should be regularly mown and maintained as short sward lawn. However as there is not always a defined boundary between the amenity grassland and the area of species-rich grassland, the estates team must ensure that staff undertaking the mowing are aware of the boundary between the species-rich areas and amenity grassland areas.

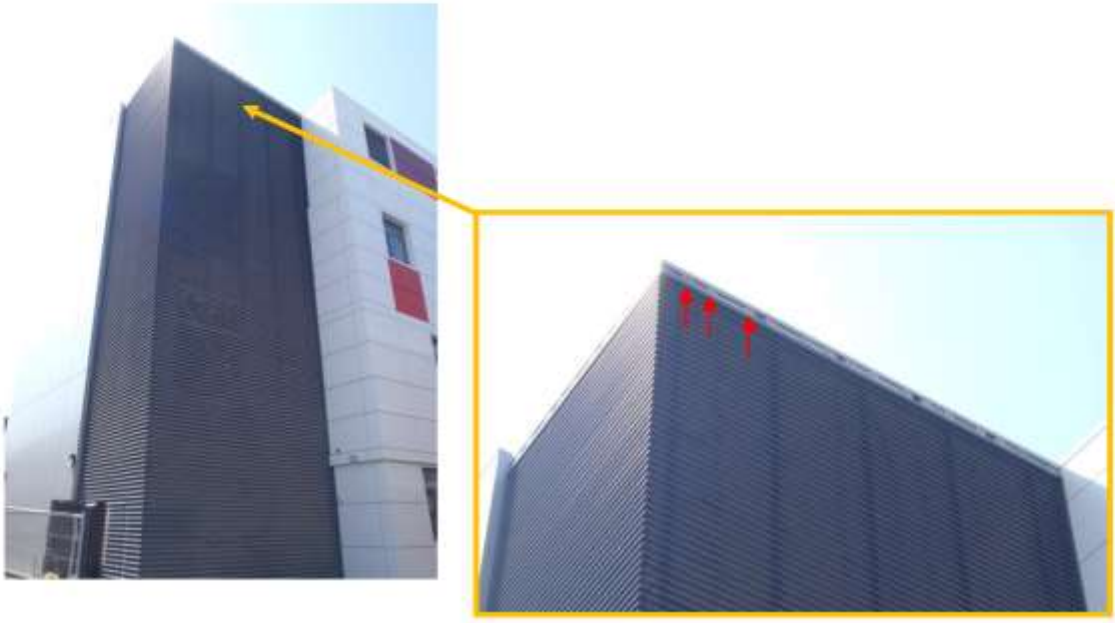
The amenity grassland areas should not receive any fertilizer.

Further details relating to the amenity grassland are included in Section 2.4.

d) *Monitor the Effects of Management on Flora*
The species-rich grassland habitats should be surveyed every two years to monitor the botanical diversity of the site. The monitoring would consist of undertaking a series of quadrats within the species-rich grassland areas to establish whether the management is having the desired effect. The species recorded within the quadrats should be compared to the species which were included within the wildflower turf (see Appendix 2).

2.3.2 *Bird Boxes*

a) *Institute of Mental Health Building*
As part of this project twenty four potential nesting sites were created for swift. The photographs of the boxes installed are shown below (some are arrowed to indicate locations).



These boxes are of a design that will not require maintenance. However it is recommended that the nesting site be monitored annually in June to determine if the boxes are in use.

Two open fronted boxes and two small entrance boxes have been installed on the adjacent sports centre building (see photographs below). These boxes should be monitored during the spring (April to June) to determine if they are being used by nesting birds. Boxes that have been used should be cleaned out (removal of old nesting material) annually over the winter months.

b) *Energy Technologies Building*
Twelve boxes are to be installed on site. These will include the following:-
6 x Swift boxes
2 x Open fronted boxes
2 x Small entrance boxes
2 x Large entrance boxes

Further information will be added to this report once the type and location of the boxes has been confirmed.

c) *Aerospace Technology Centre*
Two open fronted boxes and two small entrance hole boxes have been installed on to the fence at the rear of the site. Six sparrow terrace boxes have been installed on to the exterior of the building (arrowed on the photograph below).

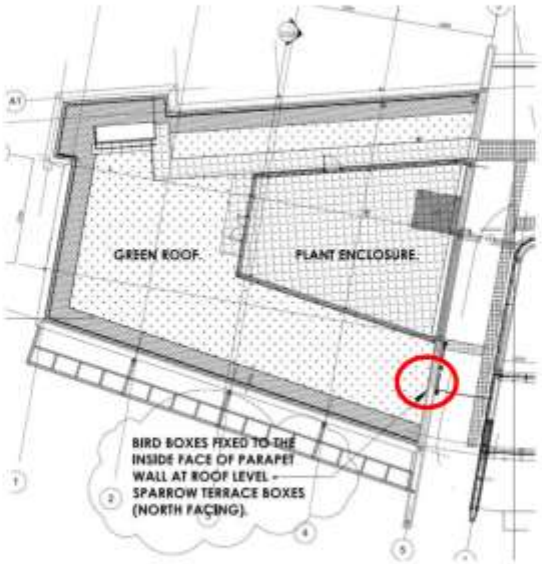
d) *Si Yuan Centre (new China Building)*
Two open fronted boxes, two small entrance-hole boxes and two sparrow terrace boxes have been installed on the cycle / bin stores with one of each box (facing different aspects) on each building. Photographs below show the boxes.

A nest box has also been installed on the brown roof. The box was installed with stones around the base (as was recommended). The box was installed near to the

side of the roof, with the box entrance facing in towards the middle of the roof (as shown below). The box will be suitable for black redstart (*Phoenicurus ochruros*).

e) *Romax Building*

Two open fronted boxes and two small entrance-hole boxes have been installed on the wall (bordering the railway line) at the rear of the development as shown below. Sparrow terraces have been installed overlooking the green roof (see plan below).



f) *Centre for Sustainable Chemistry*
It has been recommended that two open fronted boxes, two small entrance-hole boxes and two sparrow terrace boxes be installed. Ideally the boxes should be installed on the new building, however alternatively the boxes could be installed on site security fencing (if installed) or on to timber frames.

Further information will be added to this report once the type and location of the boxes has been confirmed.

2.3.3 *Bird Nesting (trees, introduced shrub and hedgerows)*
Works to the trees, introduced shrubs and the hedgerows must be timed to avoid the bird breeding season (March to September inclusive), in order to avoid potential impact to active bird nests. Ideally, when trimming or pruning is required this would be timed to take place during February, as this would allow berry crops to provide foraging for wintering birds.

2.3.4 *Maintain Extent of Tree and Shrub Areas, and Manage the Hedgerows*
Management of the shrub areas and planted trees does not need to be extensive. However a regular inspection of trees and shrubs should be made, and if any failures are noted, these should be replaced like for like.

The extent of planted shrubs should be maintained. Should there be encroachment into grassland areas, the encroaching plants should be uprooted and removed.

The native hedgerow (Hedgerow B on Figure 1) once established should be trimmed every 2 -3 years. Cutting in February rather than in autumn will also leave berries over the winter. It is also considered that in the future the hedgerow could be managed for wildlife by laying approximately every 15 years. This would provide structure to the hedgerow, enhancing its ecological value.

2.4 Ornamental Landscape Management Plan (provided by the University of Nottingham Estate Office)

2.4.1 *Grass Mowing*

a) *Type A: Amenity grass areas* will be mown by ride on rotary/cylinder & pedestrian mowers; this will be carried out between March/Oct with the grass being maintained at a height between 25mm and 75mm.

Additional cuts between Nov – Feb will be undertaken as required to ensure that the grass sward is maintained between the maximum and minimum heights specified above.

Grass clippings will not be collected unless instructed by Ground Management.

Height of cut may vary depending on ground conditions but should not be allowed to exceed 75mm.

b) *Obstacles & margins* shall be strimmed to maintain grass height between 25-75mm; operation to be undertaken without causing damage to trees and shrubs.

c) *Ground conditions*, all grass areas shall be visually inspected prior to mowing taking place & wherever practicable any obstacles, debris, stones, litter, etc are to be removed and disposed of appropriately or if removal has not been possible reported to Grounds Management. During periods when ground conditions are so wet as to prevent mowing occurring without causing damage to the surface or ground levels, or producing divots, grass mowing operations will cease. Mowing shall not be carried out when frost is on the grass.

All paths will be kept clear of arisings by means of a blower / brush & any irremovable debris left on paths must be reported to the Grounds Management immediately who will take appropriate action to ensure the safe passage of pedestrians.

Damage to the surface during grass mowing operations must be reported to Grounds Management immediately who will take appropriate action to ensure the safe passage of pedestrians.

d) *Environmental impact*, all mowing operations must be carried out with due care and consideration to other University user groups, students and staff. Operatives must ensure that noise levels around halls of residence, conferences, meeting & exam rooms, etc are kept to a minimum, rescheduling may be necessary if so instructed by Grounds Management.
Care should also be taken to avoid unnecessary disruption to wildlife.

2.4.2 *Grass Edging & Half Mooning*

a) *Half Mooning* will take place once a year during winter as necessary. Lawn edges will be reformed along paths, roads and around borders with a half moon edging tool or approved mechanical edger. Where the edge of grass abuts footpaths roads and other areas, care should be exercised so that only the minimum amount of turf is removed conducive with the forming of a true edge using lines etc, all arisings to be swept up and removed / recycled at the end of each working day.

b) *Lawn edging* will take place between mid March and October inclusive. Lawn edges around beds and open borders shall be cut with long handled shears or a suitable mechanical implement at 3 week intervals. Where a half moon is required care should be exercised so that only the minimum amount of turf is removed conducive with the forming of a true edge using lines etc, all arising to be swept up and removed/recycled at the end of each working day.

2.4.3 *Informal Hedges*

a) *Hedge cutting* must be undertaken in accordance with the **Wildlife & Countryside Act 1981**. This states that it is an offence under Section 1 of the Wildlife and Countryside Act of 1981 to intentionally take damage or destroy the nest of any wild bird while it is in use or being built. Where a nest prevents the hedge from being cut within the stipulated timescale the contractor shall notify the University Grounds Management Team accordingly.

c) *Ground conditions*, all grass areas shall be visually inspected prior to mowing taking place & wherever practicable any obstacles, debris, stones, litter, etc are to be removed and disposed of appropriately or if removal has not been possible reported to Grounds Management. During periods when ground conditions are so wet as to prevent mowing occurring without causing damage to the surface or ground levels, or producing divots, grass mowing operations will cease. Mowing shall not be carried out when frost is on the grass.

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Hedges will usually be cut using mechanical equipment however on occasions, with more ornamental or decorative hedges, hand shears will be more appropriate. When working off the ground, working at height regulations apply.

b) *Pruning / Cutting*. Informal hedges will be cut once in any growing season unless exceptional circumstances arise in which an additional cut may be authorised by the University Grounds Management Team in the event that growth has exceeded the seasonal norm. All surfaces shall be cut back to the previous year's growth between June and September, This activity shall be carried out by a skilled operative and must ensure that all shears, hand or mechanical are sharp. The finished cut face shall be "square" with a slight taper from the bottom of the hedge to the top, any clippings lodging in the top or sides of hedges shall be removed.

Height of cut for informal hedges will be approx 2 metres.

c) *Routine maintenance*, between April & October at four week intervals all hedge bases will be cleared of any weed regrowth.

d) *Environmental impact* must be taken into consideration before work commences, all hedge cutting operations must be carried out with due care and consideration to other University user groups, students and staff, operatives must ensure that noise level around halls, conferences, meeting & exam rooms etc are kept to a minimum, rescheduling may be required if instructed by Grounds Management

Care should also be taken to avoid unnecessary disruption to wild life & particular care should be given to nesting birds. All hedge cutting must be undertaken in accordance with the Wildlife and Countryside Act 1981.

2.4.4 *Shrub Beds*

a) *Routine maintenance*, all shrub beds and borders will be kept weed free, all persistent weed infestation can be control using mulches or herbicide if appropriate, dead or diseased shrubs should be removed, the Grounds Manager must be informed first if bed will require replanting. Irrigation to encourage the establishment of woody plants will be carried out to aid initial establishment after 10 days without rain between March and October.

b) *General appearance*, all litter/debris to be cleared on each occasion visited, all grass edging to be kept neat and tidy.

c) *Fertiliser* to be applied as necessary to redress any soil deficiency.

d) *Pruning* will only be undertaken to encourage flower and or fruit and remove any growth encroaching onto grassed areas, paths, roads, signs, sight lines, lights, windows, exits and entrances. Significantly reducing the amount of growth on shrubs will only be undertaken if instructed to do so by Grounds Management.
The amount and nature of thinning, trimming and shaping shall vary according to the species, variety, season, stage of growth and required visual effect. Many

shrubs do not require regular pruning, in particular evergreens shall be left to grow to their full potential before any specific work is carried out

Species shall be pruned as follows:

i. Shrubs flowering in winter shall be pruned in spring.
ii. Shrubs flowering in spring, early summer, prune immediately after flowering;
iii. Shrubs flowering in summer and early autumn cut back to old wood in winter.
iv. Shrubs grown for winter stem colour shall be pruned during the first two weeks of March.
v. Variegated shrubs - during the winter months all un-variegated growth on variegated shrubs shall be cut back to their source of origin.
vi. Roses (all forms) prune roses by approximately one third in the autumn to prevent wind blow and carryover of disease, pruning once again according to the individual needs and type during early march. Pruning shall be carried out to encourage basal growth and a balanced correct habit, immediately after the first flush of flowers (mid-late June), remove all visible suckers by cutting flush with the stem root, originating suckers to be torn from roots. Throughout the flowering season dead blooms will be removed from rose bushes on a regular basis to ensure continuity of flowering
vii. Climbing plants (shrubs and roses) pruning shall be carried out according to the variety. Shrubs / roses tied to walls or trellis shall be inspected twice per annum; once in early spring and once in late autumn and where necessary plants retied to the walls or trellis.
viii. Herbaceous borders and plants - where existing borders contain herbaceous perennials, those plants shall be maintained in accordance with sound horticultural practice. During the autumn the plants will be cut down to the base of the plant and the crowns of frost susceptible species mulched to protect them. All arisings are to be removed as the work proceeds.

2.4.5 *Herbicide applications*

All applications will be carried out by NPTC qualified operatives and in accordance with current relevant legislation.

a) *Hard surfaces, footpaths & roads* shall be treated as necessary between March & October to ensure a weed free appearance is maintained. Only an approved total herbicide may be applied; further applications may be required if weeds are persistent.

b) *Cropped areas / beds & borders* to be sprayed only when excessive weed growth cannot be controlled by cultural methods i.e. mulches or hoeing. Care should be taken not to contaminate shrubs / plants unless unavoidable and approved by Grounds Management.

c) *Gullies / non-cropped areas* to be sprayed once per year using an approved mix of residual / total herbicide, further application may be required if weeds are persistent.

2.4.6 *Tree Panting*

Tree planting will normally take place between Nov – Feb unless container grown, Memorial tree plantings take place throughout the year and the location of these will be marked by the Grounds Management before digging can commence, a scan for services will be required if the planting depth exceeds 300mm.

a) *Hole size / depth should* be approx between 600mm/1000mm squared for trees sized 8/10 to 14/16. Any larger planting will require individual assessment and planning, ground protection should be used around the hole with any soil excavated placed on boards.

b) *Staking / anchoring*, for smaller trees 8/10 – 12/14 a 6 – 8ft x 3" diameter stake will be sufficient and should be placed parallel to the trunk and driven through the root ball carefully avoiding the roots, in some circumstances a 45° slanted stake may be required with permission from Grounds Management. Larger trees 14/16 - 16/18 upward will require a double stake and cross rail, anything larger will require ground anchoring & or specialist equipment/contractor.

c) *Planting detail*, Tree to be place in hole in a central position, roots to be teased out to encourage them to spread, watering system to be installed with sufficient pipe above soil level to allow watering to take place, stake and tie the tree and back fill with existing soil if suitable, if not it will be necessary to replace some of existing soil with a suitable soil, a slow release tree & shrub fertiliser may be added.

Memorial tree planting will normally include a plaque; the position of these will usually be within the tree ring unless otherwise instructed by Grounds Management.

d) *Tree after care* will be carried out for a minimum of 2 years after planting, regular watering must take place especially in dry periods, with mulching and weeding of base as required, the tree stake and tie will be checked annually replaced or removed if necessary.

2.4.7 *External Cleaning*

To include litter collection, emptying of general waste bins and some recycling bins, cigarette bins, sweeping of roads, path and building entrances & steps, small area of graffiti.

a) *Litter collection* will be carried out on a daily basis in all areas with priority being given to high profile areas and events, all paths, hard standing, open spaces, quads, beds & borders, woodland will be checked and litter removed on each visit. Any unapproved posters will be removed.

b) *Road sweeping*, all roads, paths and car parks where accessible will be cleaned by a road sweeper as per schedule. Frequencies may vary depending on seasonal and general weather conditions, leaf fall & access issues. It will be necessary occasionally to have an industrial contractor road sweeper hired in for seasonal periods, special events, graduations and open days to deal with high volumes of leaf litter and general debris.

Ground conditions outside of core operating hours will be monitored by Estate Security office; all callouts for primary road gritting will be instigated by the Security staff on duty at this time.

On call out; priority will be given to major roads and bus routes.

b) *Secondary roads and car parks* will be checked and gritted as per sequenced tick sheet, these areas will be gritted once the primary areas have been completed, they do not form part of the emergency callout response unless security feel they represent an immediate risk. They may only be gritted once the primary areas have been covered and if resources allow. This will be decided by the grounds staff on duty at the time.

c) *Paths, Steps & building entrances* will be inspected and salt / grit applied as required as per sequenced tick sheet. Ramps and steps will be given priority on safety grounds, all areas may require secondary inspection during heavy frosting periods. These areas do not form part of the emergency callout response during periods outside of normal operating hours unless Security feel they represent an immediate risk.

d) *Grit bins* will be placed in various locations close to areas where there is a high volume of passing pedestrian traffic, steps & slopes etc. All bins must be checked and refilled regularly, at no time should a bin be allowed to become more than ½ empty.

e) *Gritting Procedure*. The policy can be viewed on the Estates Office Website following this link

https://estates.nottingham.ac.uk/intranet/docs/gritting_procedures.docx

2.4.10 *Water Features*

- Water Features will be maintained free from litter and other debris
- Dead fish /wild fowl and other animals will be removed as necessary
- Excess algal blooms including blanket weed will be removed wherever possible but the water cannot be guaranteed to be kept free of algal or blanket weed blooms
- Water levels will be maintained at design specifications except during drought periods when water use restrictions are imposed by the water authorities
- Marginal ice will be broken where possible during periods of extreme cold to avoid third parties attempting to use frozen areas for recreational activities.

3. FIVE-YEAR PLAN OF WORKS

3.1 Objective 1 - Maintain and Enhance the Species-rich Wildflower Grassland Areas

Obj.	Habitat	Action	2014	2015	2016	2017	2018
1/1	Species-rich Wildflower Grassland Areas	*Weed Control* During the first year (and possibly second) following creation it may be necessary to carry out area specific weed control to remove undesirable species (such as docks, nettle, thistles and other 'weed' species). This could either be undertaken manually or by use of spot applications of a glyphosate based herbicide.	•	•			
1/2	Species-rich Wildflower Grassland Areas	*Mowing* Cut annually in September or early October (after flowering and setting of seed). Remove all cuttings and take off site.	• **Sept/ early Oct**	• **Sept/ early Oct**	• **Sept/ early Oct**	• **Sept/ early Oct**	• **Sept/ early Oct**

3.2 Objective 2 - Maintain Presence of Bulbs (where planted)

Obj.	Habitat	Action	2014	2015	2016	2017	2018
2/1	Species-rich Wildflower Grassland Areas (with planted bulbs)	*Weed Control* During the first year (and possibly second) following creation it may be necessary to carry out area specific weed control to remove undesirable species (such as docks, nettle, thistles and other 'weed' species). This could either be undertaken manually or by use of spot applications of a glyphosate based herbicide.	•	•			
2/2	Species-rich Wildflower Grassland Areas (with planted bulbs)	*Mowing* Cut annually in September or early October (after flowering and setting of seed). Remove all cuttings and take off site. No impacts to the grassland during the late winter / early spring should occur which could impact the flowering stems of the bulbs.	• **Sept/ early Oct**	• **Sept/ early Oct**	• **Sept/ early Oct**	• **Sept/ early Oct**	• **Sept/ early Oct**

3.3 Objective 3 - Maintain Bird Nesting Resource (bird boxes and planted areas)

Obj.	Habitat	Action	2014	2015	2016	2017	2018
3/1	Bird Boxes	*Monitoring for use by Nesting Birds* *Swift Boxes* - monitored annually in June to determine if the boxes are in use. *Sparrow terraces, open fronted, small entrance and large entrance boxes* - monitored annually during April to June to determine if the boxes are in use.	**June** **April - June**	**June** **April - June**	**June** **April - June**	**June** **April - June**	**June** **April - June**
3/2	Bird Boxes	*Maintenance and Cleaning Out* Boxes should be checked annually for condition and repaired or replaced if damaged. Boxes which have been used should be cleaned out to remove all old nesting material (this is not applicable to the swift boxes).	• **Feb**	• **Feb**	• **Feb**	• **Feb**	• **Feb**
3/3	Trees, Introduced Shrubs and Hedgerows	*Trimming and Pruning* Works must be timed to avoid the bird breeding season (March to September inclusive. Ideally, when trimming or pruning is required this would be timed to take place during February, as this would allow berry crops to provide foraging for wintering birds.	• **Feb**	• **Feb**	• **Feb**	• **Feb**	• **Feb**

3.4 Objective 4 - Maintain Extent of Tree and Shrub Areas, and Manage the Hedgerows

Obj.	Habitat	Action	2014	2015	2016	2017	2018
4/1	Introduced Shrubs, Trees and Hedgerows	*Replacement of Failures* A regular inspection of trees and shrubs should be made, and if any failures are noted, these should be replaced like for like.	•	•	•	•	•
4/2	Introduced Shrubs	The extent of planted shrubs should be maintained. Should there be encroachment into grassland areas, the encroaching plants should be uprooted and removed.	•	•	•	•	•
4/3	Hedgerow	The native hedgerow (Hedgerow B on Figure 1) once established should be trimmed every 2 -3 years. Cutting in February rather than in autumn will also leave berries over the winter.				• **Feb** Once established	• **Feb** Once established

3.5 Objective 5 - Monitor the Effects of Management on Flora

Obj.	Habitat	Action	2014	2015	2016	2017	2018
5/1	Species-rich Wildflower Grassland Areas	The grassland should be surveyed every two years to monitor the botanical diversity of the grassland. The monitoring would consist of undertaking a series of quadrats within the grassland areas to establish whether the management is having the desired effect.			• **June**		• **June**

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EMEC Ecology 2012b *Romax Building at the University of Nottingham Innovation Park: Ecology Walk-over and BREEAM Education 2008 Assessment for Ecology.* A report under contract to the University of Nottingham.

EMEC Ecology 2012c *Academic Building at the Jubilee Campus, University of Nottingham: Ecology Walk-over and BREEAM Education 2008 Assessment for Ecology.* A report under contract to the University of Nottingham.

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EMEC Ecology 2010a *Proposed Energy Technology Building at the University of Nottingham Innovation Park: Ecology Walk-over and BREEAM Education 2008 Assessment for Ecology.* A report under contract to the University of Nottingham.

EMEC Ecology 2010b *Proposed Aerospace Technology Centre at the University of Nottingham Innovation Park: Ecology Walk-over and BREEAM Education 2008 Assessment for Ecology.* A report under contract to the William Saunders.

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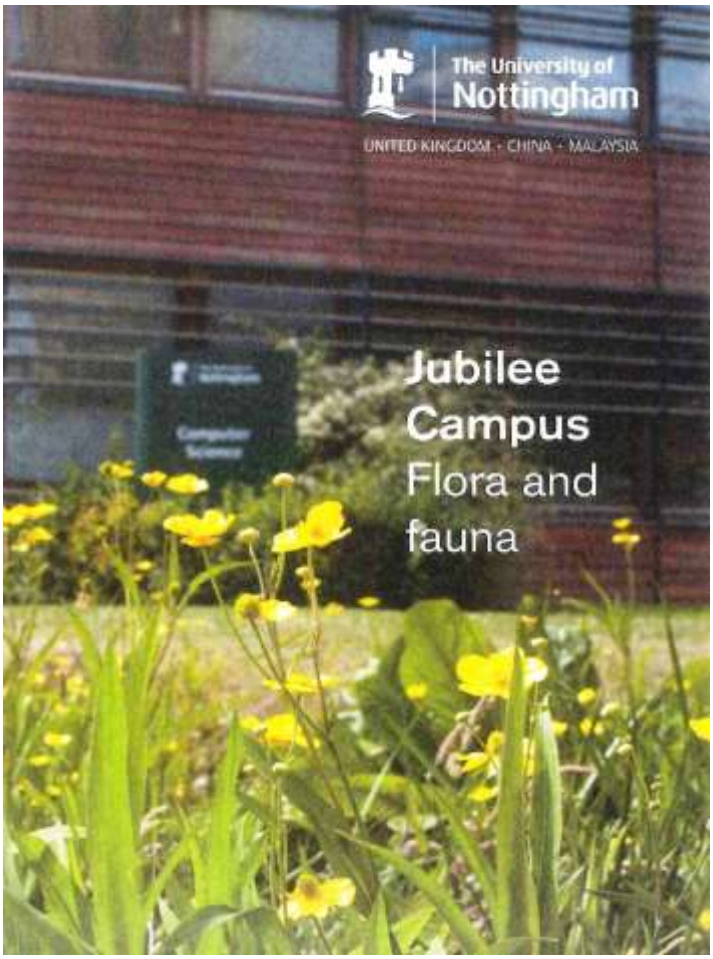
Appendix 1: Figure 1: Proposed Habitat Areas

Appendix 2
Jubilee Flora & Fauna Guide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Campus
Flora and
fauna


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The University of Nottingham has made every effort to ensure that the information in this guide was accurate when published. Please note, however, that the nature of the content means that it is subject to change from time to time, and you should therefore consider the information to be guiding rather than definitive.
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Appendix 3
Awards & Accolades

Jubilee Campus Building Accolades Listing

(Updated October 2016)

Year	Award
	GlaxoSmithKline Carbon Neutral Laboratory for Sustainable Chemistry
2016	Education Estates – Project of the Year – Winner: project of the year
2016	East Midlands Merit Awards 2016 – Institution of Civil Engineers - Commended
2016	Structural Timber Awards 2016 – Structural Timber Association and others – Winner: Client of the Year, Highly Commended: Architect, Contractor, Low Energy & Project of the year.
2016	Environmental Development – NEP Environmental Awards - Winner
2016	Non-residential scheme – Forum for the Built Environment – Winner: Non-residential project and overall
2015	Brown Field Briefing Awards – Winner: Best Sustainable Building on a brownfield site
	Romax
2015	RICS 2015 Awards – Commercial: Highly Commended
2014	Insider/East Midlands Property Dinner – Winner: Sustainability – Romax Building
	Si Yuan Centre
2014	ACE - Building Services – Engineering Excellence – Highly Commended
2013	Insider/East Midlands Property Dinner – Winner of Judges Special Award (one-off award for scheme's overall quality)
2013	CIOB Project of the Year 'Commitment to Construction in the East Midlands' – Highly Commended
2013	**'**Construction News' Project of the Year under £10m Construction Award – Highly Commended
2013	RICS Design and Innovation Award – Highly Commended
	Energy Technologies Building
2014	BRE BREEAM Awards 2014 – Winner
2013	ACE Centenary Engineering Excellence Awards – Winner of 'Building Services Large' Design Award
2013	Construction News 'Sustainable Project of the Year under £10m' Construction Award – Highly Commended
2013	RICS Design and Innovation Award – Highly Commended
	Institute of Mental Health
2014	CIAT Design Excellence – Commended
2013	Construction News 'Project of the Year under £10m' Construction Award – Highly Commended
	Nottingham Geospatial Building
2010	RICS Awards East Midlands – Short-listed in the category of 'Regeneration'

Jubilee Campus Building Accolades Listing

(Updated October 2016)

	Sir Colin Campbell/Yang Fujia/Amenities Buildings and Aspire Sculpture
2010	RICS Awards East Midlands – Highly Commended in the category of 'Sustainability'
2009	Sir Colin Campbell Building – Award of Certificate of Craftsmanship to ROK Building Ltd
2009	Lord Mayor's Awards for Urban Design 2009 – Commendation for Public Realm for the Innovation Park
2009	The Institution of Structural Engineers North West Regional Structural Awards – 'Commendation for a project constructed outside the North West' for the 'Aspire' sculpture, presented to the Project Client
2009	The Institution of Structural Engineers North West Regional Structural Awards – 'Commendation for a project constructed outside the North West' for the 'Aspire' sculpture, presented to the Project Contractors
2009	EMPD (East Midlands Property Dinner Limited) Design Excellence Award *(sponsored by EMDA)* presented to Make Architects
2009	Engineering Excellence Awards (ACE) – Commendation
2009	Nottingham Civic Society – Commendation
2009	EMPD (East Midlands Property Dinner Limited) Design Excellence Award *(sponsored by EMDA)* presented to Make Architects
2009	Engineering Excellence Awards (ACE) – Commendation
2009	Nottingham Civic Society – Commendation
2009	Nottingham Evening Post Commercial Property Awards (Commercial Property and Science City categories) – winner in *Science* category and runner up in *Commercial Property* category for the Sir Colin Campbell Building
2009	Nottingham Science City Development Project Award – Sir Colin Campbell Building
2008	Nottingham Civic Society - Commendation Award for 'Aspire' sculpture
2005	Times Newspaper – Britain's Top 5 Greenest Buildings

Sustainability / Environment Awards

Year	Award
2016	Green Gown Awards – Winner – Student Award won by Andy Stride
2016	Green Flag Park Award, University Park
2016	Green Flag Park Award, Jubilee Campus
2016	Green Gown Awards – Community - A New Woodland for Biodiversity and the Community for Diamond Wood -Sutton Bonington - Finalist
2015	UI Green Metric World University Ranking – first. Nottingham named the most environmentally friendly campus
2015	RIBA Design Awards – Awarded Regional Design award: Winner - Sustainability
2015	2015 Green Gown Awards - Enterprise & Employability (Enactus Nottingham) – Winner
2015	2015 Green Gown Awards – Carbon Reduction – Highly Commended
2015	2015 Green Gown Awards – Facilities and Services (Helium – Lost in Space) – Highly Commended
2015	2015 Green Gown Awards – Research and Development (Creative Energy Homes) - Finalist
2015	DesignCurial named University of Nottingham in 'World's 10 Best Green Universities' – Gateway Building mentioned
2015	Green Flag Park Award Jubilee Campus
2015	Green Flag Park Award University Park
2015	People and Planet Green League – ranking – 42nd – 2.1 award
2014	UI Green Metric World University Ranking – 1st. Nottingham named the most environmentally friendly campus
2014	'Highly Commended' in the Green Gown Awards for the pioneering Massive Online Open Course 'Sustainability, Society and You'.
2014	Runner-up in the Public Sector Sustainability Awards for Education Sector
2014	Green Flag Park Award Jubilee Campus
2014	Green Flag Park Award University Park
2013	People and Planet Green League – ranking – 70th – 2.1 award.
2013	UI Green Metric World University Ranking – 1st. Nottingham named the most environmentally friendly campus
2013	RHS 'It's Your Neighbourhood' Awards, Sutton Bonington Allotment, Level 4 (Thriving)
2013	Nottingham in Bloom Committee Special Award for an Outstanding Contribution to Nottingham in Bloom
2013	East Midlands in Bloom Regional Award for Horticultural Excellence in Parks
2013	Green Flag Park Award, Jubilee Campus Grounds, Keep Britain Tidy Org
2013	Green Flag Park Award, University Park Grounds, Keep Britain Tidy Org
2012	People & Planet Green League – ranking 57th, 2.1 award
2012	UI GreenMetric World University Ranking – 2nd
2012	Times Higher Education Awards – Outstanding Contribution to Sustainable Development
2012	Green Gowns – Highly Commended (Learning & Skills)
2012	RHS Britain in Bloom It's Your Neighbourhood Campaign – Sutton Bonington Allotment Society, Level 4 (Thriving)
2012	RHS Britain in Bloom It's Your Neighbourhood Campaign – University of Nottingham Allotment Society, Level 3 (Developing)
2012	Nottingham in Bloom – Best Business Premises – Gold Award for North Entrance
2012	Civic Trust Green Flag Award for University Park

Sustainability/Environment Awards

2011	**UI GreenMetric World University Ranking – 1st. Nottingham named the most environmentally-friendly campus.**
2011	People & Planet Green League – ranking 83rd, 2.2 award
2011	Nottingham in Bloom – Best Business Gold Award
2011	RHS Britain in Bloom It's Your Neighbourhood Campaign – University of Nottingham Allotment Society, Level 5 (Outstanding)
2011	Civic Trust Green Flag Award for University Park
2010	UI GreenMetric World University Ranking – 2nd. Nottingham ranked second in a league table of the world's most environmentally-friendly higher education institutions.
2010	Green Gowns – Highly Commended (Continuous Improvement)
2010	People & Planet Green League – ranking 53rd, 2.2 award
2010	Nottingham in Bloom – Best Business Category for North Entrance
2010	Civic Trust Green Flag Award for University Park
2009	University Environmental Champions Network awarded the Nottingham Wildlife Trust's "Living for Tomorrow" award in the 2009 Green Guardian Awards
2009	People & Planet Green League – ranking 38th
2009	Civic Trust Green Flag Award for University Park
2009	Nottingham in Bloom – 'Best Business' Category – Gold Award for the University North Entrance Summer Bedding Plant Display
2008	People & Planet Green League – ranking 56th
2008	Royal Horticultural Society 'Britain's Best Flower Bed' (School/College category)
2008	East Midlands in Bloom 'Greenspace East Midlands Award for Horticultural Excellence'
2008	Civic Trust Green Flag Award for University Park
2007	Civic Trust Green Flag Award for University Park
2006	Nottingham in Bloom Award – Best Business Premises – Gold Award
2006	Civic Trust Green Flag Award for University Park
2005	Britain in Bloom UK Finals 'Public Park Award' - a special discretionary award "presented to the park designed for horticultural excellence, giving delight to the visitor through appropriate planting, high standards of maintenance including infrastructure, conserving wildlife, cleanliness and features of interest"
2005	Civic Society Commendation (linked to Green Flag)
2005	Civic Trust Green Flag Award for University Park
2005	International Energy Globe Award – Jubilee Campus
2004	Nottingham in Bloom – Best Business Premises 2004
2004	Civic Trust Green Flag Award for University Park
2003	Nottingham in Bloom – Best Business Garden for North Entrance Display
2003	East Midlands in Bloom – Judges Award for the Landscape at Jubilee Campus
2003	Civic Trust Green Flag Award for University Park
2002	Civic Trust – National Award
2002	Civic Trust Awards – Commendation – Millennium Garden
2002	Civic Trust Awards – Special Award for Sustainability – Jubilee Campus

Sustainability/Environment Awards

2001	Nottingham in Bloom – Award for the Best City Landscape
2001	East Midlands in Bloom – ILAM Award for Horticultural Excellence
2001	British Association of Landscape Industries – Principal Award – Millennium Garden
2001	Nottingham Civic Society – Commendation – Millennium Garden
2001	The RIBA Journal Sustainability Award – Jubilee Campus
2000	Nottingham in Bloom – Outstanding Long Term Contribution
1999	Nottingham in Bloom – Overall Third
1999	Millennium Marque – Award for Environmental Excellence – Jubilee Campus
1998	Nottingham in Bloom – Overall Second
1997	Nottingham in Bloom – Overall Second
1996	Nottingham in Bloom – Overall Third
1995	Nottingham in Bloom – Category Winner – Best Spring Bedding Display

BREEAM CERTIFICATION

Sir Colin Cambell Building 2008
BREEAM – no
Green roofs and the like – no
Energy Saving Initiatives – robust design and high insulation levels for the building type/age.
Sustainable Initiatives – primary heating and cooling via lake source heat pump system.
Sustainable drainage – Yes
Bat and Bird Boxes - No

Amenities Building 2008
BREEAM – no
Green roofs and the like – no
Energy Saving Initiatives – robust design and high insulation levels for the building type/age.
Sustainable Initiatives – primary heating and cooling via lake source heat pump system.
Sustainable drainage – Yes
Bat and Bird Boxes - No

Yang Fujia Building - International House 2008
BREEAM – no
Green roofs no
Energy Saving Initiatives – robust design and high insulation levels for the building type/age.
Sustainable Initiatives – primary heating and cooling via lake source heat pump system.
Sustainable drainage – Yes
Bat and Bird Boxes - No

Geospatial Building 2010
BREEAM – Excellent
Green roofs no
Energy Saving Initiatives – robust design and high insulation levels for the building type/age.
Sustainable Initiatives – termodeck ventilation/heating system coupled to biomass boiler.
Sustainable drainage – Yes
Bat and Bird Boxes - No

Institute of Mental Health 2012
BREEAM – Excellent
Green roofs no
Energy Saving Initiatives – robust design and high insulation levels for the building type/age, low energy lighting and controls.
Sustainable Initiatives – termodeck ventilation/heating system coupled to district heating scheme from adjacent CHP plant and ASHP.
Sustainable drainage – Yes
Bat and Bird Boxes - Yes

Energy Technology Building 2012
BREEAM − Outstanding targeted
Green and Brown roofs
Energy Saving Initiatives − robust design and high insulation levels for the building type/ age, low energy lighting and controls, low regulated energy use for main building.
Sustainable Initiatives − Bio-diesel CHP serving this scheme and adjacent, earth tube passive cooling/heating for fresh air, PVs to be provided for research purposes and to supplement scheme, LEV charging points, hydrogen fuelling station, propane AHU.
Sustainable drainage − Yes
Bat and Bird Boxes - Yes

Aerospace Technology Centre 2012
BREEAM − Excellent targeted
Green roofs no
Energy Saving Initiatives − robust design and high insulation levels for the building type/ age, low energy lighting and controls for the type
Sustainable Initiatives − ground source heat pump system coupled to PV array.
Sustainable drainage − Yes
Bat and Bird Boxes - Yes

Si Yuan Centre 2012
BREEAM − Excellent targeted
Green roofs Yes − small green roof
Energy Saving Initiatives − robust design and high insulation levels for the building type/ age, low energy lighting and controls for the type
Sustainable Initiatives − ground source heat pump system coupled to PV array, solar thermal system for hot water.
Sustainable drainage − Yes
Bat and Bird Boxes - Yes

Centre for Sustainable Chemistry 2013-14
BREEAM − Outstanding targeted
LEED - Platinum targeted
Carbon Neutral after 25 years
Green roofs Yes − extensive Green roof − natural meadow
Energy Saving Initiatives − robust design and high insulation levels for the building type/ age, low energy lighting and controls, low regulated energy use for main building, controlled regulated energy use where possible, timber frame, naturally ventilated lab, reduced energy consumption on fume cupboards, whole life carbon accounting to demonstrate carbon neutral at 25 years
Sustainable Initiatives − Bio-diesel CHP serving this scheme and adjacent, large PV array, extensive green roof, timber frame
Sustainable drainage − Yes
Bat and Bird Boxes - Yes

Romax Building—Outstanding
BREEAM − Excellent targeted
Green roofs no
Energy Saving Initiatives − robust design and high insulation levels for the building type/ age, low energy lighting and controls.
Sustainable Initiatives − Coupled to district heating scheme from adjacent CHP plant.
Sustainable drainage − Yes
Bat and Bird Boxes - Yes

Appendix 4
Monthly Quality Monitoring Form

Estate Office - Monthly - Grounds Quality Sheet **Month** DECEMBER 2016

Quality Level : **A** = Meets Standard : **B** = Below standard/work required

Page 1			Team Leader D Metcalf								
Area : Mobile		**Routine**	**Quality Level**		**Action Planned**		**Completion Target**			**Manager inspected**	
		Priority									
			A	B	Yes	No	High	Med	Low	Yes	
1	Woolpack House & 9 Triumph Road	Routine	✓							✓	
2	Sir Colin Campbell & surrounds	High		✓	✓			✓		GENERAL TIDY	
3	Small lake & area over the bridge	Routine	✓							TEP WITH GRASS	
4	GSK Chemistry surrounds	High	✓							CONTRACT.	
5	New Tec Building	Hugh	✓							UNDER CONSTRUCTION.	
6	Nottingham Geospatial Building	High	✓							✓	
7	Romax Building	High	✓							NEW PATHS REQUIRED.	
8	Energy Technology Building	High	✓							✓	
9	Institute of Metal Health	High	✓							✓	
10	Aerospace Technology Centre	High	✓							✓	
11	Sports Centre & rear parking	High		✓	✓			✓		✓	
12	Amenities Building	High	✓							✓	
13	International House	High	✓							✓	
14	Contemporary Chinese Studies	High		✓	✓			✓		✓	
15	Newark Hall Surrounds	High	✓							✓	
16	Newark Hall Quads	High	✓							✓	
17	Newark Hall Wardens	Medium		✓	✓			✓		✓	
18	Southwell Hall Surrounds	High	✓							✓	
19	Southwell Hall Quad	High		✓	✓			✓		✓	
20	Southwell Wardens	Medium		✓	✓			✓		✓	
21	Business School South	Routine	✓							✓	
22	Dearing Building	High	✓							✓	
23	Dearing Ornamental Planting	High	✓							✓	
24	The Atrium and Island	Routine	✓							✓	
25	The Atrium Quads	Routine	✓							✓	
26	Computer Sciences	High	✓							✓	
27	The Exchange Building	High	✓							✓	
28	Business School North	High	✓							✓	
29	Main Entrance	High	✓							✓	
30	Melton Hall & Surrounds	Medium		✓	✓			✓		✓	
31	NCSL & Surrounds	High	✓							✓	
32	Charnock Field & Tennis courts	Medium	✓							✓	
33	Scout Field	Routine	✓							✓	
34	Former Sherwood Trucks parking	Routine	✗	}	AREAS BEHIND CONSTRUCTION						
35	Old Water Pump Area	High	✗	}	BOARDING.					✓	
36	Wallaton Hall Gate House	High	✓							✓	
37	Lakes/ Dykes	Routine	✓							✓	
38	Water Features	Routine	✗							✓	
39	Wild / Rough Grassland Mowing	Routine		✓	✓		✓			✓	
40	Roads, Car Parks, Paths	Routine	✓							✓	
41	Mowing Cycle & Strimming	Routine	✓							✓	
42	Pesticide Application	Routine	✓							✓	

41 } IF NEITHER PERMITS.
42 }

No	Item Reported	Action By
2	CUT PYRACANTHA HEDGE + COTONEASTER (MAY NEED SECURITY TO CONE PARKING BAYS.	DM LR
11	3G PITCH - WEED BEDS	DM
14	WEED + TIDY PRUNE	DM
17	TIDY - PRUNE	DM
19	TRIM PYRACANTHA	DM
20	TIDY	DM
30	WEED LONG CAR PARK BED	DM
39	WILD AREA BY CHELSEA HOUSE TO STADIUM	DM

Team Leader Signature .....

Date 20/12/16

Jamie Whitehouse
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