

CAMBRIDGE ARCHITECTURAL RESEARCH LTD

CONSERVATION DEVELOPMENT STRATEGY FOR THE **UNIVERSITY OF EAST ANGLIA**



ISSUE 2 February 2020

(2762) 5.2 FINAL

Cambridge Architectural Research Ltd 25 Gwydir Street #6 Cambridge CB1 2LG www.carltd.com

CONTENTS

	PREFACE	0-2			
	INTRODUCTION	0-4			
	Scope and objectives				
	How the Strategy is organised				
	How to use the Strategy				
	Updating the Strategy				
SECTION 1	UNDERSTANDING		SECTION 3	STRATEGY	
	The origins of UEA	1-2		Conservation Principles	3-2
	The visionary masterplan	1-5		Elements	3-11
	The Sainsbury Centre	1-20		Core buildings on UEA Campus	3-14
	Later Campus developments	1-27		Sainsbury Centre	3-54
	Earlham Hall	1-31		Other buildings on UEA Campus	3-67
	Landscape	1-35		Off-Campus buildings	3-77
				Earlham Hall	3-78
				Landscape	3-80
				Impact assessment	3-90
SECTION 2	SIGNIFICANCE, ISSUES AND OPPORTUNITIES		SECTION 4	SOURCES OF INFORMATION	
	Overall Statement of Significance	2-2		Published sources	4-2
	Issues affecting significance	2-5		Journal articles	4-3
	Adaptation of significant modern buildings	2-5		UEA sources	4-5
	The setting of significant buildings	2-8		Archive sources	4-5
	University expansion	2-9		Statutory listing statements	4-6
	Changing needs of the University	2-11			
	Ageing of building stock	2-12	SECTION 5	PLANS	5-1
	Landscape management	2-15			
	New regulations	2-16	SECTION 6	INDEX TO BUILDINGS	6-1
	Climate change	2-17			
	Architectural esteem and design quality	2-19			

Preface

This Conservation Development Strategy covers the site and buildings of the University of East Anglia. It is an update of Issue 1 of the Conservation Development Strategy of 2006.

It was commissioned by the Estates and Facilities Division of the University of East Anglia and prepared by Cambridge Architectural Research Ltd, beginning in March 2018. The team working on the project comprised Dr William Fawcett and Katie Thornburrow, architects with specialist experience of conservation plans; Dr Barnabas Calder, a specialist on the work of Denys Lasdun; Kenneth Powell, an architectural critic with specialist knowledge of the work of Norman Foster; Philip Cooper, a structural engineer with specialist knowledge of structural conservation; and Dominic Cole, a landscape architect specialising in landscape conservation. UEA's representative for the project was Peter Bilverstone until August 2018, then Andrew Burbidge.

Input to the project and comments on drafts of the Conservation Development Strategy were received from the following members of UEA staff:

Roger Bond (Estates Director)
Mahmood Faroughi (Deputy Estates Director)
Richard Bettle (Energy & Utilities Manager)
Peter Bilverstone (Estates Project Manager)
Rachel Brown (Space Planning Coordinator)
Andrew Burbidge (Head of Projects & Estates Development)
Clare Cole (Head of Cleaning & Grounds)
Katrin Dawsley (Sustainability Development Manager)
Dawn Dewar (Transport Co-ordinator)
Charlie Downen (Deputy Head of Maintenance)
Tom Everitt (Landscape Manager)
Phil Hunt (Head of Sustainability, Utilities & Engineering)
Martin Lovatt (Senior Estates Project Manager)
Shaun Palmer (Deputy Head of Maintenance)

Sarah Spooner (Senior Lecturer in Landscape History)
Josie Stevens (Head of Space Management & Design)
James Taylor (Head of Maintenance).

Help in accessing the Feilden & Mawson archive for the Academic Wall was provided by Philip Bodie of F&M.

The following participated in reviews of drafts of the Conservation Development Strategy:

David Eve (Historic England)
Lee Cook (Senior Planner, Norwich City Council)
Lara Hall (Principal Landscape Architect, Norwich City Council)
Sophia Bix (Conservation & Design Officer, Norwich City Council)
Clare Price (20th Century Society)
James Alfatt (Bidwells)
Heather Jermy (Purcell)
Jon Wright (Purcell).

Their assistance and contributions are gratefully acknowledged.

Particular acknowledgement must be made to two publications which contain a wealth of detailed information about UEA, *The History of the University of East Anglia Norwich* by Michael Sanderson (2002), and *Concrete and Open Skies* by Peter Dormer & Stefan Muthesius (2001). We used these sources so many times that it would have been impossible to insert references on each occasion.

Introduction

Scope and objectives

The University of East Anglia (UEA) was founded in 1960, admitted its first students in 1963, and is now a large and successful university. It draws academics, students and visitors from all over the world, and plays a central role in the economy and community life of Norwich. The mission of the University is to ‘advance learning and the increase of knowledge both to satisfy the aspirations of individuals and to contribute to economic, social and cultural progress at regional, national and international levels.’

The future success of UEA relies on continuing growth in academic activities and student numbers, and this in turn relies on constant adaptation and expansion of the University’s buildings. The University must plan for future development of the estate, but recognises the need to remain sympathetic to the architectural and landscape significance of its buildings and site. To assist in achieving these objectives the University commissioned a Conservation Development Strategy to identify ways of developing the estate whilst maintaining its significance. This has many aspects including:

- retaining the character and quality of the significant architectural and landscape elements;
- considering adaptations and compatible new elements which will make the University more effective in its fundamental purpose;
- identifying opportunities for growth and change;
- identifying elements which adversely affect the University and which are in need of modification or removal;
- providing an approach to maintenance and the replacement of deteriorated elements;
- drawing attention to the need for co-ordination and continuity of conservation decisions.

The Strategy sets out principles and policies for the care of the University estate, and identifies opportunities for development, but does not present fully worked-out plans for refurbishment or new development. Any proposed action should be developed and evaluated with reference to the Strategy.

The Strategy deals with conservation issues, but conservation is only one factor that must be taken into account when the University is planning or carrying out work to the estate; other factors would include academic priorities, funding, traffic, environmental impact, etc, within the University's overarching Corporate Plan. This Conservation Development Strategy, therefore, does not constitute an overall development plan for the University, but contributes to UEA's Development Framework Strategy for growth.

The Strategy identifies opportunities for change at UEA, and in this respect it is more ambitious than a typical conservation plan. A conservation plan restricts itself to reviewing the present situation, and is then referred to when proposals for change are brought forward as a separate exercise. The Strategy can fulfil exactly the same role as a typical conservation plan, but by adding opportunities for change it mitigates the planning uncertainty faced by UEA due to the significance of its existing building stock.

It is important to note that the Strategy gathers together principles of good practice. The proposals are not all novel and many are already part of current practice at UEA. In these cases the Strategy aims to reinforce the present situation and ensure it continues.

It is most important that the Conservation Development Strategy should be a practical guide for action and a material consideration of weight in future planning negotiations. It reflects a range of present-day informed opinion on conservation-related issues at UEA and, subject to resource and timescale constraints, it is believed that its proposals are practical and realisable.

How the Strategy is organised

The Conservation Development Strategy is based on the well-established ideas of conservation plans, which are promoted by Historic England and the Heritage Lottery Fund, and derive from the pioneering work in Australia by J S Kerr.

The Strategy is in five sections:

Section 1, 'Understanding', describes the building history of the University in a chronological sequence, including a discussion of the social and economic factors which explain the present character of UEA. The architectural and landscape significance is evaluated.

Section 2, 'Issues', discusses the pressures that might lead to loss of significance, if not managed appropriately. Experience of other buildings and sites which are facing similar pressures are reviewed.

Section 3, 'Strategy', begins with a statement of general Principles that will enable UEA to respond to pressures for growth and change while taking full account of heritage significance. Then the individual parts of the University are considered. The significance of each of the main elements is assessed, then special observations are noted and, where appropriate, Policies are set out indicating how the general Principles should be applied. These Policies are cross-referenced to the relevant Principles. The assessments of individual elements are intended to identify significance and do not constitute an exhaustive survey, which falls outside the scope of the Conservation Development Strategy. This section concludes with a methodology for using the Conservation Development Strategy for impact assessment.

Section 4 describes the main sources of information about the buildings and landscape of UEA. This includes the statutory listing statements.

Section 5 contains plans showing the site and key buildings at UEA.

How to use the Strategy

The Conservation Development Strategy is intended for a wide readership, on the proposition that the better the University estate is understood, the better it will be appreciated and therefore treated. All users should therefore benefit from reading Section 1, 'Understanding', even if their particular interest is focused on one part of the University.

Readers who are concerned with the broad issues of conservation at UEA should read the whole of Section 2, 'Issues'. Other readers might prefer to return to Section 2 after using relevant parts of Section 3, 'Strategy'. However, all readers should aim to digest the basic information in Section 2.

Readers who are concerned with particular elements should refer to the relevant entry in Section 3 before referring back to Section 2.

If readers want to follow up any points in the Conservation Development Strategy in more detail, Section 4 gives a list of published sources referred to in the preparation of the Strategy, and also identifies locations with other material specifically related to the buildings and site.

The plans are grouped in Section 5 so that they can easily be referred to whenever needed.

Updating the Strategy

Some aspects of the Conservation Development Strategy should remain valid for a long time, but others will become superseded by new developments, including revisions to legislation and guidance.

It is important that the Strategy is systematically updated to ensure that it does not become irrelevant. New issues of the Strategy should be clearly marked and dated, and distributed to all interested parties.

SECTION 1

UNDERSTANDING

In this section the development of the University of East Anglia and its buildings and landscape are described in a chronological sequence. There is also some discussion of more general issues which explain the present character of the University.

The origins of UEA

Universities and the Welfare State

After World War II Britain embarked on the creation of a Welfare State to eradicate five evils – poverty, idleness, disease, squalor and ignorance – that had afflicted the lives of so many during the inter-war depression (Timmins, 1995). It was a huge enterprise and had overwhelming public support. Everyone assumed that the state would take the lead, just as the state had led the mobilisation of Britain in wartime.

As with all aspects of British life, it was expected that the universities would undergo radical transformation. However, in the 1940s and early 1950s the universities were a relatively low priority, compared, for example, to the National Health Service, the New Towns and the expansion of primary and secondary schools. This was because children from the new Welfare State schools would not reach university age until the 1960s.

The university sector was starting from a modest base: at the end of World War II there were around 50,000 students in British universities, of which a quarter were at Oxford and Cambridge, a quarter at London University, a quarter at the Scottish universities, and the remainder at the Welsh and ‘redbrick’ universities. Anticipating spectacular growth, many cities thought that they should have a new university, and numerous local committees and pressure groups were formed. At the same time, non-university higher education institutions aimed for university status and the existing universities developed ambitious expansion plans. All these groups looked to the government body that dealt with universities, the University Grants Committee.

The University Grants Committee (UGC) was a small cog in the large Treasury machine (Carswell, 1985). Established in 1919, its role was to identify the financial needs of the universities, obtain funds from the Treasury, and distribute grants to individual institutions. Because it was accepted that universities were independent and self-governing, the UGC played no role in directing what universities actually did, despite providing most of their funding. The UGC’s most powerful lever was the control of capital

projects: academic expansion normally required new buildings, so UGC decisions on the funding of construction determined which developments went ahead.

During the 1950s the UGC approved development projects to meet the expected need for growth. Their favoured method was the expansion of existing universities, because this could achieve results more quickly and cheaply than starting from scratch. Under this policy the number of university students rose to 130,000 by 1960, but with the increasingly urgent pressure of numbers the UGC decided to fund a small number of new universities. This also gave a better geographical spread of universities and met the prevailing desire for innovation. Norwich was one of the cities that successfully lobbied for a brand new university. The others were York, Lancaster, Brighton (University of Sussex), Coventry (University of Warwick), and Colchester (University of Essex). At Bath and Canterbury (University of Kent) existing higher education colleges were upgraded to university status and rebuilt on new sites. The names of the chosen cities had a Shakespearian ring, in contrast to the industrial cities with 'redbrick' universities, suggesting historic and even romantic aspirations.

The UGC's decision in favour of Norwich was made in April 1960. It was a momentous step, but the job of creating a new university was just beginning.

From dream to reality

The creation of a new university at Norwich owed a great deal to the enthusiasm and efforts of local people over many years. A memorandum had been submitted to the UGC in 1947, and in 1958 the local initiative was reactivated and a Promotion Committee formed, which secured the support of local government, industry and influential local figures. Some funds were raised, and a site owned by the City Council near Earlham Hall was earmarked for university use. The name 'University of East Anglia' was chosen, rather than University of Norwich or Norfolk, to gain broader regional support. The Promotion Committee was chaired by Lord Mackintosh, a prominent local businessman; Gordon Tilsley, the Town Clerk of Norwich, acted as chief administrator until the appointment of the university's first full-time Registrar in 1962.

The serious business of the new university at Norwich began in the summer of 1960 when the UGC appointed an Academic Planning Board. The crucial post of Vice-Chancellor of the new university was first offered to C H Waddington (1905-1975), an eminent geneticist at Edinburgh University, who initially accepted but then withdrew. After a second round of shortlisting and interviews Frank Thistlethwaite (1915-2000) was selected in July 1961. He was a relatively young historian at Cambridge University specialising in American history, with experience of working at American universities. Thistlethwaite



One of the most ambitious pre-New University expansion plans was at Leeds. For the designers of the New Universities, 'There was one recent development plan which was studied with great interest and which had considerable relevance; that was the carefully documented study for Leeds University by Chamberlin Powell & Bon, published in 1960' (Brawne, 1970). It argued for compactness and flexible, continuous teaching space – lessons learned at UEA. (2006)



Frank Thistlethwaite's successful textbook on American history, *The Great Experiment* (1955) – an apt title for his own years at UEA.

took up the post in October 1961 and held it until his retirement in 1980. His distinctive vision for the new university was to loosen traditional subject-area boundaries and move to more interactive teaching. Thus, disciplines were grouped into schools of study, and contacts between schools were encouraged. Seminar teaching was promoted. The university was to be a single community in which networking would be maximised. Thistlethwaite's educational and social ideas fed directly into the physical plan of the university.

The pro-university mood of the 1960s was confirmed by the Robbins Report, which was published in October 1963. The New Universities had already been established, but Robbins gave an enormous boost. 'Its case for a large and rapid increase in higher education on demographic, economic and social grounds was undeniable. ... The public mood was one in which great numbers of things which in a normal period would take years to settle if they could be settled at all, could be decided for ill or good in almost no time. The press, the public, the political parties, were full of enthusiasm for higher education, especially university education. Money flowed in abundance. The few voices that were raised in opposition and restraint were shouted down and muffled' (Carswell, 1985). Universities moved from the UGC backwater in the Treasury to political arena of the Department of Education and Science, where high-profile ministers staked their reputations on exciting policies for the university sector.

The positive signals to the new universities could not have been stronger. 'In Whitehall as elsewhere, there was a determination that the system should not be devalued as a result of expansion. Robbins was not to be done on the cheap. Building standards were generous, staffing ratios were maintained or even allowed to improve, postgraduate support was rapidly extended, and the growth of ancillary services was faster than the growth of student numbers' (Carswell, 1985).

At the embryonic University of East Anglia it was clear that permanent buildings on the new Earlham site could not be ready for some years. The University leased the adjacent Earlham Hall (it is now owned by UEA), and a temporary 'University Village' was built on a nearby site between December 1962 and July 1963. The first 112 undergraduates arrived in October 1963.



The temporary University Village (1962-63), designed by David Luckhurst of Feilden & Mawson. It remained in use until the 1980s. The site is now occupied by new student housing which retains the name 'University Village'.

The visionary masterplan

Lasdun and Thistlethwaite

One of Frank Thistlethwaite's first tasks when he took up the post of Vice-Chancellor of the new University of East Anglia on 1 October 1961 was to make arrangements for the university's permanent buildings. In keeping with the spirit of the times, Thistlethwaite aimed high, seeking 'the best contemporary architecture of its time: distinguished buildings which would make a positive presence felt and provide a sense of place and an aesthetic experience for generations of students' (Thistlethwaite, 2000).

Thistlethwaite had a preference for commissioning a single architect both to draw up a masterplan and build the first wave of buildings, in order to assure a coherent and architecturally notable result. This ruled out the alternative procedure where one architect would devise the masterplan and design some key buildings, with other approved firms executing individual buildings. Sir Leslie Martin had put forward this idea in June 1961, but Thistlethwaite looked elsewhere. His approach also excluded the involvement of local architectural practices.

Various names were canvassed, and on 10 October 1961 – a little over a week after taking up his new post – Frank Thistlethwaite went to see Denys Lasdun in his London office. There were two previous points of contact. Earlier in 1961 Lasdun had presented a design for student residences at St Johns' College, Cambridge, where Thistlethwaite had been a fellow and member of the building committee. Lasdun was not selected but he made a favourable impression on Thistlethwaite. In addition, the chairman of the UEA's Academic Planning Board was from Leicester University, where Lasdun had just designed Stamford House, a student residence building.

Denys Lasdun & Partners (DLP) had established an international reputation for inspiring and exciting architecture. The practice was already working on major university projects around Britain, and so were familiar with the challenges of creating prestigious architecture on tight budgets. Lasdun was exceptionally well qualified for the UEA commission.

The meeting between Thistlethwaite and Lasdun was a success. Lasdun was offered the commission in

There is another expression of English political strength which is detrimental to art: the democratic rule by committee and majority. Building today more than ever before is decided by committees. Committees can never be hoped to be the best of judges in matters aesthetic. To demand or merely to licence a bold building requires a bold man.

Nikolaus Pevsner *The Englishness of English Art* (1957). Frank Thistlethwaite was UEA's 'bold man'.

January 1962 and after administrative formalities his appointment was confirmed in March 1962. He said he should be left alone for a year to develop a masterplan for the new university.

Development Plan – Draft I and Draft II

In early 1962 UEA was still a very small organisation. Initial briefing for the new buildings took the form of informal discussions between Lasdun and Thistlethwaite on the nature and needs of the new university. They discussed the academic and social implications of centralised facilities as opposed to colleges, and the need to bring disciplines together; and agreed on a tight grouping of buildings to minimise distances and create an urban quality to the university. Otherwise Lasdun had a free hand in planning a university of 3,000 students to be built over ten years, with scope for further expansion to 6,000 students.

Over the summer months of 1962 the UEA project team in Lasdun's office drew and redrew the site with different ideas for the university masterplan. They were strongly influenced by the topography of the site, with the buildings being concentrated on the higher ground towards the north boundary. In the first design studies the central group of buildings was located towards the west of this built-up zone, looking down the steep hillside to the bend in the River Yare, with the remaining accommodation extending towards the east. Denys Lasdun saw the opportunity of moving the main focus to a central position, with eastward and westward growth divided by a central 'harbour'. This was the generating inspiration that led to the masterplan.

Two important themes emerged in the early, formative studies. Firstly, the zigzagging residential blocks appeared at an early stage, forming a boundary between the open landscape and the academic accommodation. Secondly, multi-level solutions with raised decks and walkways were a consistent feature throughout design development.

Draft I of the Development Plan was presented to the University in December 1962 and unveiled to the public on 25 April 1963 – Lasdun literally removed covering sheets from models and drawings one-by-one. His office first emphasised the acronym 'UEA', which later became ubiquitous. The Draft I design was greeted enthusiastically and received extensive publication and comment in international architectural journals. It is crucial for an understanding of Lasdun's intentions at UEA, representing his underlying ideas before practicalities masked their clarity. Some years later Lasdun set out the generating principles in the following words (Lasdun, 1969):

Concentration: The University must be compact, a place where activities merge and where the individual can sense his identity with the whole. All activities are within five minutes' walking distance and linked by continuous pedestrian routes.



Lasdun's development Plan Draft I received an enthusiastic response when it was presented in April 1963.

The work of briefing the Architect for the Development Plan went on throughout the spring and summer of 1962. Mr. Lasdun absorbed the academic design in all its aspects and it became clear that it was congenial to him and that there was a real meeting of minds about the way this should be resolved in architectonic terms. Space precludes an account of the extended conversations involved. Two points of principle and one or two specific features may, however, be mentioned. First, the architect was asked to evolve an integrated, rather than a dispersed, scheme, appropriate to the academic design. Secondly, the scheme should not only be flexible enough to accommodate unforeseen needs for many years to come, but should be a coherent entity at each stage of growth so that early generations of students should not have the sense of living in a broken and unfinished development. The architect responded imaginatively to the demands of both these criteria, especially in his concern for a solution which would be "urban" or concentrated rather than "campus" or dispersed, which would provide a "sense of place", for the movement of people, their encounters and their sociable relations, and which could be capable of being realised in terms of organic growth. He was also provided with guidance as to the nature of the principal buildings and the priorities for their construction.

Frank Thistlethwaite: *The Founding of the University of East Anglia: a reminiscent chronicle*, November 1963

Limitation of the spread: This together with the fact that there will be no 'cordon sanitaire' not only secures the continued enjoyment of a recreated landscape for the university and the people of Norwich, but also ensures its continuance as a cohesive whole.

Linkage and Movement: Elevated walkways, carrying services, run horizontally against the natural slope of the ground enabling buildings to be entered one or more floors above ground level, while roads follow the slope of the ground. This gives a degree of concentration otherwise obtainable only by a more extensive use of lifts; allows separation of pedestrians from vehicles; and encourages mixing and chance encounters.

Student Living: A form of living fully integrated with the University as a whole and capable of fostering small groups within the larger community.

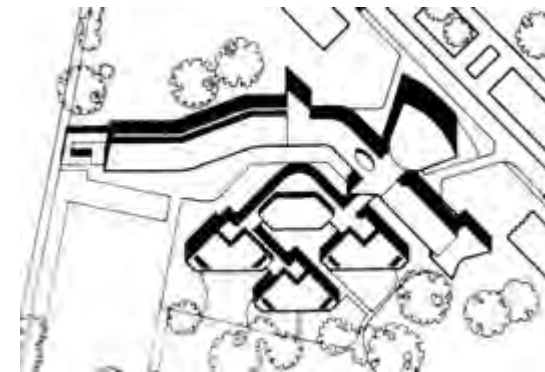
Materials: The infinite variety of colour in the valley landscape makes the choice of external materials and colour of particular importance. Of all the suitable materials available today concrete in its natural grey state appears to enhance the colours of the landscape to greatest advantage. It is important, therefore, that there should be a predominance of this material with its range of neutral colours depending on whether it is precast, in situ or in the form of concrete blocks.

Growth: The establishment of a nucleus in the first stage by systems of quick construction to produce a microcosm of the ultimate University. The plan must have the capacity to assimilate the changing needs of the academic programme and be susceptible to architectural modifications and elaborations by discovery and use.

Following the euphoric response to Draft I, there was a period of negotiation with the newly-appointed heads of academic departments about their precise needs. Almost all the changes to the masterplan were driven by academic considerations. The teaching accommodation for the arts and sciences, which had been separated, was recast as a long teaching wall. The library moved to its current freestanding position, with room for expansion, and all the commercial, social and catering functions were grouped into a single building. In contrast, the ziggurat residences were only slightly adjusted. The Development Plan Draft II incorporating these changes was made public at the end of September 1963, as the first students were arriving at the temporary University Village.



Lasdun's revised Development Plan Draft II of September 1963. In the Stage 1 building programme of 1965-74 about one-third of this plan was built.



Lasdun's Hallfield primary school in London of 1951. Aspects of its design language recurred at UEA on a much larger scale.

Building the vision

Development Plan Draft II was finalised and approved in the months following September 1963. Site works started in 1964 and construction of the first buildings in Stage 1 of the campus started in January 1965.

The process of building was a struggle. The new universities were established in a wave of enthusiasm and had huge ambitions, which went far beyond the funds provided by the Treasury. DLP had to work hard to keep within the UGC cost limits; they were helped by the successful fundraising efforts of the Promotions Committee which raised more than £1 million towards constructing the ziggurats. Nevertheless, the specification level for many fittings was sacrificed so that funds could go into the structural elements. DLP argued that if more money could be found later it would be possible to upgrade fittings but not the structure. The interiors at UEA had to be simple and utilitarian, but they were carefully designed and detailed using the resources available. Lasdun's greatest achievement at UEA is shown in the massing of the buildings, the circulation routes and the interrelation of blocks, but the individual Lasdun buildings are of high architectural interest, as confirmed by the listing of the main buildings in 2003.

An intensive building programme between 1965 and 1968 saw the completion of ten ziggurat blocks, srage 1 of the Library, substantial parts of the Academic Wall and walkway system, staff housing, squash courts, the Lecture Theatre block and the Computing Centre. The first three ziggurats and the Chemistry segment of the Teaching Wall were occupied in October 1966. The new buildings were used in parallel with the temporary University Village and Earlham Hall.

Lasdun had a difficult relationship with many influential figures at UEA from an early stage. The challenge of building architecturally adventurous designs under intense budgetry and timescale pressures caused strains. In 1968 DLP and the University agreed that it would be best to find another architectural practice to continue the building programme. Lasdun referred to his office's 'disengagement' from the project.

Lasdun had been aware that the whole of UEA was unlikely to be built in accordance with Development Plan Draft II. He therefore ensured that Stage 1 would be able to stand alone if the need arose. This realism gives Lasdun's work at UEA its architectural coherence, despite the fact that not even the whole of Stage 1 was completed to his designs. However, the non-completion of Lasdun's masterplan presents a continuing challenge and opportunity for his successors.

DLP produced Development Plan Draft III in 1969, taking account of changes in financial circumstances and alterations to the brief since Draft II. The text accompanying Draft III is the most substantial



Construction in progress in 1965.



Norfolk Terrace in 1970 looking towards the Biology section of the Academic Wall. Additional sections of the Academic Wall and walkway were built in 1970-74. (23 February 1970)

document produced by DLP on UEA. It explains the key themes of the earlier drafts, and gives Lasdun's views on how to safeguard the quality of UEA's architecture whilst satisfying the university's need for growth and change. Virtually nothing of the Draft III proposal was built in the way Lasdun proposed.

Evaluation of Lasdun's work at UEA

In the early 1960s the New Universities were highly desirable architectural commissions – 'the most prestigious building projects of the whole post-war era' (Saint, 1992). They were an expression of national purpose in the era of the Welfare State, equivalent to, say, a palace or cathedral for earlier generations. The University of Sussex was the first of the New Universities to get under way; in 1959 Sir Basil Spence (of Coventry Cathedral fame) designed a masterplan of pavilions in a landscaped park. The 'headline' building was Falmer House (1960-62), the gateway to the University, which housed the social and communal facilities. Its lavish design horrified the University Grants Committee; it is now listed Grade I (the only building in the New Universities to have this grade). Later buildings at Sussex were much more economical.

Lasdun was not interested in designing tasteful pavilions in a landscaped park. He wanted to express the vitality and dynamism of university life in a correspondingly vital and dynamic form. It was less important to display good taste than to be radical and 'urban'. This meant a network of connected buildings, rather than pavilions. Over the summer of 1962 DLP's team re-thought the conventions of campus planning to produce the distinctive linear layout of teaching and residential buildings, that gave UEA's Development Plan and the completed buildings such a powerful architectural character. It was a remarkable creation.

Needless to say, there were precedents for the elements of the UEA masterplan – it was developed within an intellectual context where many of Lasdun's concerns and values were shared by others. But the synthesis at UEA is unique.

Two other New Universities aimed for the same dense urbanity as UEA – Lancaster and Essex. The masterplan for Lancaster was designed by Gabriel Epstein of Shephard & Epstein in 1963 and the first buildings date from 1965-68 – the same as UEA. Lancaster used a more conventional layout type of the period, with buildings arranged informally around casual semi-courtyards. This leads to a rather labyrinthine and monotonous architectural character, although functionally sound. Architecturally, UEA is much bolder and more exciting.

The masterplan of University of Essex was designed by Kenneth Capon of Architects Co-partnership



Falmer House, University of Sussex, by Sir Basil Spence. 'Some of the officials [of the UGC] groaned about the proclivities of some universities to appoint prestigious and therefore, they suspected, expensive architects' (Carswell, 1985). (2004)



Lancaster University adopted a compact, high-density masterplan, but the buildings and layouts were bland by comparison with UEA. (2006)

in 1962 and construction started in 1964, just ahead of UEA. Like Lasdun at UEA, Capon developed a completely new architectural language. Thus, Essex is the most similar of the new Universities to UEA. When comparing them, UEA has two strong advantages: first, both masterplans were abandoned long before completion, but Lasdun's work at UEA has a coherence which is lacking at Essex, where unfinished decks are still intrusive; and second, the character of the individual buildings is generally stronger at UEA than Essex, with the exception of the Essex library which is architecturally more impressive than UEA's.

UEA stands, therefore, as one of the architectural stars of the New Universities, and even in its incomplete form it is the most striking large scale architectural composition of the whole post-war Welfare State building programme. The view of Lasdun's UEA buildings from the Broad bears comparison with earlier architectural set pieces in Britain, like Blenheim Palace or Carlton House Terrace.

Despite starting with boundless ambition, UEA was less than half built and what was built was on constrained budgets. Thus the close-up quality of the buildings suffers in comparison with other buildings of the period with more generous funding than provided by the UGC, such as Arne Jacobsen's St Catherine's College, Oxford (1960-64, listed Grade I) or Lasdun's own Royal College of Physicians, London (1960-64, listed Grade I). Nevertheless, despite tight budgets the main Lasdun blocks at UEA were meticulously detailed, particularly the precast concrete and window elements.

The overall conception and impact is the most important thing at UEA. It is sometimes pointed out that Lasdun published photos of UEA models long after work had started on site, but there is sense in this as the models communicate Lasdun's design concept so well. His approach at UEA could be called 'schematic': the big idea is dominant and the physical realisation of individual buildings is a subsidiary point of interest.

Lasdun's UEA: key themes

A number of important themes contribute towards an understanding of the architecture of Lasdun at UEA.

1. Urban Quality

Lasdun was determined to produce a university which would be more like a city than a suburb. Thistlethwaite recalled agreeing that something of the density and concentration of an Italian hilltop town would be desirable, and the comparison appears repeatedly in his writing and Lasdun's (eg. Thistlethwaite, 2000). In the 1969 Development Plan report the theme of urban density and tight



The Architect of Essex University, Kenneth Capon, answered critics by saying, 'Wait until it's finished', but like the masterplans of all New Universities it never was finished. (2006)



San Gimignano, the perfect Italian hill town.

planning is emphasised: ‘The unbroken continuum of teaching and living spaces form an architecture of urban landscape rather than a collection of disparate campus buildings.’

2. Raised Walkways

The raised walkways go back to the earliest design studies. Pedestrian separation from traffic was a favourite feature of post-war planning; at UEA as elsewhere the excitement of movement in three dimensions was at least as strong a motivation as practicality. The main pedestrian route was not integrated into the linear teaching wall, but was built as a separate walkway alongside, but detached from, the face of the building. Lasdun pointed out that the sloping site meant the raised walkways connect to ground level at the entry point to the campus.

Elsewhere walkways of this period are often covered, but not UEA’s. One important component has been lost: the linking stair between the Norfolk Terrace ziggurats and the walkway outside Biology. At present the ziggurat walkway is a long dead-end.

The walkways provide many of the best views of UEA’s architecture, like those between the ziggurat roof-towers and along the narrow space between Norfolk Terrace and the Academic Wall.

The walkway network was not extended after the completion of Stage 1 of Lasdun’s masterplan, apart from the slender and little-used link to the Sainsbury Centre (more of a bridge than a walkway), although the new buildings to the north of the Academic Wall have connecting bridges (covered) at walkway level.

3. Exposed Concrete

Lasdun believed that concrete was the definitive material of the 20th century (Calder, 2015). He argued that it was especially appropriate for UEA’s rural setting, but he used concrete in urban buildings too. He advised future architects to ‘keep the number of materials used to a minimum. Building should be predominantly in concrete, with concrete blocks for load bearing walls’. Feilden & Mawson followed this advice in completing Stage 1 of the campus.

The dominant use of concrete is central to Lasdun’s architectural values. In the 1990s he made the following notes on his career: ‘Not at all ashamed to have employed concrete. ... Not a cosy little material ... but great potential when properly employed in the proper situation – and properly maintained. A serious material, not slick, not trendy. ... Can produce a sculptural form of great power; the building is what it is. ... Concrete makes manifest the true essence of form, space, structure and surface’ (Lasdun Archive, RIBA Library). In his 1977 RIBA Royal Gold Medal speech Lasdun said that



The dramatic concrete world under the Teaching Wall walkways. (2006)

modernist buildings ‘are not always pretty. Nor need they be pretty; architecture has other things to do besides consoling. It can feed our imaginative life [by creating] the sense of wonderment’ (Lasdun, 1977).

Concrete is a versatile material. At UEA it is used in three ways: cast in situ for large structural elements; smaller, more precise precast units where there is repetition; and as blockwork for smaller, non-repetitive elements or non-structural partitions.

The precast systems for structure and cladding, developed by DLP in collaboration with structural engineers Ove Arup & Partners, were particularly sophisticated. The control of rainwater on the precast cladding of the Academic Wall and Library has avoided ugly weathering, but leaks from the ingenious secret drainage have caused corrosion of some fixings.

Some blocks that were due to be extended were left with blank end walls: the west end of Norfolk Terrace and the east end of Suffolk Terrace, the west end of the Academic Wall and the north end of the Arts spur, and some of the service cores on the north face of the Academic Wall. These walls still remain in their relatively crude, ‘unfinished’ state.

4. Landscape and the ‘harbour’

The UGC required that the New Universities should have large sites, so they all ended up in suburban locations. Much of UEA’s Earlham site had been a municipal golf course (UEA is required to keep its grounds open to the public). Lasdun wanted to retain the sense of semi-wild parkland and marsh as a setting and counterpoint for his compact group of buildings. His landscape vision was romantic, indeed with an element of fantasy – ‘virtually an outcrop of stone on the side of a hill leading down to a river’ (Lasdun, 1966). It is in the tradition of an eighteenth century landscaped park, which excludes the outside world – in this case the semi-detached housing of suburban Norwich which Lasdun, like most architects, found utterly uninspiring.

For Lasdun the ‘harbour’ was a crucial design idea. This is the open area between Norfolk and Suffolk Terraces, bounded by the Library, Lecture Theatres and Computing Centre. In Lasdun’s diagrams it is the point where flows of space converge – ‘the key “monument” around which the whole organisation devolves’, and a ‘spatial transition from the open Norfolk landscape to the more intimate spaces of the University itself.’ (Development Plan report, 1966). The reality does not have the impact of Lasdun’s evocative descriptions.



View into the harbour from the south. (2018)



The south sides of the Ziggurats are the strongest architectural elements at UEA. (2018)

The key buildings

The three most impressive architectural elements of Lasdun's Stage 1 development were listed as buildings of special architectural or historic interest in 2003.

Ziggurats (listed Grade II*)

Two ranges of residential accommodation, Norfolk and Suffolk Terraces, soon came to be known as the 'ziggurats' due to their distinctive form. They were a fundamental part of Lasdun's scheme for UEA. The idea of a fringe of residences facing south over open landscape was fully developed in Lasdun's Development Plan Draft I of April 1963. The detailed design of the ziggurats was by Ted Cullinan (1931-2019) when he worked in Lasdun's office; he subsequently established his own practice and was awarded the RIBA Royal Gold Medal of Architecture in 2008. The ziggurats were built in 1965-67.

Lasdun had worked on stepped-section student residences before he was appointed by UEA. His runner-up scheme for St John's College, Cambridge, of 1961 had a stepped section; and design studies for a stepped-section student residence at Christ's College, Cambridge, were begun in 1961, although construction did not start until 1966. There were precedents for stepped section buildings dating back to early decades of the 20th Century and the idea was prevalent around 1960. The UEA residences were an extreme case of the stepped section, both in terms of the large-scale impact when seen from a distance, and the ingenious three-dimensional packing that was achieved.

Each ziggurat comprises of 5, 6 or 7 stacked 'habitats' of 12 rooms (10 single and 2 double) and a kitchen, utility, showers, bathroom and toilets. The idea of student groupings of this size had been established in the earliest discussions between Thistlethwaite and Lasdun.

Each ziggurat is actually a 32m long segment of a linear block which is shaped like a saw-tooth in plan, all set out on a 9ft (2.75m) square diagonal grid. Only the top two levels are really pyramid-like: all the below-walkway levels have the same number of rooms. The ingenuity of planning and visual impact are outstanding. The setback between levels allows very low ceiling heights in the corridors and service areas, reducing the overall height of the building; in addition, one or two levels are sunk into the ground, exploiting the sloping site. As a result the ziggurats have up to eight levels, whereas the newer student housing, such as Constable Terrace, has four levels. This, plus the saw-tooth plan, means that as many students are accommodated in a 32m ziggurat as in a 32m slice of Constable Terrace; but whereas half the rooms in Constable Terrace face north, away from the landscape, all rooms in the ziggurats look out onto the landscape. The ziggurats are complicated buildings, but they exploit their location brilliantly.



The austere north side of Norfolk Terrace in 1970.
(23 February 1970)



Norfolk Terrace in 2004 with overgrown planting.

The north side of the ziggurats facing the rest of the university is quite different from the south side facing the Yare valley. There was undoubtedly an architectural fascination with expressing the contrast between front and back so strongly, and the rugged, cliff-like north side is impressive but challenging, especially for Norfolk Terrace. Attempts have been made to ‘soften’ it with climbers, trees and planting boxes; Lasdun dismissed the last as ‘suburban’, a term of contempt. The area is degraded by the paraphernalia of dustbins, etc, but Lasdun himself said that the undercroft was to ‘deal with all the backyard mess of undergraduate activities, games rooms, laundries, cars and bicycles’ (Lasdun, 1965).

Lasdun’s Development Plans showed over 50 ziggurats, but only ten were built. None of the later student residences at UEA were built with a stepped-section; nor did they take on the ziggurats’ role as attention-grabbing architectural markers at the boundary between urban development and open landscape. Ten ziggurats out of fifty sounds unimpressive, but the reality is in fact magnificent: the panorama towards the ziggurats from the Broad is the key image of UEA.

Academic Wall (formerly known as the Teaching Wall) (listed Grade II)

The Academic Wall was Lasdun’s response to the ethos of UEA expressed in Frank Thistlethwaite’s original brief for the new university’s buildings: ‘The individual disciplines were to relate to each other and be physically close and to “foster a striving toward the unity of knowledge” ’ (Sanderson, 2002, pp.142-143). Lasdun’s Development Plan Draft I (1963) gave this concept an architectural form: ‘The teaching block, not yet called the Teaching [now Academic] Wall, would snake down the slope from the north east to south west with arts and science buildings intermixed in a long sequence’ (p.148). All subsequent evolutions of the Development Plan retained the linear academic building. Lasdun said that it ‘eliminates boundaries between teaching faculties. The “wall” of teaching contains little and big rooms with backyard space. It ensures closeness of departments; economy of services; facilitates exchange of ideas and equipment and can cope with disciplines not yet born’ (Lasdun, 1965).

The Academic Wall has a unified built form but in fact it consists of segments for different disciplines with limited internal connections between them. There is no internal circulation spine between the buildings and disciplines; instead, the shared external walkway is provided for movement along the Academic Wall and between disciplines. Despite the disciplines’ functional separation, the shared architectural setting provides a visual symbol of ‘the unity of knowledge’ that would be lost if the disciplines were in separate buildings.

When Lasdun ceased to be the university’s architect in 1968 two isolated segments of the Academic Wall had been built (Biology, and Chemistry and Arts I). Lasdun had explained to the university the importance of completing the wall: ‘There is no doubt that if we could complete the spine teaching wall



The seemingly never-ending south elevation of the Academic Wall. (2018)

Around about December 1962, the academics began to thicken up on the ground and the beginnings started of an immensely important dialogue between the users, who are the people who were actually going to use the buildings, and the architects, and we created this alliance which has had its ups and downs, but the end products are now being built.

In Development Plan No. 1 we were probing and groping for a solution and we still hadn’t cottoned on to the unknown possibilities that were facing all Schools of teaching, namely the notion of being able to change their buildings, being able to move about.

We discovered jointly with the academics that the important thing to do was to create what we have described as a teaching wall; that is, that a system of building which goes from one side of the site to the other, which contains small rooms, big rooms, specialist rooms, which can be prefabricated – which it is being done – and which could cope both with the known factors of teaching and the imponderable additions and changes that might be wanted in the future.

It was an immensely important discovery, even with its imperfections, it is beginning to prove a very wise decision.

Denys Lasdun, 21 July 1966 (UEA Archives)

... it would act as a vertebrate to the whole university' (1966). The omens were not favourable: in 1968 the Estates Officer wrote, 'As to the teaching wall, cost limits on all buildings were now very much more restrictive than they had been. The Estates Officer seriously doubted whether within the new norms we should be able to keep the same fenestration and external elevation. If not, this would affect the whole of the Lasdun Development Plan.' Fortunately, in 1969-74 Feilden & Mawson, Lasdun's successor as UEA architect, did succeed in filling the gap between the Lasdun elements (with Science) and also added an extension to the east (Arts II; *see* diagram on page 3-31). Feilden & Mawson's continuation of the Academic Wall has made a tremendous contribution to the architectural character of UEA.

The Academic Wall is a large building, 460m long. Lasdun envisaged something even larger, with an extension to the west and a second parallel wall to the north, connected by linking blocks. This unfulfilled ambition is the reason why the west end of the present building and the north end of the Arts spur, the only linking block to be built, were left in an unfinished state with blank concrete walls and 'temporary' spiral escape stairs.

A primary consideration in the design of the Academic Wall was flexibility for a variety of uses and for changes in use. The floor dimension, with 50 ft (15.25m) width and 21 ft (6.4m) structural bays, was believed to be suitable for the needs of both humanities and sciences. Within these fixed dimensions the particular needs of different departments could be satisfied by adjustments like the positioning of internal columns and the layout of non-structural partitioning which could be rearranged as required.

The seemingly never-ending south elevation, where the Lasdun and Feilden & Mawson elements are indistinguishable, is the main source of the Academic Wall's large-scale visual impact. Giant service cores project on the north side. The bold rooftop structures give drama that the building would otherwise lack. It is remarkable that Lasdun's highly ambitious architectural vision was so fully achieved despite the unfavourable climate of cost controls and cost-cutting, friction between architect and client, and change of executive architect.

The length, height and imposing character of the Academic Wall mean that it is, and will always remain, the architectural backbone of the UEA campus.

Library (listed Grade II)

The Library was constructed in two stages, 1965-67 (north-west part) and 1971-74 (south-east part). A blank temporary wall closed off the first phase, but most photographs taken at this time were framed to avoid showing it.

Stage 2 was carried out after Denys Lasdun had ceased to be the University's architect, but to ensure



The north elevation of the Academic Wall is punctuated by the giant service cores. (2018)

continuity he was appointed as design architect in collaboration with Feilden & Mawson as executive architects. As with the Academic Wall, Feilden & Mawson were outstandingly successful in achieving integration between the earlier and later phases.

In Development Plan Draft I the Library was tightly integrated with the other central buildings, but in discussion with the newly-appointed librarian, Dr Guttman, it was moved in Draft II to the present more detached location to allow room for expansion. Lasdun anticipated expansion to the north-east, ultimately doubling the size of the library.

The librarian's clear ideas were a major influence on design development. He wanted open access with books and readers on the same floors – no large reading room, as at Lasdun's library for the School of Oriental and African Studies in the University of London. At UEA, Lasdun suggested a large stair rising through the building, and an arrangement with readers and books on alternating half-levels, but these architectural features were rejected in favour of simple, open floors. As a result the interiors work well but lack the architectural excitement of, for example, the library at the University of Essex.

The Library's architectural character derives from the precast concrete exterior. Unlike the Academic Wall, the lines of vertical support are emphasised. There are no vertical supports at the corners, giving a seamless continuity between adjoining elevations. The floor slab immediately above the walkway level is recessed, giving a double-storey scale; otherwise the wall system is applied uniformly to the whole of the building. Lasdun was happy to repeat architectural elements many, many times, but he usually provided some large-scale articulation to prevent crushing monotony, like the cranks in the Academic Wall.

The precast concrete wall system is exceptionally well-proportioned and well-detailed. It is visually more successful than Lasdun's later precast work at School of Oriental and African Studies (SOAS), University of London.

The Library was sited to permit growth and the third stage of development, designed by Shephard Epstein Hunter, was built in 2004-05.

Sir Denys Lasdun

In the early 1960s Denys Lasdun (1914-2001) was among Britain's most highly respected and internationally admired architects. His buildings and projects were published in architectural journals all over the world, and he received many of the best commissions in Britain. He deliberately restricted



UEA's Library is a free-standing building with a deeply-modelled elevations of precast concrete panels. (2006)



The Library at the University of Essex by the Architects Co-Partnership, 1968. (2006)

the number of projects he took on, to ensure that he could be involved all major design decisions; so Lasdun buildings are not numerous.

Denys Lasdun & Partners (DLP) was very firmly under the leadership of Lasdun himself and his design ideals permeated the office. He made unusually extensive use of models, not only the beautiful presentation models which appear in so many photographs, but also rougher working models which were built and rejected until satisfactory three-dimensional solutions had been achieved.

Lasdun trained at the Architectural Association in London in the early 1930s. The writings and buildings of Le Corbusier had immense impact on the younger generation, and Lasdun was captivated by reading *Towards a New Architecture* and especially by seeing the master's works in Paris. In 1972 Lasdun said that Le Corbusier 'was and still is the dominant figure in my architectural thinking' (Boyarsky & Maxwell, 1972). Le Corbusier's influence at UEA is clear in the use of exposed concrete, strongly articulated plan forms, and the bold roof features of the Academic Wall.

Throughout his career Lasdun was at the centre of the architectural community in London, but he was an independent architect who avoided groups and categories. The radical dissimilarity between his designs and others with the same function is much more striking than any similarities: UEA is unlike the other New Universities, and the National Theatre (designed 1964-9) differs from other theatres. Given Lasdun's love of Le Corbusier's Pavillon Suisse, it is remarkable how little any of his own buildings resemble it. Lasdun seldom repeated architectural ideas, thinking out each project from scratch. He was fluent in writing and speaking, sometimes with oracular obscurity, and could inspire and guide client committees.

Chronologically, UEA came at the height of Lasdun's most productive period, which began with the Clerdale Street cluster block in the mid-1950s and culminated in his designs for the National Theatre in the late 1960s. He was knighted in 1976 after the opening of the National Theatre, and his status in the architectural profession was shown by the award of the RIBA Royal Gold Medal in 1977. A retrospective exhibition was held at the Royal Academy in 1997.

Lasdun was a serious and sincere modernist, probably the greatest British architect in the generation of followers of Le Corbusier. He did not adjust to the anti-modernist or post-modernist mood of the 1970s and '80s. Major commissions no longer came his way and his practice was scaled down and eventually disappeared. He was always hyper-sensitive to criticism (Lasdun, 2003), and in old age was protective of the buildings he had successfully brought to fruition.

Lasdun's exceptional achievements are best exemplified by three remarkable buildings: the Royal



Denys Lasdun saw Le Corbusier's Pavillon Suisse in Paris only a few years after it was built in 1930-31, and it remained an iconic work throughout his life.

What the architect has to do is to express the significant image. He lives in the twentieth century, his buildings must communicate the significant side of the age in which he lives.

Most architects are now almost completely conditioned to think that the clear exhibition of structure on the outside and inside of a building is a moral imperative.

Every individual building will, in the course of its creation, produce its own laws and it is these before anything else that the architect must understand and accept.

The architect must always try to present something more universal than a private view or mood.

Technical developments ... cannot affect the central truth that the coherence of a work of architecture depends on its detail being a complete expression of and completely integrated in its basic architectural purpose.

A building is a whole thing, it has to be thought right through; control of siting, control of materials, control of volumes, elevational organisation are all part of a single process.

Denys Lasdun, extracts from 'Thoughts in Progress' (Lasdun, 1956-57)

College of Physicians, the National Theatre, and the University of East Anglia. UEA is his largest completed project, even in its reduced form. It has been well conserved, and its size allows the visitor to experience Lasdun's work at the urban scale to which he attached so much importance, as well as the scale of the individual buildings. What it lacks in the quality of its finishes and fittings compared to the other two higher-budget buildings in his trio of masterpieces, is compensated for by its scale and setting. The University of East Anglia is in the first rank of Lasdun's work.

Completion of first generation campus

When Denys Lasdun and UEA parted company in 1968 the University turned to the Norwich-based architectural practice of Feilden & Mawson, who had designed the original University Village (*see* page 1-4). They coordinated a programme of work to effectively complete Stage 1 of Lasdun's Development Plan, involving their own practice and a number of other East Anglian architects. Bernard Feilden (later Sir Bernard; 1919-2008) was a great admirer of Lasdun's work and Feilden & Mawson completed his Academic Wall and Library with exceptional care. There are some differences between the Lasdun and Feilden & Mawson segments of the Academic Wall, but these are suppressed on the most prominent south façade; internally the differences add interest by reflecting the building's evolution over time.

In the central area, where Lasdun's ideas were regarded as over-optimistic and unaffordable, Feilden & Mawson departed more radically from the Development Plan. The required accommodation was broken down into smaller buildings which were designed by different architects in accordance with a Feilden & Mawson masterplan. Bernard Feilden claims credit for creating a compact and lively central square. The Union House, restaurant building, Multifaith Centre, shopping street, Congregation Hall (the former sports hall), Council House, Registry and the Music Centre all date from this phase. They were essential for making the new campus at UEA a viable university by the early 1970s, which was not the case in 1968.

Continuity with the Lasdun buildings is helped by the consistent use of concrete, but the buildings are not as memorable as Lasdun's. However, they are subsidiary and do not detract from the architectural impact of Lasdun's own work, although the way that the linear shopping street separates the central square from the harbour destroys a connection that had been intended by Lasdun.

The completion of Stage 1 in the 1970s was set against a national mood which was completely different from the buoyancy and optimism of ten years earlier when UEA was founded. The euphoria exemplified by the Robbins Report on higher education (1963) lasted a very short time: the first ominous signs came as early as 1965 when the Treasury 'deferred' the start of capital projects (Carswell, 1985). By

The brevity of human life and the scale of the work ensures that scarcely any building is completed by the same man that begins it. The architects that follow strive to make some alteration, and as a result something begun well by one man is finished incorretly. I feel that the original intentions of the author must be upheld.

Alberti, *Ten Books on Architecture* (1452). Feilden & Mawson followed Alberti's principle admirably in completing the Academic Wall and Library.

He [Bernard Feilden] began by expressing his profound dismay at the University's decision [to end Lasdun's involvement], which he regarded as a major tragedy, both for the University and for the cause of architecture: the Development Plan, with Lasdun in command of its design, promised a uniquely successful solution to the problem of building a modern university, of great international significance. The design was so bold and individual and so bore the stamp of Lasdun's genius (he used this word) that it should be completed by Lasdun alone; he had always assumed that this would be so. He asked whether this was a final decision and I answered that it was. He was profoundly and visibly moved. ...

He at once said he would accept our invitation [to act as Architectural Consultant], as he expressed it, to try to retrieve something from the wreck. He said he would do so for three reasons; first, his admiration for Lasdun and the Plan, and his desire, in the cause of architecture, to try to prevent the design from disintegrating into mediocrity; second, because of his loyalty to Norwich, and here he gave me the impression that he doubted whether the University would be able to persuade any other architect of standing to take on so thankless a job; and third, because of loyalty to me personally as someone who believed in architecture.

Frank Thistlethwaite's report of his meeting with Bernard Feilden on 23 November 1968 (UEA Archives)

the end of the 1960s the hugely ambitious plans for the New Universities had slipped out of reach. Instead of symbolising optimism, universities became notorious for student unrest. As Britain was plunged into economic free-fall by the global Oil Crisis of 1974, and unemployment and inflation rose to frightening levels, the prospects for growth in the university sector were non-existent. 'All over the system desperate measures were being taken ... to match prospective commitments with resources. Almost every university imposed a ban on filling any vacancy which might luckily occur, however much a replacement was needed. Maintenance of buildings was postponed. Economy committees were set up to cut out frills and increase efficiency' (Carswell, 1985). The New Universities, including UEA, were left in a particularly difficult position, with masterplans abandoned and very modest student numbers.

In this period of depression UEA had the exceptional good fortune to attract the patronage of Sir Robert and Lady Sainsbury.

Critical reactions

'...possibly the only successful large-scale post-war industrialised pre-cast reinforced concrete building complex yet built – the University of East Anglia ...'

A & P Smithson *Without Rhetoric* (1973)

'In the University of East Anglia, Lasdun fulfilled his ambition to lose the individual building within a "city" created on a previously blank site. The building and the master plan become virtually as one with the long street backing onto the ziggurat-like residential blocks. The section is the key to understanding the design, the plan and elevation being a form of extrusion.'

Alan Powers in M Emanuel (ed) *Contemporary Architects* (1993)

'The place was designed, as it remains today, the most urban of all the new universities. ... The general campus plan and the ideals which powered it remain a testament to Lasdun's vision, and the institution is one of the most coherent and spirited of the new university age.'

Nikolaus Pevnsner & Bill Wilson *The Buildings of England: Norwich and North-East Norfolk* (1997)

The Sainsbury Centre

The origin of the Sainsbury Centre

The Sainsbury Centre at UEA had three distinct generating forces – Sir Robert and Lady Sainsbury and their art collection, Frank Thistlethwaite and his ambition for the arts at UEA, and Norman Foster and his vision of radically new architecture (Foster & Powell, 2010; Rybczynski, 2011).

Robert Sainsbury (1906-2000, knighted in 1967 for services to the arts) was a grandson of J J Sainsbury, founder of the grocery chain that grew into one of Britain's largest retailers. Robert joined the family business soon after graduating from Cambridge in 1927 and was actively involved in its management until retiring as Chairman in 1969. In the early 1930s he began collecting works of art. Early acquisitions included works by Epstein, Moore, Picasso and Modigliani, and he also developed an interest in so-called 'primitive' art from Africa, the Pacific and the Americas – a source of inspiration for Epstein and Moore – and began collecting Japanese netsuke. In 1937 he married Lisa (1912-2014) and the couple formed a remarkable partnership as collectors and patrons. Lady Sainsbury developed a strong interest in modern studio pottery and collected the work of Lucie Rie and Hans Coper. Their outstanding and diverse collection was displayed in their home in Smith Square, London, as a background to everyday life – but by the 1960s they had started thinking about the collection's ultimate fate.

Meanwhile, UEA's Vice-Chancellor Frank Thistlethwaite wanted to encourage creative arts in the new university. A School of Fine Arts and Music was established in 1965, although efforts to raise funds for an art gallery were unsuccessful. Mutual friends in the art world and a shared interest in the visual arts brought Thistlethwaite and the Sainsburys into contact in 1964. The connection was strengthened when Robert and Lisa's daughter came to UEA as an undergraduate (1966-69). The Sainsburys admired UEA's architecture and its vision for the arts, and in 1968 they told Thistlethwaite that they intended to donate 500 works of art to UEA (the number more than trebled over time). However, the University had no resources to build a display space and no immediate action was taken.

The situation was transformed when Robert and Lisa's son David Sainsbury (later Lord Sainsbury of Turville) offered to augment his parents' gift with a £3m fund to build a permanent home for

NOTE: The term Sainsbury Centre is taken as having two component parts, the original Sainsbury Centre for Visual Arts (SCVA) and the later Crescent Wing.



The south-west elevation of the SCVA with the original corrugated aluminium cladding panels. (1978)

the collection and establish an endowment for its continued development. The proposal was put to Thistlethwaite in June 1973 and he responded enthusiastically. The legal arrangements were confirmed in November 1973.

Design and construction of the Sainsbury Centre for Visual Arts

Planning for the collection's new home began immediately. The Sainsburys suggested involving the Dutch-Indonesian designer Kho Liang Ie: he had designed a highly successful exhibition of their collection at the Kroller-Muller Museum in Holland in 1966, as well as displays in their own home. However, he was a designer, not an architect. A long-list of potential architects was drawn up by UEA for the Sainsburys to consider. Following advice from Corin Hughes-Stanton and a visit to Foster Associates' amenity centre for the Fred Olsen shipping line in London's docklands, Robert and Lisa Sainsbury had a successful meeting with Norman Foster on 1 January 1974. The meeting was to be the start of a close personal friendship as well as a remarkable professional collaboration. It was agreed that Kho Liang Ie and Foster Associates would work together and their appointment was confirmed by UEA in April 1974. However, Kho Liang Ie died in early 1975 when it was agreed that Foster should take over the role of exhibition designer.

The development of the project brief saw the Sainsburys and Foster visiting a number of art museums across Europe, but the building they planned was to be a 'centre' not a gallery in the conventional sense. Thistlethwaite successfully argued that it should provide teaching and library spaces for the UEA's School of Fine Arts (now Art History and World Art Studies), along with a senior common room and a restaurant for staff and students. Funding for this additional accommodation was agreed with the University Grants Committee, though a shortfall was later met by the Sainsburys.

A key issue on which there was considerable controversy amongst the UEA community was the location of the new building. Rather than embedding it within the central area of Lasdun's masterplan, close to the recently completed Music Centre designed by Arup Associates, Foster argued for a site at the western edge of the campus, overlooking the lake (or broad) formed by gravel extraction. The proximity of the university's science departments was a further attraction, since the Sainsburys were keen not to create an 'arts ghetto'. They strongly backed Foster and his choice of site was confirmed. A bridge provided a direct connection to the high-level walkway of the Lasdun buildings.

Robert and Lisa Sainsbury's vision for the Centre was for a place 'in which people could relax, look at works of art in a leisurely manner if they so wished, work, read a novel or just dream away'. It would give students 'the opportunity to look at works of art in the natural context of their daily lives, not



In its location at the far west of the campus, the Sainsbury Centre appears as a pristine object placed in a natural setting (above, photo c.1978), comparable to Le Corbusier's Villa Sayoye (1928), one of the most celebrated buildings of early modernism (below, photo 1970).



just because they have been prompted to visit a museum or art gallery'. This radical vision – perhaps influenced by Jim Ede's Kettle's Yard in Cambridge – was in tune with the ethos of the new university.

A number of options for the design of the Centre were explored by the Foster team. At first it was assumed that there would be two separate but linked pavilions, one for the Sainsbury collections, the other housing the university accommodation. This was quickly replaced by the concept of a single all-enveloping container. There was a precedent in Foster's work, in the warehouse and offices for Modern Art Glass in south London, completed in 1973. The walls and roof of this relatively small building were clad in wrap-around corrugated metal cladding supported on a portal frame, and its south elevation was a sheer wall of glass. The application of this single-volume design concept for the Sainsbury Centre was finalised by the summer of 1975. Not everyone approved: Bernard Feilden, who had been consultant architect to UEA since Lasdun's departure in 1968, advised against Foster's proposal and resigned his appointment when it was accepted.

Foster and his team faced a challenge in applying the single-volume strategy to the Sainsbury Centre, given the need to accommodate not only the display and university spaces but also storage, workshop and technical facilities as well as services. Design developments in late 1975 were fundamental to making the concept work: the introduction of a basement level, and the use of a 'double wall' structure that provided a 2.4m deep zone for services and other secondary functions. This left the primary open space free of obstructions. Flexibility was the key to the design of the gallery space – all works were hung on movable panels or shown in portable display cases.

Construction began early in 1976 and was completed in two years, with just three months provided for fit-out and the installation of art works. The Sainsbury Centre for Visual Arts opened on 12 April 1978 and caused a sensation.

The Sainsbury Centre in use

In forty years of use since the opening of the original SCVA building there have been changes at the Sainsbury Centre, but Foster's original design concept remains exceptionally powerful.

The original SCVA cladding panels proved not to be durable, and had to be replaced in 1988. The original shiny, corrugated aluminium panels were replaced with smooth white panels.

In 1988 the Sainsburys provided funds for additional accommodation in response to the need for more gallery, storage, workshop and office space. The option of simply extending the existing shed was explored but firmly ruled out by the Sainsburys, Sir Robert declaring that the Centre itself was 'the



Kettle's Yard in Cambridge displays Jim Ede's collection of art and artifacts in a domestic setting. Ede donated his house and collection to the University of Cambridge in 1966, and in 1970 the University added a new extension, seen above.



The Modern Art Glass building in a south London industrial estate, where Foster Associates accommodated multiple functions in a single all-enveloping container (completed 1973).

greatest work in our collection'. Foster + Partners' chosen strategy was to extend at basement level to the south-east, creating the Crescent Wing. The roof forms a grassed terrace in front of the original building with the contours of the site allowing for a sweep of day-lit offices overlooking the open landscape towards the Broad. The Crescent Wing opened in 1991.

Initially the Crescent Wing's public entrance was via an external ramp descending from the original Centre's main entrance. The creation of an internal connection formed part of a major refurbishment project in 2004-06, which also involved the renewal of services and other components of the original building. A new staircase and lift provide access from the main gallery level to the new Link Gallery at basement level, with display and education spaces forming a connection to the Crescent Wing.

Other changes since 1978 include:

- Change of use of the western mezzanine from senior common room to display space.
- Introduction of external canopies and replacement of entrance doors and adjacent toilets at the two entrances on north side.
- Addition of paved terraces outside the doors on south side.
- Removal of large potted fig trees in main entrance foyer.
- Removal of access control points between the main entrance foyer and the display area for the permanent collection.
- Changes to the academic space for Art History and World Art Studies in 2009, with a research area and computer terminals replacing the former slide library, and new entrance gates.
- Addition of glazed office pods on eastern mezzanine.
- Replacement of original reception desk which had a spiral stair to the basement.
- Introduction of circular shop display in main entrance foyer.
- Replacement of venetian blinds to east glazed wall with two sets of roller blinds of different opacity.
- Reduced level of daylight allowed into the area for the permanent collection, to protect sensitive works of art.
- Loss of view to the Broad from the interior, due to Crescent Wing 'plateau' and growth of planting around Broad.
- Reserve collection areas in the Crescent Wing are now used for temporary exhibitions.



View of the original SCVA from the south, before the Crescent Wing was built. (1981)

Despite these changes the original SCVA's important features remain substantially intact and it retains its significance with little detractor. The changes have been accommodated within the inherent flexibility of the original design. However, the building fabric is ageing and some aspects of performance have fallen behind today's expectations: there are substantial challenges ahead.

The Sainsbury Centre for Visual Arts was listed at Grade II* in December 2012. Although not currently listed, the Crescent Wing was noted by Historic England in 2012 as a potential candidate for future inclusion in the listing.

Comparative evaluation of the Sainsbury Centre

Foster's SCVA was at the cutting edge of new architectural thinking in the 1970s. In architecture, as in other aspects of society, the 1970s were a period of crisis after the collapse of post-WW2 optimism, exemplified by the abandonment of ambitious plans for the New Universities, including UEA. The energy crisis, the failure of mass housing projects, disillusionment with the redevelopment of towns and cities, and the rise of the conservation and community lobbies all challenged the dogmas of the Modern Movement. The modernist architectural establishment, with Lasdun as a leading member, were assailed from two directions: post-modernism and high-tech.

Post-modernism abandoned the purity and abstraction of modernist design, re-introducing overtly decorative features. From tentative beginnings in the mid-1970s, Post-Modernism emerged in Britain as a fashionable style for commercial buildings in the 1980s and was taken up some practices with modernist roots. The move into Post-Modernism of James Stirling (1926-92), a leader of the avant-garde in the 1960s, shocked many. The post-modernist agenda was not pursued at UEA, although Mather's Hubert Lamb building (1984-85) has a post-modernist flavour.

High-tech architects struck out in a different direction, designing lightweight buildings that explored innovative materials and technologies in aesthetically dramatic compositions. It can be seen as a radical reassertion of modernism. Its roots were American, in the work of Mies van der Rohe, and the West Coast school associated with Charles Eames and others. But there was also inspiration in the home-grown engineering tradition of the Crystal Palace and the great Victorian railway termini.

Two of the leading lights of the high-tech movement, Norman Foster (b.1935) and Richard Rogers (b.1933), had studied and worked in the USA. In 1963 they set up the practice Team 4 and built one of the first icons of High-tech in Britain, the Reliance Controls factory at Swindon. From 1967 they worked independently, and in 1971 Rogers (in partnership with Renzo Piano) won the competition for



The Reliance Controls factory in Swindon (completed in 1966) was an early work by Team 4, where Norman Foster was a partner. It already displayed an architectural approach that used modern construction materials with exceptional clarity and precision.

the Centre Georges Pompidou in Paris. Completed in 1977 the building was a huge popular success and made Rogers famous. He went on to design the Lloyd's Building in London (completed 1986, listed at Grade I) and establish a successful global practice (now Rogers Stirk Harbour & Partners).

Foster's practice progressed through projects of increasing scale and ambition. Early projects included the amenity centre and passenger terminal for Fred Olsen Ltd (completed 1972), seen and admired by Robert and Lisa Sainsbury, Modern Art Glass (1973) and the Willis Faber building in Ipswich (completed 1976, listed Grade I). Next came SCVA (1974-78). It was followed by the headquarters for the Hongkong & Shanghai Banking Corporation in Hong Kong (commissioned 1979, completed 1986), Stansted Airport terminal (completed 1991), and numerous important projects worldwide. Initially called Foster Associates and now known as Foster & Partners, the practice is the largest in the UK with many international branches.

Other important British architects practices from the high-tech movement are headed by Michael and Patty Hopkins (b. 1935 and 1942) and Nicholas Grimshaw (b.1939). Collectively, the British high-tech movement and its practitioners have been spectacularly successful, both commercially and in the critical reception, as seen in the recent Superstructures exhibition at the Sainsbury Centre (2018).

SCVA was the culmination of a theme in Foster's work that focused on the 'serviced shed', which proposes that all functional requirements can be satisfied by an integrated and technically advanced, but formally simple, building enclosure. This contrasts with the 'separation of functions' approach, for example at the Pompidou Centre, where the functions of structure, enclosure, circulation and services are expressed as distinct physical elements.

Foster loved innovation and rejected traditional construction methods in favour of prefabrication, which he described as never 'a goal in itself. It is simply a way of achieving higher standards for the building and its users in an economical way'. Accordingly, like other Foster buildings, SCVA was assembled rather than built: 'The building is essentially a series of machine-made components,' he explained. He took a close interest in the design of components, working with manufacturers to achieve the desired results and not using off the shelf products. He was attracted by technology transfer and commented that the SCVA cladding system used 'the kind of insulation you would normally associate with a cold store rather than anything to do with the building industry'. A keen pilot, he found inspiration in the aviation industry. The Boeing 747, he declared, was 'the ultimate technological building site'. When it came to configuring service spaces within the 2.4m deep double wall of SCVA he found a model in the 747's galleys. Moreover, just as an aircraft's engines and avionics systems are renewed during its lifetime, so a building would have its components periodically renewed and updated. Unexpectedly, SCVA demonstrated this process of renewal when, in the mid 1980s, it became apparent that the distinctive



The exposure of the structural lattice at each end of SCVA hints at the 'separation of functions' tendency in high-tech architecture, whereas Foster's overall design strategy is to provide a continuous external envelope. Sealing and waterproofing between the lattice members is problematic. (2018)



Assembly of the SCVA superstructure: neoprene gaskets being placed between the subframes on which the cladding panels are mounted. (photo June 1977)

corrugated cladding panels were degrading. The replacement panels have a smooth white finish and change the external appearance of the building – its new livery was ‘more 747 than Citroen van’.

A systemic thinker, Foster’s innovative approach was not limited to the way buildings are constructed. He was also adept at working with clients to address and in some cases revolutionise their thinking about how activities are organised and accommodated – he saw his practice as ‘a bridge between the potential of new ideas and their realization in practical terms’. Thus the SCVA bore little resemblance to most people’s idea of an art gallery. It built on his ideas for Reliance Controls and the Fred Olsen amenity centre, where production spaces, offices and social spaces for managers and workers (who all used the same front door) were all contained within one integrated enclosure; at the Sainsbury Centre academics, students and visitors all share one big space, an ‘urban room’ as one critic described it. The application of a strategy developed for industrial buildings to a cultural centre divided critical opinion.

SCVA is the ultimate development of the serviced shed concept, and is beyond question one of the most memorable examples of high-tech architecture in Britain.

Norman Foster

Norman Foster (Lord Foster of Thames Bank, OM, RA) was from a modest background (b.1935) and worked for Manchester City Council after leaving school. Following National Service he studied architecture at Manchester University (1956-61) and won a scholarship to study and work in the US (1961-62) – a highly formative experience. When he returned to Britain he set up the practice Team 4 in 1963 with colleagues including Richard Rogers who had been a fellow student in the US. The young architects immediately gained attention with buildings that broke with the architectural conventions of the day. After setting up his own practice in 1967 Foster rapidly rose to the top of the architectural profession. Many magazine articles and books have disseminated his work. His achievements have been recognised by the award of the RIBA Royal Gold Medal in 1983, election as an Associate of the Royal Academy in 1983 and a full member in 1991, elevation to a knighthood in 1990, appointment to the Order of Merit in 1997, award of the Pritzker Prize in 1999, and ennoblement as Lord Foster of Thames Bank in 1999. The Norman Foster Foundation was opened in Madrid in 2017, holding an archive of his work.

The Sainsbury Centre was the last building on which Norman Foster was able to act as ‘project architect’ with personal involvement in all important decisions – something that became impossible as his practice grew. It epitomises Foster’s multiple levels of architectural innovation, evident in the building’s construction, imagery, and use. The Sainsbury Centre was a key project in Foster’s career and his progression to become one of the foremost architects in the world.



SCVA’s original cladding was corrugated, like the panels on a Citroen van (above), but the replacement cladding has a smooth white finish (below).



Later campus developments

From the 1970s to the present

The Sainsbury Centre was built in a period that was characterised by deep gloom in British universities. In the economic depression of the 1970s the public support on which universities still relied for practically all their income and capital funding was severely curtailed. In the early 1980s the Thatcher government planned for a reduction in student numbers and contraction of the university sector. With recovering economic growth in the 1980s it became possible to plan for expansion for the first time since the heady days of the 1960s. Since then UEA has been almost continually expanding and adding to its building stock. The building programme from the Sainsbury Centre onwards has almost all relied on non-UGC funding.

After Bernard Feilden resigned as consultant architect to UEA in 1975, Norman Foster took over this role. In 1982 he recommended Rick Mather (1937-2013) as architect for the University's new building projects. Mather's first design was for the new Education building which was completed in 1984. This was funded by the sale of Keswick Hall, the home of a teacher training college that merged with UEA. Mather also designed new buildings for the Climatic Research Unit (now the Hubert Lamb building) and Systems; both were funded by the Wolfson Foundation and completed in 1985. Systems formed the third side of a courtyard with Education (now the Lawrence Stenhouse building).

Mather was then asked by UEA to prepare a 20-year development plan and appointed as consultant architect from 1988 to 1994. One decision made almost by default was that Lasdun's Development Plan, with the Academic Wall and ziggurats, would not be continued: buildings of such a scale, character and cost were impossible. Raised walkways were abandoned: new buildings and circulation would be on the ground. Responding to the new pattern of incremental development on the campus, Mather noted that, 'The problem with this diversity is how to control it to achieve a coherent and satisfactory final result when built over a long period of time. Requirements for the buildings' plan, massing or height are impractical because almost nothing is known about what will be required. A traditional device for this is the urban street in which the building wall defines and controls the exterior space of



Buildings on the north side of Chancellor's Way. (2017)

the street' (Mather, 1989). Mather planned Chancellor's Drive as the generator of the new urban form in the undeveloped area to the north of the Academic Wall. Mather suggested that Chancellor's Drive should continue across the river Yare and form a new access route into the campus, but this was not carried out. It seems likely that Mather would have proposed that a similar strategy for organising new buildings could be applied in the north-east part of the site.

A new building programme started in 1989. The sale of the University Village site financed new student residences, Constable Terrace and Nelson Court, and also a new Drama Studio to replace a small theatre in the University Village. These buildings were all designed by Mather and completed in 1994. At the same time the Department of Health financed a new building for occupational therapy and physiotherapy. This was the Queen's Building, designed by John Miller & Partners and completed in 1993. The Elizabeth Fry Buildings, also designed by John Miller & Partners, was completed in 1995. All these developments followed the principles set out in Mather's Development Plan.

The SportsPark was the outcome of a joint venture between the local authorities and UEA to establish a regional sports centre with Lottery funding. It is located just outside the UEA site boundary on local authority land, but managed by UEA. It was designed by RH Partnership and completed in 2000. It was extended to the east in 2009 and again in 2011.

In the 21st century new academic buildings were added along Chancellor's Drive: the School of Medicine, Health Policy and Practice (designed by RMJM, phase 1 completed 2003 and phase 2 in 2007), the Zuckermann Institute for Connective Environmental Research (ZICER – designed by RMJM, completed 2003), the Thomas Paine Study Centre (designed by RH Partnership, completed in 2010), and the Julian Study Centre (designed by Pick Everard, completed 2014). The Science and Engineering Teaching Building occupies the final site on Chancellor's Drive (designed by Fraser Brown MacKenna, completed 2019).

In addition the circular Biophysical Chemistry building (designed by RH Partnership, completed 2002) and the Biomedical Research Centre (designed by RH Partnership, completed 2005) were built to the north of the Academic Wall, and an extension was added to the Library (designed by Shephard Epstein Hunter, completed 2005).

The East Development Plan by LSI architects, which responds to the underlying geometry of Lasdun's Development Plan, provides mainly residential buildings. The low-budget Waveney House of the 1970s was demolished. Colman House by LSI was the first of the East Development Plan buildings to be completed in 2004; the East Development Plan has now been completed. New residential buildings have been built on the Blackdale School site to the north-east, which was added to the campus in 2016.



Constable Terrace (left) and the 'open' west end of the Academic Wall, now substantially masked by trees. (2017)

The new buildings introduced innovative design for energy efficiency, which has become a feature of all the recent buildings at UEA. This agenda was given particular prominence in the Enterprise Centre on University Drive (Architype architects, completed 2015) which aimed for low embodied energy using natural and bio-renewable materials, and low energy consumption to Passivhaus standards. There are also innovative engineering systems.

Meanwhile, university buildings, including the listed buildings, are constantly being modified and adapted for changing academic needs. The original buildings, which are 50 years old, are in need of major refurbishment.

Evaluation of recent buildings

In the 1980s Rick Mather faced a situation which was radically different from the open site and limitless ambitions that led to Lasdun's Development Plans of 1962-63. Mather was adding to an existing development, but also he was from a younger generation than Lasdun and no longer believed in utopian projects or the modernist myth that designs are generated by functions. Without this form-generating myth, Mather, like many architects at this period, experimented with pure architectural forms – squares, cubes, circles, cylinders – and at the same time corrupted the forms to express the arbitrariness of real life: 'the simultaneous need for the ideal and for its contamination by programme and context', as a study of Mather put it (Pearman, 1992). This was the post-modern world view which is reflected in Mather's first UEA buildings. They were located in the unloved semi-wasteland to the north of the Academic Wall, cut off from the Yare valley and Norfolk landscape; and where new, smaller buildings would be dwarfed by the six-storey Academic Wall.

Mather placed the Education and Systems buildings (now the Lawrence Stenhouse building) as a neat branching extension to the Academic Wall, connected to one of the service towers. However, the visual character of the new buildings was overtly decorative, in contrast to the Academic Wall, perhaps compensating for the difference in scale. To maximise wall height, Mather used a 'butterfly' profile roof, sloping down from a raised perimeter to a central gutter; and to increase the apparent height, the cladding of glazed blockwork was laid vertically. In contrast to the Academic Wall, the surface is patterned and the windows are expressed as framed openings cut through the wall. The windows themselves are blue.

The circular Climatic Research Unit (now the Hubert Lamb building) was intended as a landmark for the new northern area of the campus. It used the same architectural language as Education/Systems, and is highly characteristic of the 1980s in its echoes of the work of Mario Botta, an Italian architect



A design by Mario Botta showing the characteristic patterned and cut-away circular forms which he used in many projects from about 1980.



The Hubert Lamb building of 1984-85 adopts a circular form with cut-away sections, seen in Mario Botta work. Chancellor's Drive continues to the west. (2017)

whose buildings were very widely published at the time and who often designed round buildings with patterned surfaces and cut-away segments (Pizzi, 1998).

In later buildings the post-modern features dropped away. Both Mather's Constable Terrace and the John Miller & Partners' Queen's Building of the early 1990s have smooth white rendered walls above ground level and a darker tiled ground floor. The windows are black. This more austere style, by comparison with Education/Systems (Lawrence Stenhouse) and Climatic Research (Hubert Lamb), has been used for all the later buildings in this part of the campus, with variations between the individual buildings. This has created an orderly and pleasant environment, without the singlemindedness of Lasdun's earlier architectural statements.

In the new developments of the East Development Plan and the Blackdale School site the character of the buildings has become more relaxed, with greater use of colour and variety in materials, form and massing. This was prefigured in aspects of Mather's work, for example the handling of the corners at Nelson Court, and is also seen in the SportsPark. There are no strong architectural statements in this north-eastern development of the campus. Thus there is a transition from a grand and serious architectural manner at the core of the campus to greater informality in the new eastern development, though the new buildings are set out on the grid of Lasdun's Masterplan.

The Enterprise Centre by Architype adopted a distinctive architectural character, drawing attention to innovative and unfamiliar bio-renewable materials. The most striking example is the external cladding of thatch. The interiors make extensive use of exposed timber and are flooded with natural light. It is a great success both technically and in use. Its design is more reflective of its parkland setting rather than the urban core of the main Campus.



The west end of Constable Terrace (1992-93) is modelled to act as a landmark to Chancellor's Drive, but is now largely hidden by trees. (2017)

Earlham Hall

Building history of Earlham Hall

Earlham Hall as seen today is the result of incremental development over more than 400 years. The main phases are believed to be:

- The oldest parts of the present building originated in a new house built in the 1580s, located to the south of an abandoned village that extended to Earlham Church. This original fabric is largely overlaid by later additions.
- Extensive alterations to the C16 house were carried out in the 1640s: it was extended to the north and wings were added to the east and west. This can be seen as the core of the present house.
- The next alterations were in the 1730s, when the west wing was extended to form a chapel and much of the interior modernised.
- In the 1760s there were further alterations, with outhouses added to the east and south-east, a dining room to the south-west; the chapel wing was altered to provide a drawing room and bedrooms.
- In the 1830s the interior was stripped of panelling and most of its decoration by the Quaker owner John Joseph Gurney after he remarried.
- Alterations in the first years of the 20th century included adding the north-east and north-west wings and altering the north elevation was; building the wall that encloses the north side of the entrance courtyard was; and adding the Dutch gables. The architect was E T Boardman (b.1862) who succeeded to the established Norwich practice of his father Edward Boardman (1833-1910). This practice became part of Lambert Scott & Innes, now LSI, in 1968.
- There were adhoc alterations for diverse uses from the 1920s to the 1950s when the Hall was managed by Norwich City Council.



Earlham Hall from the north-west. (2018)



Earlham Hall from the south-west. (2018)

- In 1962 the Hall was adapted for UEA use by the architect Theo Scott of the local practice A F Scott & Sons, which became part of Lambert Scott & Innes in 1971.
- A major refurbishment of the Hall was carried out by UEA for the School of Law, completed 2014. There was little change in the external appearance of the main Hall; the refurbishment of outbuildings is on-going and there are greater changes in the former service yard. The architects for phase 1 were RH Partnership and for phases 2 and 3 LSI.

This complex and not fully understood history is evident in the building fabric as seen today, with its curious and intriguing mixture of materials, characters and styles. The fabric of the house is predominantly of the 17th and 18th centuries, with little that is characteristic of the 19th century; however, there are 19th century outbuildings. The early 20th century alterations were deliberately in the style of the 17th/18th century.

Following the recent restoration Earlham Hall is probably in a better state than it has been for at least 100 years. Defects in the fabric, including the structural failure of the main south elevation, have been repaired, and the accretion of adhoc alterations have been swept away. Alterations to make the Hall suitable for use as UEA's School of Law have generally been carried out in modern materials with minimal detailing, to avoid confusion with the historic fabric. It was necessary to subdivide some of the larger rooms, but this has been done in a way that reveals the original larger space; and the new partitions could be removed to reinstate the larger rooms.

The main entrance is now on the east side, facing the former service courtyard. The outbuildings around this courtyard had fallen into a state of dilapidation, and are the subject of an ambitious restoration programme to provide modern teaching space while retaining their historic character.

The maintenance of the historic fabric will require a continuing commitment from UEA, involving different specialist skills than the buildings of the 20th and 21st centuries on the main UEA Campus.

Earlham Hall was first listed in 1954 and is currently listed at Grade II*. It is in the Earlham Conservation Area.

Social history of Earlham Hall

Earlham Hall stood at the centre of the Earlham estate and was a residence for people in the highest stratum of Norwich and Norfolk society.

The most notable occupants were members of the Gurney family, a prominent and wealthy Norwich



The central hall in Earlham Hall, divided by a glazed screen to create a fire escape route from the stairs. (2018)



Stairs in the new eastern entrance to Earlham Hall. (2018)

family of Quakers. The Gurneys were associated with the Hall from 1786 until 1912, beginning when it was leased by John Gurney (1748-1809). John was one of the partners of Gurney's Bank, founded in Norwich by his grandfather in 1770. He and his wife Catherine had 13 children, including Elizabeth (1780-1845) who lived at Earlham Hall until she married Joseph Fry in 1800. From an early age she was active in philanthropic work, and from about 1816 she devoted herself to prison reform, gaining great fame for her endeavours; her portrait was on the £5 note between 2002-17.

John Gurney's son Samuel (1786-1856) assumed control of Gurney's Bank on his father's death and also became a leading figure in the City of London. He was a partner in the firm Overend, Gurney & Co which was tremendously successful but, after his death, crashed in 1866 in Britain's worst banking failure of the 19th century. Gurney's Bank in Norwich survived the catastrophe and joined other banks to form Barclay's Bank in 1896.

Another son John Joseph Gurney (1788-1847) joined his sister Elizabeth's campaigns for social reform. He inherited the lease on Earlham Hall from his father and lived there until his own death. Earlham Hall then passed to other members of the Gurney family. Reginald Gurney made extensive improvements to the Hall around 1905. The Gurney family's tenure ended in about 1912.

The Gurneys were Earlham Hall's most significant occupants but they made relatively little impact on the fabric. Until Reginald's improvements of about 1905, shortly before the end of the Gurney era, the Hall had not been substantially changed since the extensions of the 1760s, which pre-dated the Gurneys' arrival. The Gurney connection is with the Hall in general rather than any particular elements or features.

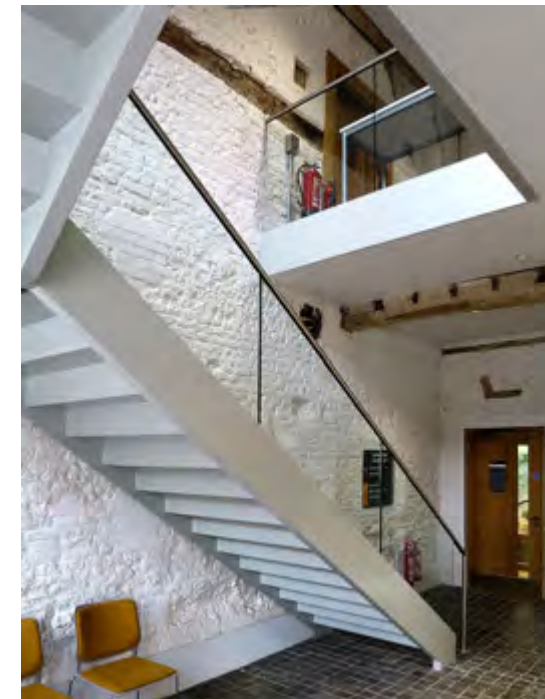
In 1925 Norwich City Council purchased the Earlham estate, including the Hall and 356 acres of land. The Hall was assigned various uses, including a maternity home and, latterly, classrooms for a girls school. The land around the Hall became a public park. In the 1930s the land of Earlham Hall farm in the southern part of the estate was made into a golf course as an unemployment relief measure. The club house was located at the old farm on Bluebell Lane.

Norwich City Council was an active participant in the campaign for a new university, and in 1959 agreed to make 165 acres of the southern part of the Earlham estate, including the golf course, available for this purpose. After UEA was established the land was transferred to the new University. At the same time the new University leased Earlham Hall from Norwich City Council to provide a base near its future campus. The Hall was used by the University's Vice-Chancellor and administration from October 1962 until the Registry building on the campus was opened in 1974, and then by the centre for East Anglian Studies, followed by the School of Law in 1984. The lease was extended a number

Samuel Gurney was a successful and unsentimental businessman. When his brother-in-law Joseph Fry's business got into difficulties in 1828 he declined to help:

They call me a great rogue & I tell them I care not what they call me if they do not call me a fool. What a fool I should have been after 40 years hard labour to have lost all my property & that of my Partners & have our house ruined to prop up such a rotten concern – then I might have been called a fool indeed.

David Kynaston *The City of London 1815-1890*



Interior of the refurbished stable block in Earlham Hall's former service yard. (2018)

of times until UEA bought the Hall and adjacent land from Norwich City Council in 2010. The Hall was vacated for a major refurbishment project and the School of Law moved back into the refurbished Hall in 2014.

Conclusion: Earlham Hall and UEA

Earlham Hall is a heritage building with historic and aesthetic significance. After the recent refurbishment it is in very good condition. It combines a vivid sense of history with modern practicality, and is regarded as a highly valued asset by UEA's School of Law.

Earlham Hall and its estate have a historic connection with UEA dating from the foundation of the University, but in architectural and landscape terms there is little in common with the UEA Campus. The parkland around Earlham Hall and the UEA Campus immediately to the south are different worlds, separated visually by mature trees and without any connecting means of access. Architecturally, the Hall and the buildings of the main Campus cannot be seen together; even the nearer buildings of the Enterprise Centre and Sportspark are screened from the main Hall buildings.

Earlham Hall's significance as a most interesting heritage building seems quite independent of its proximity to the UEA Campus. There is a case for protecting its distinct character and setting.

Sources of information about Earlham Hall

Detailed information about the current understanding of the architectural, landscape and social history of Earlham Hall and estate can be found in the following publications:

Earlham Hall and its Landscape. Tom Williamson, School of History, UEA, 2010

Earlham Hall Conservation Statement. RH Partnership architects, April 2011

Earlham Hall and its Context. Norwich Heritage Economic and Regeneration Trust (HEART), 2009

'Earlham Hall Unwrapped'. Vanessa Morton, *Ziggurat* (UEA journal), 2014/15, p.23-26



Disabled lift in Earlham Hall. (2018)

Landscape

UEA occupies two adjacent but distinct landscape settings: the Campus where the new University was developed following Lasdun's Development Plans and later evolutions, and the landscape park setting of Earlham Hall which is more historic but also a more recent addition to the University's estate. The Campus landscape will be discussed first, followed by the Earlham Hall landscape.

Lasdun's landscape vision

The University site at Earlham was generously made available by Norwich City Council in the autumn of 1959, and was a factor in the UGC's decision to approve the proposed university in April 1960. In 1925 the City Council had acquired the Earlham estate, and in the 1930s laid out a golf course on the future university site as an unemployment relief project. The university use of the Earlham site was examined by a planning inquiry which reported positively in May 1961. The City Council required that the university grounds should remain open to the public.

The former golf course site provided 165 acres (67ha) to the north and east of the River Yare, sloping gently down to the river. The University bought a further 107 acres (43ha) to the south and west of the Yare, making a 272 acre (110ha) site. A site of this scale was required by UGC for the new universities to allow space for future expansion (their target was 200 acres, or 81ha). The University has since acquired a further 100 acres (40ha) in the Yare valley.

The estate occupies the meandering river valley with its flood plain and gentle slopes either side of the river. These topographic landscape elements extend beyond the UEA boundary and partly define the University landscape.

It was an extremely attractive site. Denys Lasdun first visited in January 1962 and found 'an organism:



Aerial view site in 1946, before development, showing the golf course. The current UEA site is outlined. (from UEA Landscape Strategy, 2010)

water, marsh, slope trees, meadow, parkland – set in an East Anglian landscape’ (Lasdun, 1965). He wanted to retain its landscape character. This objective connected to his desire for a compact ‘urban’ group of buildings.

Some preliminary design studies experimented with buildings to the south and west of the Yare, but the principle of grouping all the university buildings on the higher ground towards the north of the site was established at an early stage, with open landscape along the river valley. This principle is embodied in Lasdun’s Development Plans, where the academic buildings are bounded by a fringe of residential ziggurats looking out to the landscape – ‘disposed on the site with loving respect for the configuration and contour of the landscape, its prospect and aspect’ (Lasdun, 1965). Lasdun used the analogy of an Italian Hill Village (exemplified by San Gimignano) with an agglomeration of buildings, higgledy piggledy levels and turrets poking above the sky line. This ‘rock face’ of buildings would be a bluff on the rising slope of the ground above the river valley.

About 50 acres (20ha), or 20% of the site area, was to be used for building.

Colvin’s landscape plan

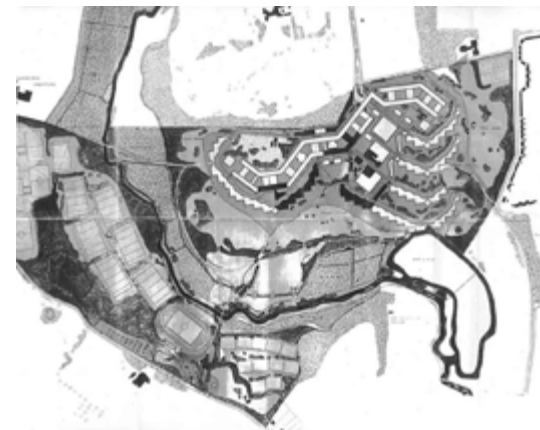
Denys Lasdun & Partners prepared an ‘Interim Landscape Report’ in 1965, and in 1966 the eminent landscape architect Brenda Colvin (*see* page 1-38) was asked to develop detailed proposals. She had been responsible for many urban landscape and large-scale reclamation projects, as well as garden designs. At UEA she worked with Hal Moggeridge (b.1936), who became a partner in the practice Colvin & Moggeridge in 1969.

Lasdun’s vision had parallels with an eighteenth century landscaped park, like those designed by Capability Brown, where an architectural centrepiece is set in a seemingly natural and limitless landscape. Boundaries and signs of the outside world are hidden, and the landscape configured to create a variety of eventful and picturesque views, in which water frequently plays a crucial role. Colvin’s Interim Landscape Report of 1967 described in practical terms how Lasdun’s vision could be achieved.

Colvin was cautionary but positive about building a new university on the attractive Yare valley site: ‘. . . Introducing massive architectural elements and a vastly increased community creates a new landscape. While it is hoped to preserve much of the character of the existing valley scenery, the requirements for access, circulation and traffic flow, recreation . . . involve overwhelming changes which if accepted, foreseen and correctly planned in advance will enrich the landscape.’



Within the developed area of the site, Lasdun envisaged a multi-level urban landscape of pedestrian alleys and walkways. (2018)



Brenda Colvin’s site plan of 1967 with a proposal for an artificial lake in a location to the east of the Broad that was excavated in 1973-78. (from UEA Landscape Strategy, 2010)

To absorb change and maintain the landscape character, Colvin proposed the following key points :

- Existing housing/buildings overlooking the site should be screened
- Space between buildings requires carefully detailed hard landscape
- The grassy slope between the buildings and river to be dotted with tree and shrub groups, but avoiding colour in flowers
- Climbing shrubs on wall surfaces and ground cover on banks.

She argued that ‘The tendency towards suburban character ... should be resisted, the broad park-like landscape should be emphasised throughout.’ To modernist designers like Colvin and Lasdun, whose values had been formed in the inter-war period which had been blighted (as they saw it) by the unplanned growth of semi-detached suburbs laden with ‘ornamental features and associational and symbolic references’ (Oliver et al, 1981, p.28), ‘suburban’ represented everything they fought against in their pursuit of new forms of architecture and landscape. They prioritised bold design statements which had integrity and rigour, and despised superficial decorative effects.

Colvin and Moggeridge carried out many landscape studies of the UEA site, from an analysis of the overall landscape setting beyond the site boundaries, to details for footpaths and supports for climbing plants on the buildings. After the end of Lasdun’s appointment they contributed to the revised Development Plan of Feilden & Mawson (1971). At that stage they commented that ‘... the problem now is of unforeseeable types of growth ... within which many different units will be developed. Therefore the landscape has become important as a structuring element.’

However, despite Colvin forming a close working relationship with Thistlethwaite, the Vice-Chancellor, Colvin and Moggeridge were disappointed by the meagre investment in landscape and their exclusion from key strategic considerations. They resigned in 1972. The practice has retained most of their records of the UEA project.

Only Stage 1 of Lasdun’s Development Plan was built, with buildings occupying about 24 acres (10ha) – about half of his envisaged scale of development. Even in this reduced form, the primary landscape objective was achieved: a compact and dramatic mass of buildings on the hillside above the Yare, appearing to be set in open countryside. That remains the great strength of UEA’s landscape.

Most of the credit derives from the site that UEA inherited: little has been done to strengthen the landscape vision. Colvin was aware of this danger, pointed out that, ‘The English landscape is very largely a man-made work of art ... that depends on constant care. ... We accept the privileges, too often with little thought of the related responsibilities to the future. ... I feel that any landowner, more

Compactly grouped buildings, differing widely in form and bulk but functionally related to broad open spaces containing trees and other vegetation, make up a far more beautiful and interesting unity than scattered, separate buildings of nearly uniform size distributed evenly over the same amount of space. ... A closely interlocking ground plan giving a keyed-in pattern of building and open green space is needed if the two elements are to be properly complementary in both function and appearance.

Brenda Colvin, *Land and Landscape*, 1948



Colvin wanted greenery within the developed part of the site, but Lasdun’s vision was more austere. (2018)

especially a University has the responsibilities of ensuring for the future, the benefits inherited from the past' (letter to Thistlethwaite, 4 November 1968).

The Broad

Lasun's overall objective was to preserve the existing landscape character, but he proposed a dramatic gesture where the eastern line of ziggurats touched the water of the River Yare (*see* page 1-7). Buildings next to water have a tremendous appeal, for example along the Backs in Cambridge (where Lasun had hoped to build for St John's College) and at York University. The conjunction of buildings and water would have provided a visual closure to the eastern end of the Yare valley landscape, at the fringe of Norwich's suburban development.

The concept was developed in Colvin's proposal for an artificial lake at the eastern end of the University site. UEA could not afford to excavate a lake, but Colvin proposed funding through a gravel extraction contract. This stretch of water was a key idea that helps make Lasun's concept of an 18th century designed parkland work. The idea was taken forward after Colvin's involvement at UEA ended when the present Broad was created between 1973 and 1978. Rosamunde Reich was the landscape architect.

The practicalities of gravel extraction led to a Broad in a different location from that first proposed by Colvin. Instead of being at the eastern end of the Campus it is located centrally and separates the university buildings from the Yare. As a result the open landscape is focused on the central area between the Broad and the ziggurats, and lacks the dynamic effect of following the curve of the river Yare, as in Lasun's and Colvin's plans. At present the central expanse of grass to the south of the ziggurats feels poorly defined and unrelated to the Broad. Two contributory factors are the water level of the Broad – it is a good metre below the grass slope – and the planting along the water's edge forming a screen. Unless one is raised above the general level of the slope the extent of the Broad is hidden: the result is visual disconnection of the lake from the landscape and buildings. One of Colvin's sketches shows how the bank by the Broad should have been more gradual.

Brenda Colvin

Brenda Colvin (1897-1981; *see* Gibson 2011) was one of the greatest landscape architects of the twentieth century. She established a successful career in the 1920s in what was a man's world and helped transfer the business of garden design onto a new professional level. In 1929 she was a member of a group of fewer than ten people who founded the Institute for Landscape Architects (now the Landscape Institute), and was later its president.



The view across the Broad to the Ziggurats is partially obscured by the growth of vegetation. (2018)

She carefully surveyed and documented any existing site to understand its innate qualities and features that might be used in the new development. Geology, topography and vegetation patterns were building blocks that were worked with and built on. Her masterplans deal with their wider setting, always stressing the importance of relating the new to its context. She was using such terms as landscape character long before it gained common currency, and was a pioneer of the need to incorporate biodiversity into new development (Landscape Strategy, 2010).

In addition to observing natural landscape Colvin embraced the best of new design and travelled widely in Europe and America taking pictures which were annotated and provided material for lectures and books.

After World War II there was extensive rebuilding to be done and Colvin was amongst those appointed on the broadest range of infrastructure, including roads, power stations, factories, new towns, reservoirs and universities. To each she brought her ecological approach and practicality

Two of her books were widely read and had great impact: *Trees for Town and Country* (1947) – beautifully illustrated with simple drawings of the skeleton of trees at 10 years, 20 years and mature, each shown with a six-foot man; and *Land and Landscape* (1948) – a textbook on landscape design which is still utterly relevant as it deals with basic principles and has a practical common-sense approach.

The Sainsbury Centre and UEA landscape

The Sainsbury Centre for Visual Arts (SCVA) of 1974-78 was placed just to the west of Lasdun's buildings. It follows the alignment that Lasdun had proposed for the western row of eight ziggurats, although it encroaches slightly deeper into the landscape. The new building is therefore consistent with Lasdun's strategy for site usage, although it is more conspicuous in the view from the Broad. Regarding the relationship between buildings and site, Lasdun had envisaged the ziggurats looking out to the south-west over the Yare valley, whereas the Sainsbury Centre's south-west elevation is practically blank and the outlook in this direction is not exploited.

The view from SCVA's glass end wall is strongly orientated to the south-east, back towards the central space and the Broad, reinforcing the visual containment of the landscape. The land to the south-west of the Sainsbury Centre, towards the Yare where it bends northwards, has been marginalised to an extent.

The well-known landscape architect Lanning Roper (1912-1983) was consultant for SCVA. It seems his main contribution was adjusting the ground contours at the glazed south-east end of the building,



SCVA from the south, before the Crescent Wing was built. The long south-west elevation is largely blank. (1978)

facing the Broad, so that it sat comfortably on the site. This was altered when the Crescent Wing was added. The glazed arc of the Crescent Wing is barely visible from inside SCVA, although it cuts off the view of the Broad, but when viewed from below it separates SCVA from the slope which runs down to the Broad.

On the initiative of the Sainsbury Centre, UEA is developing a sculpture park on the Campus. This creates great opportunities; the selection and placing of sculptures should be considered in the context of a landscape vision, so that they reinforce the vision.

Mather's approach to development

Rick Mather's proposals of the 1980s were concerned with areas north of the Academic Wall and in the north-east part of the Campus, away from the Yare valley. Here the landscape context is very different from the open slopes of the Yare valley. Mather did not involve a landscape architect in the development of the masterplan; input has been limited to individual sites.

Mather planned Chancellor's Drive as the generator of the new urban form to the north of the Academic Wall. A guiding principle was that buildings should be laid out with designed exterior spaces and circulation routes between buildings, rather than left-over spaces. New buildings have been built on Chancellor's Drive by different architectural practices over thirty years. Although considerable care has been devoted to the landscape, it is episodic and lacking a single theme or vision: this is the spirit of Mather's incremental approach to Campus development. The new, informal pattern of development to the north of the Academic Wall contrasts with Lasdun's bolder vision which is dominant to the south of the Academic Wall. The area between the Academic Wall and the northern boundary of the Campus is shown as open space in Lasdun's masterplan and Colvin's landscape plan (*see* pages 1-7 and 1-36), separated from the Yare valley by a line of Ziggurats, but in fact it was used as a service area before Chancellor's Drive was developed. In future new development, the landscape design around individual buildings should take account of the wider landscape setting to ensure a cohesive strength to the Campus landscape.

Mather's proposals for the north-east of the Campus were less fully developed, although he envisaged extensive development in this area. He designed Nelson Court on land which had been levelled for sports pitches to the east of the old sports hall (now Congregation Hall). A continuation to the east was proposed, which has now been accomplished in the East Development Plan.

Mather made some landscape changes to improve the entrance to the campus, but this is still an awkward and confusing area. Lasdun's Development Plan did not provide a major gesture at the point of arrival.



Chancellor's Drive, a tree-lined avenue with individual, detached buildings, in contrast to Lasdun's megastructure of linked buildings. (2018)



Landscape in the area of the East Development Master Plan. (2018)

East Development Master Plan

The East Development Master Plan (LSI, 2003) for the north-east part of the Campus included the following landscape design principles:

- thickening and extending the tree planting to Bluebell Road on the east boundary of the Campus
- informal courtyards between residential blocks
- tree planting in clumps within courtyards using species characteristic of the Campus
- enclosing the car park with a strong landscape outline
- retaining planting along Cow Drive on the present north boundary of the Campus
- structural tree planting to screen the south elevations of new residential blocks for solar shading
- strengthening the geometry of the Lasdun masterplan with tree planting along routes from the periphery of the campus to the centre.

The landscape of the East Development Master Plan area does not have the landscape significance of the Lasdun/Colvin landscape vision.

The River Yare and beyond

Some early design studies showed buildings on the south and west of the River Yare, but these almost all disappeared before Development Plan Draft I. The only building that remained (other than sports pavilions) was a proposed Vice-Chancellor's lodge off Colney Lane, and this was never built.

The Development Plan showed most of the land on the far side of the Yare being used for sports fields, including a running track and tennis courts, with terracing and extensive new planting. In fact, only just over half the land was used for sports fields. The remainder is managed by the University as a visual amenity, recreation area and ecological resource. New development in this area is currently being planned.

There is an attractive walk along the River Yare itself, which is popular with the local community as well as members of UEA. This is a visually enclosed environment, particularly in the summer, from which the University buildings are barely visible despite their close proximity.



The River Yare, an enclosed rural world in the summer. (2006)



The terraced playing fields. (2019)

New developments to the west of the University site are visible on the skyline, particularly the buildings of the John Innes Institute as well as the Norfolk and Norwich Hospital. Colvin had proposed 'large plantations along the skylines' beyond the Yare, to 'mark the division between country and city' and protect the romantic vision of an open, natural landscape. However, the existing plantations, which have landscape significance, are a relic landscape feature and were not planted or intended as a buffer to development. Any future development should take account of the full landscape envelope of the anticipated development sites, including the plantations and the wider landscape setting.

Earlham Hall landscape

Much of the University Campus was originally farmland belonging to the Earlham estate, which has been transformed by the creation of the new university. In contrast, the northern part of the Earlham estate, comprising Earlham Hall and Earlham Park, retains much of its historic character. Earlham Hall was leased by the new University when it was founded and remained in University use until it was bought by the University (*see* page 1-31).

Earlham Hall is located within Earlham Park, which is owned by Norwich City Council and open to the public. When UEA bought Earlham Hall they also bought the land immediately surrounding the Hall and stretching east to University Drive. It includes the old walled garden and a First World War memorial garden, which are in need of conservation. The recent Enterprise Centre occupies the eastern part of the land bought by UEA.

In landscape terms Earlham Hall and Earlham Park are elements of a single historic designed landscape, much of which survives in a neglected state, but with potential for regeneration. The landscape history has been researched - *see* references on page 1-34.

There is a mature band of planting and trees on the southern side of Earlham Park, masking the boundary with the UEA campus. The University buildings located immediately to the south of the trees are effectively screened. Earlham Hall and Park have little visual connection with the UEA Campus, despite their proximity.

University Drive

Before the development of UEA began there was no road along the present line of University Drive – it was built to serve the new University. Lasdun wanted it to pass through open land with no hedges, like the drive to a stately home through a park, before reaching the architectural drama of the Campus.



The overgrown ha-ha surrounding Earlham Hall, visible in the background (above), and the surviving Victorian rock garden (below). (2018)



This vision was lost a long time ago. The road is now framed by hedges, and the Sportspark and the recent Enterprise Centre front onto University Drive. Where does the Campus begin?

Biodiversity

The UEA estate has a high level of ecology and biodiversity and there is a management plan to protect and enhance biodiversity. There is a wide variety of habitats in a relatively small area; the built up part of the site contributes least to the ecology of the campus. Ecological conservation is an established principal in the management of the estate and is not incompatible with care for the designed landscape; there are opportunities for landscape management, eg. adjacent to the Broad, that would enhance both biodiversity and the designed landscape. However, current landscape management and planning at UEA tends to focus on ecology and habitat, giving relatively less weight to the visual designed landscape.

The landscape today

UEA's Landscape Strategy of 2010 describes in detail the history and condition of the landscape before UEA acquired Earlham Hall. The following headline observations relate to the current situation:

- EARLHAM HALL and its surrounding designed parkland have been in different ownerships /management regimes and uses that have not recently recognised the big picture and has resulted in the complete historic landscape picture being blurred and largely illegible.
- UEA DESIGNED LANDSCAPE never achieved the ideals of landscape designers Colvin and Moggeridge. Some of the principles were adopted, but others were not developed. As a result the main Campus is slightly unsatisfactory as a coherent designed landscape.
- NEW DESIGNED TOPOGRAPHY (1960s onwards) evolved further in the minds of the designers than on the ground, eg. the grass at the foot of the Ziggurats was supposed to sweep seamlessly up to the building plinths – the levels were either not completed or the earth has sunk leaving an 'exposed gum' at the building base and manholes sticking out uncomfortably from the surrounding levels. There are similar issues around the Sainsbury Centre extension where what should be sweeping grassland is interrupted by manholes, exposed walls and a generally 'spotty' effect. The prospect mound is a welcome high point from which to view the campus.



University Drive, with an old parkland tree. (2018)



The UEA estate as colour-coded in the Biodiversity and Landscape Management Plan 2016-2020. Red zones are habitats of ecological conservation significance; amber zones are temporary habitats or areas of transition; green zones are amenity areas. This report is not concerned with visual designed landscape.

- **VEGETATION GROWTH.** The positive initiatives to manage the campus for diversity of vegetation and habitat have resulted in less attention being given to the two designed landscapes (the main campus and Earlham Hall), and how they could be presented in recognition of their designed intent without losing diversity or habitat value. As noted in connection with the Earlham Hall designed landscape, tree and vegetation growth has blurred views and garden elements, making it hard to read the special qualities of the designed landscapes.

SECTION 2

SIGNIFICANCE AND ISSUES

This Section begins with a concise Statement of Significance for UEA's buildings and landscape, followed by a review of the issues where pressures for change at UEA could risk the loss of significance. Opportunities for enhancing significance are also identified.

Statement of significance

UEA's buildings and landscape have heritage significance as a result of their origins, development, character and current state, as described in Section 1, 'Understanding'. There are many aspects of significance and it is convenient to encapsulate them using the four categories defined by Historic England:

Evidential significance*

The main Campus of UEA has Low evidential significance.

- The main UEA Campus is located on former farmland and the Yare river valley. There have been few known archaeological discoveries.

The site of Earlham Hall has Moderate evidential significance.

- Earlham Hall and Earlham Park (in different ownership) form a site with a long history of human occupation, with potential for garden and landscape archaeology.

* Historic England explain that evidential value derives from the potential of a place to yield evidence about past human activity through physical remains, that is, through archaeology.

Historic significance

The buildings and landscape of the main UEA Campus have Moderate historical significance.

- UEA was founded as one of six New Universities in the early 1960s, which marked a highpoint of Welfare State optimism in Britain after World War II. Its original conception expresses technological, aesthetic and social confidence that collapsed in the 1970s. Subsequent

development of the Campus reflects the changing position of universities in Britain, with strong growth on a more entrepreneurial model.

The buildings and landscape of Earlham Hall have High historical significance.

- The fabric of Earlham Hall provides a rich historical record, having originated as a 16th century manor house that was added to in the 17th and 18th centuries, with further alterations in the 19th, 20th and 21st centuries.
- Earlham Hall has been associated with some of the leading families of the Norwich area, particularly the Gurneys who leased the Hall from 1786 to 1912. Elizabeth Fry (née Gurney), the celebrated prison reformer, was brought up at the Hall.
- The development of the immediate site and landscape surrounding the Hall provides a record of social and economic change over four centuries.

Aesthetic significance

The buildings and landscape of the main UEA Campus have High aesthetic significance.

- The Development Plan for UEA by Sir Denys Lasdun and the buildings he designed (completed by Feilden & Mawson) are amongst the most iconic and significant examples of British modernism of the post-World War II period.
- The landscape vision of Lasdun, developed by the leading landscape architects Brenda Colvin and Hal Moggeridge, is striking and successful, borrowing the aesthetic models of an 18th century landscaped park and an Italian hill town.
- The Sainsbury Centre for Visual Arts (1974-78) is amongst the most iconic and significant examples of British high-tech architecture, and a key building in the early career of Norman Foster (Lord Foster, OM), an eminent architect with a world-wide reputation.
- The Sainsbury Centre for Visual Arts hold an outstanding collection of works of art donated to UEA by Sir Robert and Lady Sainsbury in 1973.
- Later buildings include works by several well-respected architectural practices with national reputations.

The buildings and landscape of Earlham Hall have High aesthetic significance.

- Earlham Hall is an attractive and picturesque building that expresses its long history of growth and change, which is continuing into the 21st century. It is surrounded by designed gardens and parkland.

Communal or social significance

The buildings and landscape of the main UEA Campus and Earlham Hall have Moderate communal significance.

- Generations of students, academics and staff have participated in the life of the UEA community since 1963, focused on the main Campus since the early 1970s.
- UEA has a worldwide reputation both academically and architecturally, and the Campus receives numerous national and international visitors.
- UEA is the largest employer in Norwich and plays a prominent role in the wider community.
- Both the main UEA Campus and the neighbouring Earlham Park are open to the public and provide an important community amenity

Issues affecting significance

1. Adaptation of significant modern buildings

As well as being expressive architectural statements, the buildings at UEA were designed to meet functional needs. Over time, functional shortcomings have arisen, and the buildings consequently need alteration or refurbishment. It is important to understand the potential impact on significance of changes to meet new functional requirements.

Experience of change at other Lasdun buildings is relevant. His most important buildings date from the 1950s to the mid-1970s, so they are between 40 to 60 years old. Most buildings of that age need substantial refurbishment.

1. *Royal College of Physicians (1960-64, listed Grade I)*

The Royal College of Physicians is often regarded as Lasdun's masterpiece. Lasdun argued that the brick-clad parts of this building were expected to change, whereas the mosaic-clad parts were more permanent, showing that he anticipated processes of change in the building. The Grade I listing now means that changes to the main rooms and public areas are extremely closely monitored by English Heritage (as they were by Denys Lasdun in his lifetime), but changes to hidden services are acceptable, as are internal changes in the service areas of the building. Denys Lasdun designed an extension to the College in the 1990s, but did not replicate his own architectural language of the 1960s. The College now has much greater intensity of use than in the 1960s, but with adaptations in service areas the building continues to work well, while its main architectural ideas remain intact. It has successfully absorbed change in secondary areas without loss of its primary significance.

2. *Christ's College, Cambridge (1966, unlisted)*

Lasdun's student residences at Christ's College have strong similarities with the UEA ziggurats. There were problems with the building fabric (leaks, draughts, and maintenance problems) and health and



Lasdun argued that, over time, the dark brick-clad parts of the Royal College of Physicians building would change more than the white mosaic-clad parts. (2006)



Lasdun's stepped student residences at Christ's College, Cambridge, have been almost too thoroughly refurbished. (2006)

safety problems with unprotected drops. In 2002-03 a major renovation was carried out, focusing mainly on the external envelope. Insitu concrete has been painted, precast concrete cleaned and lacquered, windows replaced, draught doors added at entrances, grassed areas on raised terraces replaced with paving, and balustrading added. The work was carried out very carefully, making the building almost look new again. This is an important lesson – do not over-restore. Part of a building’s significance derives from its historical connection to the era when it was built, so original fabric, even if it is worn, is usually preferable to new replacements, so long as functional considerations permit. At Christ’s College functional problems have been successfully overcome at the cost of some loss of significance. (Note: This discussion only relates to the south facing terraces. An inappropriate addition has been built on the north side of the building.)

3. *Bethnal Green cluster block, London (1952-55, listed Grade II*)*

This block of flats was so dilapidated that the local authority owners proposed demolition in the mid-1990s. It was bought by a developer who restored the structure and turned the building into flats for sale to private owners. The ground floor layout was changed to increase security. The overall configuration, which was the cluster block’s main architectural idea and the origin of its architectural significance, has been preserved, despite drastic changes internally and at ground level. These changes cause some loss of significance, but are justifiable given that the functional problems were so severe that the alternative was demolition.

In these three cases the characteristics of Lasdun’s designs that are their primary source of significance have survived refurbishment, even though secondary features have changed. Taking these precedents as successful examples of refurbishment to overcome functional problems while respecting primary significance, a similar strategy would be appropriate for the refurbishment of Lasdun’s fifty-year-old buildings at UEA. However, in applying the strategy great care should be taken to identify and retain primary significance, and to minimise the loss of significance caused by the changes that respond to new functional requirements.

Foster’s SCVA and Crescent Wing are also architecturally significant, although the Crescent Wing is not yet listed. In contrast to Lasdun’s work where the large-scale character is the primary source of significance, in the Foster buildings materials and small-scale details make an important contribution to significance. Incongruous features could be extremely damaging. Up to now all modification and refurbishment work has been carried out by Foster & Partners, ensuring respect for the original design. Because the Foster buildings use many specialised, purpose-made components, management and maintenance may in the long term present increasing problems for the sourcing of replacement parts.



The Bethnal Green cluster block has changed ownership and undergone changes, but it survives as part of the urban landscape.

Some precedents away from UEA provide valuable comparisons. The David Attenborough building in Cambridge University was designed by Arup Associates in the 1960s and completed in 1971, for the mathematics, metallurgy and zoology departments. The departments relocated to new buildings on other sites, and the building was refurbished by Nicholas Hare Architects to house nine biodiversity organisations (essentially office use), and to improve its thermal performance, accessibility, etc. The architectural drama of the building's exterior has been retained, even though some elements like the new windows differ in detail from the originals, but the interior suffers from over-restoration. Every surface has been painted bright white and it is impossible to distinguish between original structural elements and new partitions: some loss of significance is inevitable in refurbishment, but here it is greater than it need have been due to the over-restoration.

A second example is the Cockcroft building at the University of Brighton, a ten-storey building designed by Robert Matthew Johnson-Marshall and completed in 1963. It was radically refurbished over three years up to 2016 by Fraser Brown MacKenna Architects. The scope of work included:

- Providing state-of-the-art new learning laboratories and office spaces
- New windows to improve insulation throughout the building
- Exposing the ceiling space to highlight the architectural features of the building's interior
- Opening up corridors to improve lighting, people movement and provide social and informal learning spaces for students and staff
- Reducing noise levels by putting in place sound buffering and dampening features
- Re-roofing to improve insulation and energy efficiency

The striking exterior of the building with projecting precast concrete features (somewhat like Saarinen's US Embassy in London of 1960) is little changed, but the interior has been radically transformed, providing types of space that did not exist in the 1960s. The refurbishment also improved thermal performance, accessibility, etc. The building is not listed and therefore the issue of detracting from significance is less critical, but it demonstrates that the primary structure and external envelope of a fifty-year-old building can be re-purposed for current needs.



The 1971 David Attenborough building in the University of Cambridge has been refurbished for new uses while retaining its external character. (source Nicholas Hare website)



The refurbished interior of the 1963 Cockcroft building at the University of Brighton, providing types of space that did not exist in the 1960s; compare with the Arts Hub in UEA's Academic Wall. (source AUDE website)

2. Changes in the setting of significant buildings

When considering changes in the setting of significant buildings at UEA, the main concern is with visual impact and the risk of detracting from significance by blocking or impairing important views. A key issue is the addition of new buildings in proximity to UEA's significant buildings.

In similar situations Lasdun himself argued that buildings in different styles can co-exist successfully – he was usually trying to justify his modern design in traditional settings. This was how he put it:

‘What I think is important about preservation is linked absolutely with the nature of cities. ... It is important to see old and new together; this gives vitality. You could almost say that it is a vitality which nurtures tradition. The old buildings take on a new dimension when they are contrasted with new buildings; and this is what life is about and therefore what art is about and therefore what architecture is about.’ (Lasdun, 1966)

Lasdun applied these principles at the Royal College of Physicians. It sited between classical terraces of the nineteenth century, but it does not imitate them. However, Lasdun claimed that he responded to the site: ‘Here it is important to understand the sense of place, what the place is about’ - the building form: ‘It [the site] is a backwater, so the building is arranged inward-looking, to make a sort of court’ – and the materials: ‘Superficially, the materials match and rhyme. Blue brickwork is used because there are blue slate roofs on Nash’s buildings; and mosaic is used because it roughly matches the stucco’ (Lasdun, 1966). The combination of the modern College building next to traditional neighbours has been a great success. It is worth noting that the College building is smaller than its neighbours.

Lasdun’s proposal for new laboratories in Cambridge was rejected, unjustifiably in his opinion. He designed tower blocks that were higher than the historic college buildings. ‘I am not against preserving the old, where there are sound reasons for doing so; but the reasons must be more positive than just fearing what my take its place’ (Lasdun, 1966). At UEA, ‘preserving the old’ means preserving Lasdun’s buildings. Following his own statements and designs, there should be no objection in principle to adding new buildings of a different character next to his. Would it be safe to follow Lasdun’s precepts?

A precedent exists at Fitzwilliam College, Cambridge. It was designed by Lasdun in 1960, but as at UEA, his masterplan was not completed. Buildings have been added by MacCormac Jamieson & Prichard, Van Heyningen & Haward, and Allies and Morrison. These designers seem to have done successfully what Lasdun did at the Royal College of Physicians – responded to the sense of place and chosen ‘rhyming’ but not identical materials and details. This result is respectful but not imitative, and provides the accommodation needed by a successful college.



The Royal College of Physicians sits alongside early nineteenth century terraces facing Regent's Park.



Lasdun's proposed new laboratories in Cambridge, in the form of towers which would have been prominent in views of the historic city.

There has already been a great deal of post-Lasdun development at UEA. An early review argued that, ‘Another significant quality of his [Lasdun’s] design is that its basic nature – use of levels, pattern of growth, etc – is so positive that the project can be modified and elaborated without damage, and other architects, as is likely to happen here, can be called in to contribute to it as new requirements become apparent’ (*Architectural Review*, 1969).

The most architecturally significant addition is Foster’s Sainsbury Centre for Visual Arts, an outstanding work in its own right. It is prominently placed on the Campus and has a geometrical relationship with the neighbouring Lasdun buildings, but does not repeat their form or massing. Its hard, monochrome materials and details have an affinity with the austerity and rigour Lasdun’s concrete buildings. Architecturally it adds to the significance of UEA but the question of whether it contributes to or harms landscape significance is a matter of debate.

UEA’s Library extension by Shepherd Epstein Hunter, completed in 2006, is an interesting test case. It repeats the form and massing of Lasdun’s design, with a very different vocabulary of materials, using slender timberwork on the elevations. This creates ambiguity, drawing attention to the differences between Lasdun’s concrete Library and the extension. In this case, it seems that the Library’s approach to extending Lasdun’s work is less successful visually than either Feilden & Mawson’s precise replication of Lasdun’s original elevations in their extensions to the Academic Wall, or Foster’s reinterpretation of the spirit of the original at SCVA.

It seems clear that appropriate forms of development in the setting of significant buildings at UEA can be successful, but this definitely does not mean that any development is appropriate in any location. To protect significance, new development in the setting of significant buildings should not block significant views, and new designs should respond to the particular context and – of primary importance – be excellent in their own terms.

3. University expansion

Lasdun’s Development Plan Draft III envisaged a university of 6,000 full-time undergraduate students within a built up area of about 20ha (50 acres) on a site of 110ha (272 acres). Currently UEA has about 15,000 students (part-time, full-time and postgraduates). The built up part of the site is now about 18.5 ha (46 acres) – a much larger student population on a smaller built-up area. This is consistent with Thistlethwaite and Lasdun’s vision of a compact, urban campus – the ‘10 minute university’.

Further expansion is expected at UEA. Acquisition of the neighbouring Blackdale School site in 2008 and Earlham Hall in 2010 added to the land available, but it is also important to consider the potential for more intensive use of the existing campus: recall that the UGC required 200-acre sites for the New Universities of the 1960s precisely to provide space for expansion. Is there a risk that new development on the existing campus would detract from the significance of UEA's buildings and landscape?

The new development along Chancellor's Drive shows that substantial amounts of new floorspace can be provided in closely-spaced, well-designed buildings in formerly undeveloped 'residual' parts of the campus, without detracting from the significance of earlier buildings. A successful new environment has been created along Chancellor's Drive, and, based on this experience, the possibility of more intensive development in other areas without detracting from significance, should be considered.

Some of the buildings of the 1960s-'70s are of poor quality and/or obsolete for their original functions; they tend to detract from the architectural significance of the campus. These are the Computing Centre (in part), Congregation Hall (old sports hall), Careers Centre (old squash courts), service buildings in the boiler house area, and Lodge. Redevelopment of these sites with new, higher quality buildings which are appropriate for their locations could potentially make better use of the sites and provide valuable facilities and enhance the significance of UEA. This approach was applied when the poor quality Waveney Terrace residences were demolished. Any proposal for replacing other poor quality buildings would have to consider the impact on significance of adjacent buildings and the Campus as a whole, and would involve consultation through the planning process.

The increasing university population is overloading facilities in the central area near the Square. It was crucial to Thistlethwaite and Lasdun's concept that there should be a central focus of activity on the campus, and to maintain this principle there is pressure to expand the central facilities. The buildings in this area have little architectural significance, although the external spaces are successful. Appropriate change to the buildings in the central area should help to maintain a fundamental planning principle of UEA without loss of architectural significance.

One part of the UEA site that Lasdun proposed to develop is still undeveloped. This is meadow to the south-east of Suffolk Walk, Suffolk Terrace and the Music School. Lasdun's Development Plan Draft II of 1963 proposed well-spaced tiers of ziggurats in this area, which were never built. They were also part of Colvin's landscape plan. Lasdun's Development Plan also showed unbuilt ziggurats to the west of Norfolk Terrace; this western site was developed with Foster's Sainsbury Centre for Visual Arts in the 1970s.

Without the intended eastern extension of Suffolk Terrace the developments in the north-eastern



The 'temporary' blockwork barrier across the walkway at the end of Suffolk Terrace, which in Lasdun's Development Plan would have continued to the Broad. (2006)

part of the campus are visible from the Yare, particularly Nelson Court (1991-93) and Colman House (2003-04). This piecemeal view of distant buildings undermines Lasdun and Colvin's fundamental landscape principle, which envisaged a sharp contrast between a compact group of buildings and the open Yare landscape. A crucial consideration is the potential impact of development to the east of Suffolk Terrace on the architectural and landscape significance of the Campus.

An appropriate form of new development where Lasdun envisaged an array of ziggurats offers the prospect of enhancing significance, by recovering Lasdun and Colvin's landscape vision. The Sainsbury Centre demonstrates that the original vision of expressive buildings looking onto open landscape can be reinterpreted successfully in new ways.

Overall, there appear to be potential for expansion on UEA's main campus which could, if responsibly exploited, provide additional accommodation without harming significance.

4. Changing needs of the University

UEA has to adapt to numerous changes in use that have occurred since the Stage 1 buildings were planned in the 1960s.

Changing academic needs

The current research focus in top-level universities makes new demands on the quantity and type of accommodation needed. For example, working areas from research students have been created by adapting spaces in the Academic Wall that were designed for other uses, and the spacious Postgraduate Study Centre has been created in a formerly subdivided area.

The seminar groups of 10-20 students anticipated by Thistlethwaite have been replaced by teaching groups at least twice as big, making the original seminar room provision obsolete.

The Academic Wall provides a large quantity of general-purpose space that might be adaptable in parts for new academic purposes: it was designed with the precise intention of providing versatile and adaptable academic space. Although many changes have already taken place, a substantial proportion of the original fit-outs that were designed for obsolete academic needs are still in place. Change to these fit-outs inevitably causes some loss of significance, but if changes respect the constraints imposed by building's architectural character, and are carried out carefully, the harm to significance might be compensated for by the continuing productive use of the Academic Wall.



The Academic Wall is constantly being refitted for changing academic needs. The column-free spaces can be used in many different ways. This space has a ceiling formed by Lasdun's unpainted precast floor slabs, and his purpose-made lights. (2006)

Advances in scientific research and health and safety standards mean that the Academic Wall is less suitable for uses that require very high level of servicing, and adaptations to achieve higher servicing standard could be architecturally destructive. It is preferable to locate such uses in more suitable building, to minimise harm to the significance of the Academic Wall.

Changing consumer culture

Britain is much wealthier than it was in the 1960s and has experienced dramatic socio-economic change. Today students are consumers: universities have to be attractive to them and meet their expectations (and the expectations of their parents). This is vital for the sustainability of the University and hence its ability to act as a good custodian of its heritage assets.

Meeting students' expectations includes the provision of new or adapted academic space that is both attractive and suited to modern students' workstyles, such as the Postgraduate Study Centre and reconfigured areas of the Library. The scope for change in the Lasdun academic buildings while avoiding or minimising harm to significance has been discussed above.

Modern expectations also create the need for more extensive non-academic facilities than had been anticipated in Lasdun's Development Plan, such as expanded refurbished food and retail outlets and the new Health and Community Centre with a children's nursery, Multifaith Centre and inclusive facility. The early UEA buildings providing non-academic facilities were not generally of great significance, so adaptations are unlikely to harm significance, so long as so long as the changes and any new buildings respect the character and significance of the campus as a whole.

Many new student residences have been built. They are almost universally equipped with en-suite bathrooms, but the original Lasdun ziggurats (Norfolk and Suffolk Terraces) have shared bathrooms. It would be practically impossible and harmful to significance to modify the ziggurats to provide en-suite bathrooms, but at present there is no need to consider this change because the ziggurats remain popular with students.

5. Ageing of building stock

The first buildings on the UEA campus are 50 years old and are inevitably in need of repair and maintenance. A period of austerity in the 1970s and '80s when cost-saving dominated university activities, including building maintenance, may have hastened the onset of problems, but the impact is probably marginal.



The Postgraduate Study Centre in the Academic Wall has opened up a formerly subdivided area, revealing Lasdun's precast concrete structure and floor slabs (which have unfortunately been painted). (2020)

The entire building stock on the campus is routinely assessed using the Royal Institute of Chartered Surveyors grading system, providing reliable, updated information for maintenance planning. This allows the prioritisation of maintenance and upgrading, but maintenance is a perpetual requirement. The challenges faced by the buildings of the 1960 and '70s will soon be faced by the buildings of the 1980s and '90s. The long-term planning of repair and maintenance must take account of the ageing of all of the University's building stock.

The first serious problem encountered with the fabric of the 1960s buildings was concrete deterioration due to the rusting of steel reinforcement. It affects insitu concrete most severely, and caused particular problems in the highly exposed service towers on the Academic Wall. A conservation programme has made use of cathodic corrosion protection and other techniques.

Precast concrete, used for most of the cladding and many structural elements in the early Lasdun buildings, is generally less badly affected because quality control was easier with precasting than insitu casting. There is a serious problem with the precast spandrel panels on the Academic Wall, due to corrosion of the steel fixings rather than the concrete itself. Bolted connection plates were added to the precast panels in the Ziggurats to mitigate the risk of progressive collapse, but they were fixed in unobtrusive locations and have successfully avoided harm to significance.

After repair there is a current policy of painting concrete with corrosion-inhibiting paint. This also has the benefit of masking any patched areas of concrete. A disadvantage is the loss of the patina of age, which is a contributory factor in the significance of old buildings, when the buildings are bright and uniform in colour: there is a risk of over-restoration. It is not yet known how the painted concrete will weather over time.

The concrete conservation programme is on-going. UEA has initiated research reports, surveys, and diagnostic investigations. The objective is to make repairs that restore the concrete to a technically sound state, in a way that is unobtrusive and without visual change to the architectural elements. This is the ideal way of repairing the fabric whilst maintaining significance.

There are design features at UEA that have proved inadequate – for example, the use of asbestos – and in these cases it is not appropriate to reinstate the original specification. New specifications should aim to avoid or minimise any loss of significance.

The single-glazed Academic Wall windows – which still include some notoriously draughty glazed louvres – perform well below current expectations in terms of internal environmental conditions and energy performance. However, their external visual appearance is crucial for the building's



Precast concrete panels on the Ziggurats in 2006 (above) and 2018 (below), showing the effectiveness of the concrete conservation programme.



significance. In conservation terms it would be preferable to retain and upgrade the existing windows, but if replacement is necessary the objective is to improve performance while retaining the visual appearance. This is not a unique problem; for example, slender, single-glazed aluminium windows of the 1950s have recently been replaced at Great Arthur House in the City of London, using a new double-glazed window system that retains the slender profiles of the originals. If these windows have to be replaced, consistency in external appearance is vital for the aesthetic significance of the Academic Wall and whole elevations or large sections/blocks of windows should be replaced at one time, as opposed to piecemeal replacement.

Major renewal will be needed in the near future for almost all servicing systems, including the main, campus-wide distribution network. The insertion of new services can be intrusive and risks detracting from significance, both internally and externally. This applies, for example, to the renewal of rooftop extract ductwork on the science sections of the Academic Wall.

On a smaller scale, individual items of repair and maintenance to finishes and secondary elements may seem to have relatively little impact, but details contribute to the perception of a building, and if carried out inappropriately they detract from significance. In general, where original finishes and secondary elements in significant buildings can be retained or repaired, this is preferable to replacement. Where this is not possible, the essential characteristics of the originals should be retained in new work. Irreversible changes in significant buildings should be undertaken with the greatest caution.

Like-for-like replacement of components may become increasingly difficult as proprietary products go out of production. However, the Lasdun buildings used standard catalogue items of the day, and when replacements are needed it should normally be satisfactory to choose items from current catalogues with appropriate selection criteria. The selected items should be used consistently. Only in very exceptional situations would it be appropriate to have replicas specially made. This issue may become more critical for the Foster buildings with greater use of purpose-made components.

One important difference between UEA's old and new buildings is their energy consumption and environmental performance: the newer buildings are very energy-efficient but the old buildings fall far below today's standards. Every opportunity should be taken during repair, maintenance and refurbishment work to improve the energy performance of the older buildings in ways that avoid or minimise detracting from significance, by upgrading insulation, using more energy-efficient servicing systems, and improving controls. Where proposed measures to improve environmental performance involve change to the original fabric of significance elements, for example with new glazing or lighting systems, a compromise must be found to reconcile the important objectives of environmental sustainability and architectural conservation. This may involve some loss of environmental gain



When the slender single-glazed aluminium windows of Grade II listed Great Arthur House in the City of London, designed by Chamberlin Powell & Bon and completed in 1957, required replacement, a glazing and curtain walling system was developed that incorporated double glazing and retained the slender window profiles. The replacement was completed in 2019.

compared to the most energy efficiency solution, and greater change to the original fabric compared to retention without change. It is worth noting that greater efficiency will make it more affordable for UEA to keep its older buildings in productive use.

There will be a continuing challenge to overcome problems of obsolescence of the fabric and services in the significant buildings at UEA whilst minimising any loss of significance.

6. Landscape management

The landscape that was envisioned by Lasdun and planned in the Colvin and Moggeridge proposals relied heavily on stewardship of the existing site, with a management regime that allowed the buildings to be incorporated without major change to the existing character and ecology. UEA prides itself on its strong commitment to nature conservation, and whilst elements such as the Broad and the reed beds alongside the Yare make good habitats there has been less attention given in management to achieving the landscape vision of Lasdun and Colvin. UEA's Green Infrastructure Plan will address all aspects of landscape management.

The heritage significance of UEA's designed landscape is at risk in the following ways:

The Vision: The ideals of landscape designers Colvin and Moggeridge were not fully developed. As a result the main campus is slightly unsatisfactory as a coherent designed landscape. In the interval of nearly forty years between the departure of Colvin in 1972 and the Landscape Strategy of 2010 the landscape altered in ways that weakened the vision. It is now problematic to make radical changes necessary to recover the vision, due to the affection which is attached to practically any vegetation, however inappropriate, and the priority given to biodiversity of the UEA site over the heritage significance of its landscape.

Landscape Management: The landscape needs to be recognised as a designed man-made landscape, albeit with naturalistic elements. The various types of landscape and their planting should be managed appropriately to maintain the character for which they are considered special, including a programme of felling and replacement if necessary of perimeter plantings. Regular landscape maintenance is currently carried out to a high standard by UEA staff and outside contractors, but the retention of UEA's landscape quality also relies on a vision which integrates consideration of topography, buildings and planting, in the context of on-going change in UEA and Norwich. Without such a vision there is a risk of progressive degradation of the inherited landscape, and

the loss of landscape opportunities.

Loss of coherence of outdoor space and planting. Colvin proposed simple bold elements to make up the landscape picture – sweeps of grass, masses of trees, broad reed beds and the uniqueness of the East Anglian sky. She recommended that little groups of flowery shrubs or herbaceous plants should not be used as they would be too bitty. In fact this is what has happened and much of the current planting is very bitty and not set within a wider context.

Earlham Hall and its surrounding designed parkland are in different ownerships/management regimes. The complete historic landscape is blurred and largely illegible. There is a need for a masterplan/management plan for improvements across the site, recognising its significance as a unified landscape.

The landscape is not static and the challenge is to accept the inevitability of change through natural processes and the on-going development if UEA, and ensure that it is change for the better.

7. Health and safety, accessibility and other new regulations

New regulations have led to numerous large and small changes to the site and buildings at UEA, and will lead to further changes, for example:

- increased rates of fume extraction requiring more rooftop plant
- accessibility – a serious problem despite a long-standing programme of improvements
- security concerns and impact of 24hr use
- potential conflict between the requirements of Building Regulations and Listed Buildings
- health & safety, eg. parapet heights and unprotected parapets (preventing access to the ziggurat decks with detracting from significance)
- CO₂ emissions quota: pressure for year-on-year reductions.

When change is considered as a result of these pressures, the same concern for avoiding or minimising any loss of significance is required as for change due to other reasons. In most situations there are alternative ways of complying with regulations, and the impact on significance should be taken into account when deciding which to adopt, especially for conspicuous changes affecting significant buildings or settings.

8. Sustainability and climate change

UEA will face increasing pressure to address sustainability issues in the maintenance and development of the site and buildings, including the elements with heritage significance.

A primary consideration is the risk of damage that could result from an increased incidence of damaging weather events due to climate change, such as very heavy storms or high winds. There is an increasing risk of flooding due to exceptionally intense rainfall if roof drainage is loaded in excess of the design capacity. UEA should assess the degree of risk it will face due to severe weather events. Mitigating measures should be developed and implemented for foreseeable risks. For significant buildings, mitigating measures should be assessed for potential impact on significance.

Environmental responsibility, public opinion, market forces and legislation are likely to combine to require a reduction of CO₂ emissions, through reduced energy consumption and a move to renewable energy sources, both of which could present problems for significant buildings. The first consideration is the energy consumed in heating and lighting. This can be reduced in a number of ways, including:

- more insulation and the use of higher specification glazing systems
- better draught-proofing
- more efficient boilers and controls
- more efficient lighting
- use of daylight rather than artificial light.

The Enterprise Centre is an outstanding example of the application of these principles, but they are often difficult to apply in heritage buildings without having an impact on significance. The competing objectives of CO₂ reduction and protection of heritage significance have to be weighed against each other on a case-by-case basis, taking account of the level of significance of the element in question. It would be efficient to add upgrades when other work is carried out, unless they would cause unjustifiable harm to the significance of the heritage asset; for example, increasing roof insulation when a roof is replaced or maintained.

The second consideration is cooling in hot weather. Artificial cooling is far more damaging from a CO₂ emissions point of view than heating. Every effort should be made to avoid or minimize energy-consuming air-conditioning, using natural ventilation whenever possible. Mechanical ventilation is sometimes effective in maintaining air quality without air-conditioning.

It is desirable to use spaces in ways that match their natural environmental conditions, in order to reduce the reliance on energy-consuming environmental systems; for example, it has been suggested that offices should not be located on the south side of the Academic Wall where they suffer from excessive heat gains.

As well as reducing energy consumption, efficient generation is a way of reducing CO₂ emissions. The UEA gasification plant was an attempt to do this in an innovative way, although with only partial success. Other opportunities should be explored. The use of energy from renewable sources in heritage buildings would not normally impact on their significance, but the installation of plant to generate renewable energy on or in the settings of significant buildings, or in significant landscape, would require assessment.

8. Architectural esteem and design quality

Buildings are well looked after when they are esteemed, as is shown by the care lavished on most pre-20th century buildings. However, the early buildings at UEA, like many other concrete buildings of the 1960s and '70s, became deeply unfashionable and unloved in the decades following their completion.

A survey of attitudes to the campus and buildings was carried out as part of the research for the original Conservation Development Strategy in 2006. At that time the key findings were as follows:

- the open space on the campus was highly appreciated
- there was general support for looking after UEA's 'architectural heritage'
- the newest buildings on the campus [in 2006] were more popular than the 1980s buildings and much more popular than the 1960s buildings
- people who had been at UEA for more than ten years were more negative about the University's 'architectural heritage'
- people who had been at UEA for less than one year were slightly more positive about the University's 'architectural heritage' and the 1960s buildings.

Since 2006 the evolution of architectural taste has continued and now Brutalism has become established as an elite taste, and before long will no doubt come to be widely esteemed. This is a very positive development for the conservation of UEA's early concrete buildings.

There is always a risk that functional refurbishment can lead to loss of architectural integrity. This

risk is mitigated because the Lasdun-era buildings are more widely appreciated and because the most important buildings are listed.

It is entirely possible that the newer buildings from the 1980s onwards will also experience a period of unpopularity as they get older and less fashionable. They are characteristic of the periods in which they were built and it is likely that they will in due course be esteemed. The distinctive architectural characters of the best buildings of each period of UEA's development should be conserved when refurbishment is needed.

It is desirable that functional refurbishment and historic conservation should be seen as complementary and not conflicting objectives. This is one of the main reasons why UEA commissioned the Conservation Development Strategy.

UEA is an evolving institution with an evolving estate, and the Conservation Development Strategy also includes Principles and Policies for new development and the on-going management of both buildings and landscape. It is essential to maintain high standards to avoid harming the significance of UEA's heritage, and to continue the tradition of aiming for excellence established by Thistlethwaite and Lasdun when the University was founded.

SECTION 3

STRATEGY

This section presents the strategy for conservation and development at the University of East Anglia. The overall objective is to manage the vulnerabilities identified in Section 2 so as to retain or enhance the significance identified in Section 1.

First come the Principles that should guide all conservation activities in relation to buildings and landscape, in order to protect significance. Secondly, each element of the University is considered in turn – its significance is assessed, particular observations noted, and finally Policies for that element are presented. Each element-specific Policy is the result of applying one of the Principles to the element in question.

Finally, this section presents a method of impact assessment, showing how the Conservation Development Strategy can be used to evaluate any proposed change to the buildings or campus.

Principles

The purpose of the Principles set out in this section is to provide a guide to the development and care of the buildings, site and landscape so as to retain their significance. The Principles define good practice and are not unique to UEA.

The Principles should be applicable to all the University's buildings and landscape areas. Where appropriate, Policies are set out later in Section 3, indicate ways of applying the Principles in particular cases. Each Policy refers back to the number of the Principle on which it is based.

Explanation of terms

The following definitions have been used.

Alteration means modifying the existing fabric to meet new objectives.

Compatible use means a use which involves no change to the significant fabric, changes which are substantially reversible, or changes which require a minimal impact.

Conservation means the process of looking after a place so as to retain its significance. It includes maintenance and may according to circumstances include preservation, restoration and adaptation and is commonly a combination of more than one of these.

Fabric means all the physical material of the place.

Maintenance means the continuous care of the fabric, contents and setting of a place, and is to be distinguished from repair.

Planned maintenance means a programme of preventative maintenance that is carried out before the breakdown or failure of the element or component, as opposed to unplanned or corrective maintenance which takes place after failure.

Policy means a plan of action for a specific element which should be followed when planning and carrying out work to that element.

Preservation means maintaining the fabric in its existing state and retarding deterioration.

Principle means a fundamental standard or rule to be applied to all work on the site and buildings.

Repair involves like-for-like replacement of materials.

Restoration means returning the existing fabric to a known earlier state. This is not to be confused with conjectural reconstruction.

Setting means the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset; or may affect the ability to appreciate that significance; or may be neutral. (NPPF)

Significance means the value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting. (NPPF)

Significance is assessed in a five-step hierarchy:

High significance Elements that are excellent examples of their kind, with architectural or landscape importance, that make a high contribution to significance.

Moderate significance Elements that are particularly good or unusual examples of their kind, that make a moderate contribution to significance.

Low significance Elements that are good or representative examples of their kind, that make some contribution to significance.

Neutral significance Elements that do not contribute to the significance of the University.

Negative significance Elements that detract from the significance of the University.

Assessments of significance relate to the elements' historic and architectural/landscape status, not their functional performance.

Note that the classification of levels of significance has been revised compared to Issue 1 of the CDS (2006): levels 'Very high significance' and 'High significance' in Issue 1 have been merged; level 'Significant' in Issue 1 has been renamed 'Moderate significance'; level 'Some significance' in Issue 1 has been renamed 'Low significance'; level 'No significance' in Issue 1 has been divided into 'Neutral significance' and 'Negative significance'. The changes are reflective of updated current guidance but the degree of importance and protection of each level remains essentially the same.

Principles

- 1 The Conservation Development Strategy should be applied whenever work to the buildings or landscape is being planned or carried out**
 - 1.1 The Conservation Development Strategy should be formally adopted by UEA.
 - 1.2 The Conservation Development Strategy should be approved and adopted by the outside bodies that have roles affecting UEA, including Norwich City Council and Historic England.
 - 1.3 Copies of the Conservation Development Strategy should be part of the standards adopted by all consultants involved in work to the buildings and landscape, and it should be made available to all contractors.
 - 1.4 The Conservation Development Strategy should be made available for information and consultation by all interested parties and members of the public.
 - 1.5 UEA should refer to the Conservation Development Strategy and follow the Principles in it whenever work to the buildings or landscape is planned, commissioned or carried out.
 - 1.6 The Conservation Development Strategy should be regularly reviewed and updated by UEA to ensure its continued relevance and use.
 - 1.7 The Conservation Development Strategy should be used in conjunction with UEA's landscape strategy and relevant planning and guidance in other sources.

- 2 Coordinated planning procedures should be established and used**
 - 2.1 A system of planning and decision making procedures, involving UEA, relevant specialists and outside bodies with roles affecting the University should coordinate the whole range of interventions to the buildings and landscape.
 - 2.2 Systems of planning and decision making should work on the longest feasible timescale, to maximise opportunities for consultation, coordination and efficient working, and to minimise the risk of damaging actions. The attached Escalation Table sets out guidance on the procedures to be followed in typical cases, but the special circumstances of individual cases must always be considered (*see* Escalation Table on page 3-10).

- 2.3 Policies for **maintenance and management** should be incorporated in UEA's day-to-day maintenance activities and maintenance planning. Where these Policies affect listed buildings, the local planning authority should be made aware that the Policies are being pursued, referring to this Conservation Development Strategy. (Policies of this type are tagged '2.3')
- 2.4 Whenever UEA wishes to carry out work to a listed building that is in accordance with a Policy for **refurbishment and alteration**, the local planning authority should be made aware that the Policy is being pursued. Information required by the local planning authority about the way the Policy is to be carried out should be submitted for comment, information and monitoring, or for planning and listed building consent if appropriate, referring to this Conservation Development Strategy. (Policies of this type are tagged '2.4')
- 2.5 Whenever UEA wishes to develop proposals that are in accordance with a Policy for **prospective improvements**, the local planning authority should be consulted, proposals should be developed in accordance with the Principles in this Conservation Development Strategy, and the proposals should be submitted to the local planning authority for planning and listed building consent, if appropriate, referring to this Conservation Development Strategy. (Policies of this type are tagged '2.5')
- 2.6 Whenever UEA wishes to carry out work that is not covered by a Policy, proposals should be developed in accordance with the Principles in this Conservation Development Strategy and discussed with the local planning authority. Information as required by the local planning authority about the way the Policy is to be carried out should be submitted for comment, information and monitoring, or consent, referring to this Conservation Development Strategy.
- 2.7 All proposals for work to the buildings and landscape at UEA should take account of this Conservation Development Strategy, UEA's landscape strategy, local and national planning policies, and the National Planning Policy Framework.

3 Work to the buildings and landscape should be planned on the basis of expert knowledge

- 3.1 Documents about the design, construction and alterations of the buildings and landscape should be recorded and catalogued to provide a complete and accessible historical record.
- 3.2 Whenever non-maintenance work is carried out to the buildings and landscape, the structure, materials and services of both the existing and new work should be recorded, and the information added to the catalogue. This information should be used to inform revisions to the

Conservation Development Strategy (*see* 1.6).

- 3.3 Whenever possible, knowledge about the buildings and landscape held by individuals should be recorded in suitable documentary forms, and the information added to the catalogue.
- 3.4 Work to the buildings and landscape should be planned by individuals and organisations who have made themselves familiar with their history, construction and significance, and who have proven expertise in the relevant field of work.

4 New development should respect the significance of the existing buildings and landscape

- 4.1 Proposals for new development on any site should take full account of the original design intent, existing features, and a comprehensive tree survey and environmental audit for the site.
- 4.2 New development that would enhance the significance of the buildings or landscape should be carried out whenever there is a practical and affordable opportunity.
- 4.3 New development in settings of *high significance* should be designed to the highest standards.
- 4.4 New development that would harm the significance of settings of *high significance* should only be considered for compelling and exceptional reasons, to achieve substantial benefits that outweigh the harm to significance; and any such development should be carried out so as to minimise harm to significance.
- 4.5 New development in settings of *moderate significance* should be designed to equal and complement its setting as a minimum standard.
- 4.6 New development that would harm the significance of settings of *moderate significance* should only be considered to meet an essential need of the University that outweighs the harm to significance; and any such development should be carried out so as to minimise harm to significance.
- 4.7 New development in settings of *low significance* or *neutral significance* should not normally be constrained for conservation reasons, so long as there are no secondary damaging impacts on settings or elements of higher significance.
- 4.8 High standards of design quality and environmental performance should be a priority in all new development at UEA.

5 Alterations should respect the significance of the existing buildings and landscape

- 5.1 Alterations to the existing buildings or landscape that would enhance significance should be carried out whenever there is a practical and affordable opportunity.
- 5.2 Alterations that would harm the significance of elements of *high significance* should only be considered for compelling and exceptional reasons, to achieve substantial benefits that outweigh the harm to significance; and any such alterations should be carried out so as to minimise harm to significance.
- 5.3 Alterations that would harm the significance of elements of *moderate significance* should only be considered to meet an essential need of the University that outweighs the harm to significance; and any such alterations should be carried out so as to minimise harm to significance.
- 5.4 Alterations to elements of *low significance* or *neutral significance* should not normally be constrained for conservation reasons, so long as there are no secondary damaging impacts on elements of higher significance. Original materials in elements of low significance should be retained where possible.
- 5.5 Priority should be given to using significant elements in ways that are appropriate to their significance.
- 5.6 All alterations to significant elements should be designed and built to high standards of design, materials and workmanship, equivalent to those of the existing buildings.
- 5.7 Whenever possible, changes to significant elements should be carried out in ways that are reversible, rather than in ways that are irreversible.
- 5.8 During alteration work, consider incorporating measures that improve environmental performance, unless they would cause unjustifiable harm to the significance of heritage assets.

6 Management, maintenance and repair activities should respect the significance of the buildings and landscape

- 6.1 The buildings and landscape should be cared for by a planned maintenance programme based on a complete knowledge of the elements and their significance, with regular inspections and preventative action.

- 6.2 Where significant elements of buildings or landscape have deteriorated, they should be replaced, repaired or restored in such a way as to regain significance. Original building elements that are worn or weathered should be repaired or restored rather than replaced, so long as they are still serviceable.
- 6.3 Repairs to significant original material should retain the original qualities, in particular:
- colour, texture, reflectivity, geometry
 - dimensional accuracy and precision of joints
 - resistance to physical deterioration
 - security and fire resisting properties.
- 6.4 Maintenance and repair work to significant elements should be carried out by persons who are qualified and experienced in working with the relevant materials.
- 6.5 Care should be taken to supervise and, where relevant, train operatives to ensure that fabric is not damaged by maintenance and repair activities.
- 6.6 Particular attention should be paid to keeping in good order roofs, gutters and rainwater drainage systems to conduct water safely away from the buildings.
- 6.7 Evidence of defects should be reported and investigated, and remedial work prioritised to minimise damage.
- 6.8 When practicable and affordable, makeshift alterations carried out in the past should be removed or modified to ensure that they do not harm significance or present a threat to the fabric.
- 6.9 During repair or maintenance work, consider measures that improve environmental performance, unless they would cause unjustifiable harm to the significance of heritage assets.

7 Services systems should be appropriate to the architectural character of the buildings

- 7.1 Wherever practicable, uses should be assigned to parts of the building whose inherent characteristics provide suitable environmental conditions with minimal reliance on service systems.
- 7.2 Service systems for lighting and heating should be designed to enhance the significance of

spaces they serve, in terms of (i) the environmental conditions created, and (ii) the visual and acoustic impact of the system components.

- 7.3 The replacement of old service systems by new systems that perform better should not normally be constrained for conservation reasons, unless it would cause unjustifiable harm to the significance of heritage assets.
- 7.4 Where components of old service systems are significant but functionally obsolete, redundant ducts or openings should be sealed to protect the integrity of the fabric whilst retaining the components' visual appearance.
- 7.5 The piecemeal introduction of services should be resisted – a holistic approach to services upgrading or renewal should be taken. When new service distribution networks are necessary, alternative distribution routes should be thoroughly investigated, prioritising connection to existing routes/risers, to identify routes that avoid or minimise harm to significant elements.
- 7.6 When practicable and affordable, makeshift insertions of service systems carried out in the past should be removed or modified to ensure that they do not harm significance or present a threat to the fabric.
- 7.7 Services systems should be provided with access to allow for maintenance and renewal with minimum disruption to the fabric.

Escalation Table setting out the procedures to be followed with Norwich City Council (the local planning authority, LPA) in typical cases (see Principle 2.2)

Type of work	Significance of elements affected [2]	Action	Example
Refurbishment A: Irreversible change	<i>High significance</i>	Consult LPA	Replace Sainsbury Centre cladding with higher-performing system
	<i>Moderate significance</i>		Raise parapet height of external walkways
	<i>Low significance</i>	Inform LPA	Renew bathrooms in Ziggurats
	<i>Neutral/Negative significance</i>	Proceed	Renew services in plant rooms
Refurbishment B: Reversible change	<i>High significance</i>	Consult LPA	Office pods on Sainsbury Centre mezzanines
	<i>Moderate significance</i>	Inform LPA	Glazed screen walls for Library study areas
	<i>Low significance</i>	Proceed	Audio-visual equipment in lecture/seminar rooms
	<i>Neutral/Negative significance</i>		
Repair, replacement or restoration of existing fabric	<i>High significance</i>	Major project: Consult LPA	Major project: Replace glazed end walls in Sainsbury Centre
	<i>Moderate significance</i>	Minor project: Inform LPA	Minor project: Replace paving on external walkways
	<i>Low significance</i>	Proceed	Renew finishes in service areas
	<i>Neutral/Negative significance</i>		
Maintenance of existing fabric	<i>All levels of significance</i>	Proceed [6]	Day-to-day and routine maintenance

NOTES

1. For guidance only – the special circumstances of individual situations must always be considered. The Table must be applied in conjunction with the Conservation Principles set out in this section of the Conservation Development Strategy.
2. If the proposed work affects many elements, the appropriate action is determined by the element of highest significance.
3. Where the action is *Consult LPA*, the need for listed building consent (LBC) will be determined on a case-by-case basis in consultation with the local planning authority (LPA). Early contact with the LPA is essential to allow sufficient time for LBC, if required.
4. Where the action is *Inform LPA*, it is normally expected that the work can proceed without LBC, but the LPA should be informed well in advance to confirm that this is the case, and to allow for monitoring of the work.
5. The action *Proceed* applies where the proposed work has no impact on conservation significance. If there is any doubt, the LPA should be contacted.
6. Maintenance work should be carried out in accordance with a maintenance plan that takes account of the principles and policies in the Conservation Development Strategy.

Elements

The elements of the University are considered individually, in greater detail for the more significant elements. The typical entry for each element has three components:

Significance

The assessment of each element's significance is based on the information in Sections 1 and 2 of the Conservation Development Strategy. It is derived from comparing the elements with relevant exemplars of the same period and character, and aims to present a consensus of current informed opinion, synthesising the view of the project team, the project advisory group and the consultees listed in the Introduction.

The five-step hierarchy described on page 3-3 is used – *High significance, Moderate significance, Low significance, Neutral significance, Negative significance*.

Note that the assessments relate solely to heritage and landscape significance, not functional performance or usefulness. Recent buildings may appear to be under-valued, but the assessment reflects the fact that conservation issues have not yet become an important consideration for these newer buildings.

Observations

Where appropriate, points about the particular element are set out here. This is not intended to be a systematic survey, but it points out features – sometimes quite small – that should be taken into account when any work to the element is being considered.

Policies

Policies indicate how the Principles should be applied to the particular element. The Policies that are given are not exhaustive. As new situations arise, the Policies should be revisited, new Policies generated, and superseded Policies removed. Where an element has no element-specific Policies, or in situations that are not covered by element-specific Policies, the general Conservation Principles should be referred to and applied.

Each Policy is cross-referenced to the relevant Principles that are being applied.

Policies are of three types:

1. Policies for *maintenance and management*, emphasising important points to be incorporated in day-to-day maintenance activities and maintenance planning. No change to the fabric is involved, and no consents are required (*see* Principle 2.3 and Escalation Table on page 3-10).
2. Policies for the *refurbishment and alteration* of the fabric, where the scope of work and the important characteristics to be aimed for can be set out in some detail. UEA should be able to proceed with work that is in accordance with policies of this type without seeking further consents (*see* Principle 2.4 and Escalation Table on page 3-10).
3. Policies which identify *prospective improvements* in strategic terms only, where the ways of implementing the Policy have not been explored. If UEA wishes to proceed with Policies of this type, consents will be required (*see* Principle 2.5 and Escalation Table on page 3-10).

The review of Elements is sub-divided as follows:

- Core buildings* (p.3-13)
- Sainsbury Centre (SCVA and Crescent Wing) (p.3-53)
- Other buildings
 - on Campus (p.3-66)
 - north of Campus (p.3-75)
 - off Campus (p.3-76)
- Earlham Hall (p.3-77)
- Landscape (p.3-79).

*The core buildings are those by Denys Lasdun & Partners, or completed by Feilden & Mawson following Lasdun's design intentions – Ziggurats, Academic Wall, Library, Lecture Theatres, Computing Centre, Suffolk Walk, Careers Centre, Boiler House, Estates Building.

Core buildings on UEA Campus

Concrete conservation

UEA appointed specialists to carry out investigative work on the concrete. A *Concrete Preservation Plan* (CPP) was prepared for the whole campus, including the listed Norfolk and Suffolk Terraces, Academic Wall and Library.

The recommendations of the CPP must be considered for each element in discussion with the local planning authority and conservation authorities. The quality of the repairs is imperative to the success of the work. In carrying out concrete repairs, samples must be prepared for comparison with existing repairs before work is carried and out every effort should be made to achieve the following:

- same texture as original
- similar colour to the least weathered original concrete
- constituents as similar as possible to the original, subject to achieving improved performance
- improved durability to eliminate or reduced the risk of deterioration in the future
- on-going maintenance plan.

A rolling programme has been adopted in consultation with the local planning authority to apply an approved corrosion-inhibiting Keim coating to some exposed external concrete. Although it loses the original appearance, it has the benefit of concealing patches and repairs.

- It is preferable to retain concrete unpainted and painting should only be carried out where necessary, ie. where there have been patches and repairs.
- The agreed paint type and colour should be used exclusively.
- If a building or element has concrete that requires painting, it should be carried out on a sufficient scale to avoid a patchwork effect, but no more than this.

Internal concrete (other than blockwork) should not be painted.

Suffolk and Norfolk Terraces – ‘ziggurats’ [105 & 106]

Listed Grade II*. The ziggurats’ overall significance are discussed in Section 1, Understanding (*see* page 1-13).

Front (south) Elevation

Assessment: Suffolk Terrace [105] – High significance

Norfolk Terrace [106] – High significance

Observations:

The distant view of the south aspect of the ziggurats is one of the most important architectural composition at UEA. Norfolk Terrace to the west has six bays, Suffolk Terrace to the east has four bays. The number of levels varies.

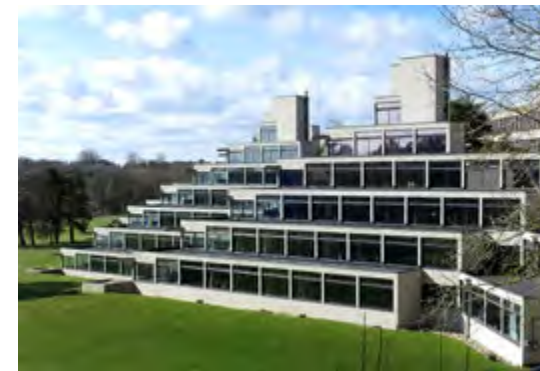
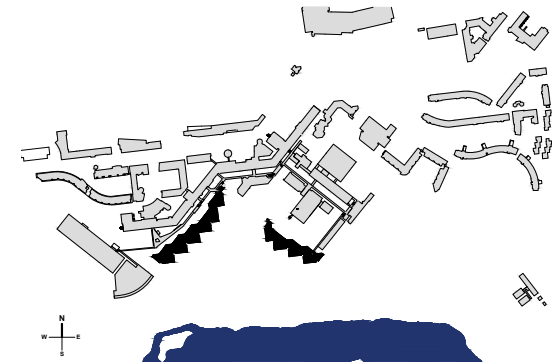
The original black timber windows have been replaced; Suffolk Walk retains timber windows of the original type. The new windows are of dark-coloured aluminium in the same configuration, but with narrower profiles for the sliding slashes (the high level fixed lights always had slender framing). The difference is particularly noticeable in the central mullion.

The original straw-coloured ‘pinoleum’ roller blinds have been replaced by dark curtains. The contrast between original pale blinds and dark window frames emphasised the window configuration: this is now much less conspicuous.

In most cases the internal window sill is at the level of an external flat roof. Originally the flat roof areas were tiled for use as terraces, accessed through the windows. For health and safety reason access to the flat roofs/terraces is now prohibited, and the windows have opening restrictors and vertical bars. Although it would be highly desirable to reinstate the use of the terraces by the students, it has not been possible to devise a method of providing protection against falls that would be compatible with the ziggurats’ architectural significance.

The window opening restriction reduces ventilation in hot weather – overheating is a problem.

In accordance with the rolling programme adopted in consultation with the local planning authority, the fairface concrete surfaces in the elevations and walkways have been, or are in the process of being, treated with an approved corrosion-inhibiting Keim coating.



The south front of the ziggurats [105, 106] – which are actually cranked terraces – showing the roof terraces which were intended for use by the students. This has now been stopped for health & safety reasons. (2018)

Policies:

Maintenance & management

Landscape Keep the open landscapes running right up to south face of ziggurats. Restore the intended soil levels adjacent to the ziggurats where it has shrunk to expose foundations and manholes. (2.3, 5.2)

Refurbishment & alteration

Windows Future window replacement should re-establish the original window appearance. (2.4, 5.2, 6.8)

New windows should have the following characteristics:

- same configuration of opening and fixed lights
- dark colour
- thicker sections corresponding to the original timber windows.

Replacement programme Establish a programme of replacement for windows and curtains/blinds: this should be done systematically, not piecemeal. (2.2, 2.4)

Prospective improvements

Roof terraces If a feasible and visually acceptable method could be devised, it would be desirable restore student access to the roof terraces and remove opening restrictors on windows. (2.5, 5.6, 6.8)

Rear (north) Elevation

Assessment: High Significance

Observations:

The north elevation is an extreme contrast with the south elevation, being windowless and hard – undoubtedly this was a deliberate intention. North-facing and therefore almost always in shadow.

Originally cars parked under the overhangs (*see* photo on page 1-8). This has been curtailed and some planting added. Because Norfolk Terrace adjoins the Academic Wall's raised walkway, the ground level environment is chaotic. The bold forms of the north side of the ziggurats are a powerful architectural gesture in the Brutalist aesthetic of the 1960s.



The north side of Norfolk Terrace [106]. The precast concrete panels of the ziggurat have been [painted coated](#). (2018)

The original design intention involved more insitu concrete work on this side of the ziggurats, but the extent of precasting was increased at a late stage. Thus the setting out of panel joints and junctions is less refined than for the study-bedrooms.

Repairs to the precast concrete panels have been carried out (*see* page 2-13) and the concrete has been treated with an approved corrosion-inhibiting Keim coating.

Tall metal ventilation pipes were added shortly after the buildings were completed. They are now rusting.

More people are now using the ground level paths for access, either on foot or cycles.

Policies:

Maintenance & management

Undersized planting beds and planters should be removed. Hard or soft landscaping should match the vigour and scale of the buildings. (2.3, 6.8)

Chaotic and adhoc intrusions should be removed. (2.3, 6.8, 7.5)

Refurbishment & alteration

A hard landscaping and planting plan should be developed taking account of the increased pedestrian use of the ground level, to upgrade the environmental quality while respecting the tough aesthetic of the Lasdun buildings. (2.4, 5.1, 6.2)

Prospective improvements

Hard landscaping should be upgraded to enhance the environmental quality. (2.5, 5.1)

External circulation – high-level walkway and bridges

Assessment: High Significance

Observations:

Norfolk Terrace was supposed to be extended to the east and Suffolk Terrace to the west, so the end walls would not have been permanently visible. The walkways would also have been extended and

are now brutally terminated. The ends of the terraces facing the 'harbour' terminate neatly and have access stairs.

The high level bridge between Norfolk Terrace and the Academic Wall walkway has been removed, although the services that used to be concealed below the bridge remain in place. The bridge had severe concrete corrosion.

The Norfolk Terrace walkway now forms a long dead-end.

Some of the narrow 'slots' at paving level which created a physical separation between the stairs or walkways and accommodation blocks have been filled.

The height of the balustrades have been raised with a metal rail to comply with the requirements of health and safety.

Policies:

Refurbishment & alteration

The narrow 'slots' at paving level between the stairs or walkways and accommodation should be opened up, but treated in such a way as to conform to safety standards and DDA requirements. (2.4, 6.8)

Prospective improvements

The connection between walkway at the west end of Norfolk Terrace and ground level or Academic Wall walkway should be improved. (2.5, 5.1, 6.8)

Internal circulation – access stairs

Assessment: High significance

Observations:

The stairs are steep and dramatic. There are no lobbies at the walkway entrances to the access stairs, just small canopies.

At each level, only one door from the access stairs can be opened into a 'habitat'. The second door can only be used as an exit.



High-level walkway on the north side of Norfolk Terrace [106]. The walkway is an integral part of the ziggurat structure, unlike the Academic Wall walkway which is an independent structure (2018)



Raised balustrades on the ziggurat walkway. (2018)

Internal circulation – corridors

Assessment: Moderate significance

Observations:

The corridors are very compact with low ceilings and no natural light, risking a feeling of claustrophobia.

They had been degraded by wear and tear and adhoc service intrusions. The original recessed wall lights have been replaced by surface mounted ceiling lights, which are particularly obtrusive when the ceiling is so low. The new lights give the required light levels for escape corridors.

The corridors are stuffy due to lack of ventilation. Formerly there were ventilation slots over bedroom door heads, which are now sealed because of fire regulations.

The spaces have been refurbished.

Policies:

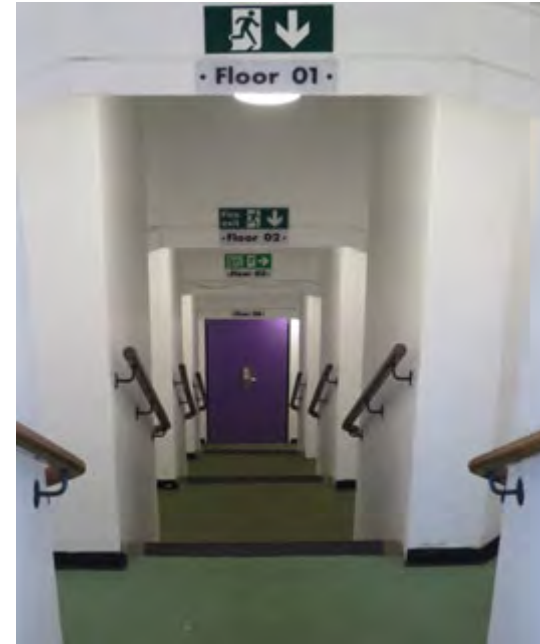
Refurbishment & alteration

Finishes See study bedrooms.

Services Adhoc surface-mounted services should be removed wherever possible, or organised in orderly routes. When new ducts are necessary, they should be discreet and carefully designed, not adhoc (2.4, 7.3, 7.5)

Corridor lighting should revert to recessed wall light fittings between study-bedroom doors, using new fittings with the following characteristics (2.4, 7.3, 7.5)

- sufficient output to illuminate the corridors to H&S requirements
- compliant with DDA requirements
- good illumination onto ceiling
- diffusers to prevent glare
- white fittings of simple geometrical shape
- emergency lighting incorporated in same fittings
- re-use of original ducts where possible to eliminate surface-mounted wiring.



Steep stairs in the ziggurats [105, 106]. (2018)



Surface-mounted services in the ziggurat corridors [105, 106]. (2018)

Provide improved ventilation in the corridors. (2.4, 7.2, 7.3)

The layout and design of the ventilation and duct runs must be considered in relation to re-design of the corridors and bedrooms – to ensure the finished installation is efficient and to minimise any impact on the original fabric. (2.4, 6.9, 7.5)

- external locations of vents must be carefully considered and must cause minimal impact
- wherever possible external vents should be restricted to the rear (north) elevations.
- heat recovery should be used if possible
- external and internal vent covers should be unobtrusive and in a colour to match the background colour.

Internal accommodation – study bedrooms and double bedrooms

Assessment: High significance

Observations:

The bedrooms have been refurbished. The main elements of the rooms remain the same. The smooth pre-cast concrete wall and ceiling units are painted with emulsion. Carpet (originally Wilton) was laid directly to the concrete floors.

The original purpose-made wardrobe, bookshelves, washbasin, bed and pin-up board are all grouped on one side of the room. The desk now extends the full width of the room under the window. The furniture is removable to allow access to the pipe runs.

Elements which have been changed are the windows, blinds and light fittings. The originally single-glazed softwood windows have been replaced by dark-coloured double glazed aluminium windows, which are fitted with restrictors to stop the windows opening more than 200mm and two vertical bars to prevent access onto the terrace.

The original straw-coloured timber roller blinds had been replaced by light curtains. The curtains are now replaced with blackout blinds to provide light control.

The original services in the rooms comprised: a modern under-window radiator, an electric wall socket by desk (now made into a double socket), a modern lamp on a loose flex with one mounting bracket, a wash basin and a wall light by the basin. The following services have been added: ceiling mounted



The corridors in the ziggurats are tightly dimensioned and have become cluttered with surface-mounted lights and services. (2006)

smoke detector, a computer point, a second socket by the bed and a phone point. The new services have surface mounted wiring.

Policies:

Refurbishment & alteration

Fitted furniture The original fitted furniture, which makes efficient use of space and conceals the service runs, should be retained where practical and damaged components repaired or, when necessary, replaced with similar components. Where existing provision is inadequate, new furniture designs should be based on a study of current requirements and should maintain the character of the original. (2.4, .2, 6.3)

Blinds/curtains Currently the blinds are dark coloured on the outer surface. Straw-coloured blinds or curtains should be re-installed to give uniform external appearance and emphasise the pattern of glazing bars in the windows. There is no need to wait until windows are replaced. (2.4, 6.2, 6.3, 6.8)

Finishes Investigations should be carried out to ascertain finishes and colours. Original finishes and colours should normally be retained or re-established. (2.4, 6.2, 6.3)

- wall and ceiling finishes should be white emulsion paint, currently they are painted magnolia
- floor finish should be carpet and consideration should be given to re-establishing the original dark colours
- joinery should be painted with the exception of the duct/rail behind the bed which was originally unpainted timber: whenever this is replaced the new duct should be sealed but not painted. Currently the rail is painted.

Services Existing services ducts or trunking should be utilised for service runs. If they are not adequate then consideration should be given to the provision of new service ducts. When new ducts are necessary, they should be discreet and carefully designed, not adhoc. Surface mounted wiring should be kept to a minimum. (2.4, 7.2, 7.3, 7.4)

Replacement electrical sockets and switches should have similar characteristics to the original fittings:

- located in original cut-outs and recesses for electrical back-boxes where practicable
- the same size and colour
- similar profiles to original



The refurbished study-berooms in the zigurats retain the character of the original design. The change in ceiling level between the front and back parts of the room can be seen. (2018)



New brackets have been fitted to meet regulations (introduced after the original construction) preventing the progressive collapse of prefabricated buildings. They are unobtrusively located in cupboards, etc. (2018)

- compliant with DDA requirements

A proprietary range should be selected and used consistently.

Replacement radiators should have similar characteristics to the original fittings:

- the position under the window should be retained
- similar size and colour
- similar profiles to original single radiators (currently they are doubles).

A proprietary range should be selected and used consistently.

Insulation Consider incorporating measures to improve the thermal insulation of the external walls or floors/ceilings and the acoustic insulation of the floors, unless they would cause unjustifiable harm to significance. (2.4, 5.8, 6.9)

Internal accommodation – kitchen/breakfast room

Assessment: High significance

Observations:

These rooms occupy strategic locations at the outer ‘points’ of the ziggurats. They provide an attractive social centre for the 12-room ‘habitat’.

Most have been refitted, not to a consistent pattern: the original layout with a central island unit with seating around the perimeter proved unsatisfactory. New lighting has been fitted.

The windows are restricted to open no more than 200mm. These rooms are no longer fitted with blinds, so they are conspicuous when the ziggurats are viewed from the south.

There are opportunities to improve the quality of these rooms.

Policies:

Refurbishment & alteration

The breakfast rooms should be refitted to high standard, following a consistent pattern. As far as practicable, new layouts should retain or re-establish significant features of the original layout. (2.4,



The kitchens in the ziggurats have panoramic views to the south. They no longer have the the original layout or fittings. (2018)

5.3, 5.5, 6.2, 6.8)

Extractor fans should be installed, in an inconspicuous way. (2.4, 7.4)

The layout and design of the ventilation and duct runs must be considered in relation to the overall layout of the breakfast rooms to ensure the finished installation is efficient and to minimise any impact on the original fabric.

- External locations of vent must be carefully considered and must cause minimal impact
- Heat recovery should be used if possible
- External and internal vent covers should be unobtrusive and in a colour to match the background colour.

Insulation Consider incorporating measures to improve the thermal insulation of the external walls or floors/ceilings, unless they would cause unjustifiable harm to significance. (2.4, 5.8, 6.9)

Internal accommodation – single tutor’s flat

Assessment: High significance

Observations:

As for the study bedrooms.

Policies:

Refurbishment & alteration

As for the study bedrooms.

The bathrooms should be re-designed to modern standards. (2.4, 7.3, 7.4)

Fittings and finishes should have similar characteristics to the original:

- Similar style and colour
- A proprietary range should be selected and used consistently.

Internal accommodation – Porters’ rooms

Assessment: Low significance

Observations:

Now used as the maintenance supervisor’s office and other administrative rooms. The original furniture has been removed. The adjacent private toilets remain with the original fittings and finishes.

Internal accommodation – games room

Assessment: Low significance

Observations:

Spaces have interesting plans and high ceilings. Windows have been boarded over in some rooms. None are used as student social spaces. The rooms are now generally used as seminar rooms or for storage.

Policies:

Maintenance & management

Consideration should be given to re-establishing use of the rooms by students. (2.3, 5.5)

Whenever a requirement for a communal student space is identified consideration should be given to using these games rooms if:

- the function would not detract from the character and setting of this historic location
- the function would not detract from the main use of these buildings as student residences.
- the existing form of the rooms, which are not standard, is appropriate
- the existing spaces have the appropriate services, or that new services could be brought into the spaces
- there would be no compromise health and safety or equality regulations.

Internal accommodation – toilets and washrooms

Assessment: No significance

Observations:

These areas have been refurbished completely and now have ventilation fans.

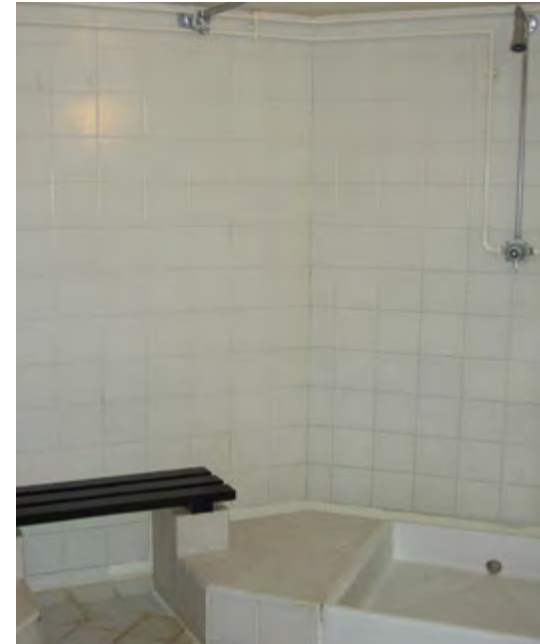
The shower trays are still raised making the headroom only about 1.8m.

Policies:

All alterations should be documented. (3.2)

Internal accommodation – plant room

Assessment: No significance



The shower rooms in the ziggurats, fitted with two raised shower trays and no privacy (above, 2006) and refurbished with new fittings (below, 2018).



Lasdun Academic Wall [3, 4, 5, 6]

Listed Grade II.

The origin and generating concepts for the Lasdun Academic Wall (LAW) and its overall significance are discussed in Section 1, Understanding (*see* page 1-14). This entry considers the following topics:

- LAW’s architectural language
- Aspects of significance
- Refurbishment
- Exterior elements
- Interior elements.

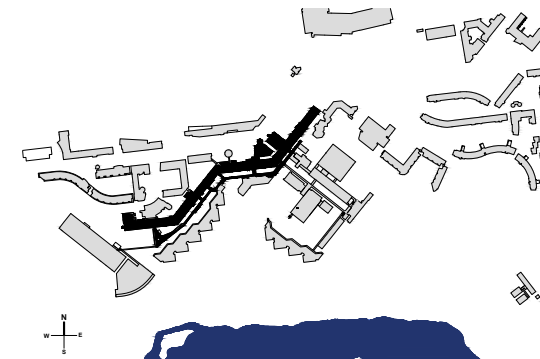
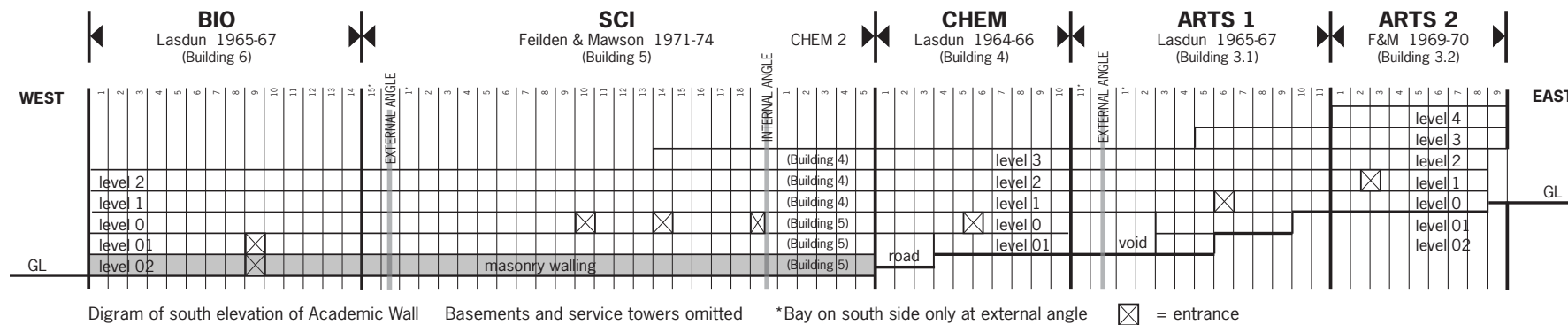


Diagram of the south elevation of the Academic Wall, showing the component parts built by Lasdun and Feilden & Mawson, and the dates of construction. The original labelling as Arts, Chemistry, Sciences, Biology has been replaced by building numbers 3 to 6.



LAW's architectural language

The main features of the Academic Wall's design and construction can be regarded as its architectural language, which is set out in an illustrated catalogue (*overleaf*). Lasdun never explicitly formalised the Academic Wall's architectural language in this way, and the catalogue has been inferred from the building itself.

The purpose of the catalogue is to facilitate accurate observation of the building. With a thorough grasp of its architectural language, it should be easier to devise strategies that respond to new situations in ways that respect the significance of the existing building, without necessarily replicating all the original features but having regard to design principles where change can be agreed. Each case would need to be assessed on its own merit.

A Overall form

A.1 Linear, cranked form



Linear building approx. 15m wide by 400m long with three 45° cranks and three steps. (2018)

A.2 South facade uniform, north facade with service towers



Continuous south facade; north facade (shown) interrupted by service towers.(2017)

A.3 External walkway



Primary access route via an external raised walkway on south side with bridge connections. (2018)

B Primary structure

B.1 Continuous bands of glazing and spandrel panels



Alternating bands of glazing and precast concrete spandrel panels of uniform design on south and most of north elevations. (2017)

B.2 Expressive service towers



Tall service towers of in-situ concrete with bold, expressive forms. (2017)

B.3 Precast and in-situ structure



Primary structure of precast concrete (Ladsun zones [3, 4, 6], shown) or in-situ concrete (F&M zones [3, 5]). (2018)

B.4 One 'finished' end



East end [3] of Academic Wall has a finished elevation. (2017)

B.5 Several 'open' ends



Other ends of building and service towers left 'open' for extensions (Arts spur [3] shown). (2018)

B.6 Blockwork at ground level



Blockwork external walls at ground level only. (2017)

C Secondary elements

C.1 Lasdun stairs



Wide stairs in service towers in Lasdun zones [3, 4, 6]. (2018)

C.2 F&M stairs



Narrower stairs distributed through F&M zones [3, 5]. (2018)

C.3 Flexible layout



Internal partitions non-structural to allow for future change (F&M zone [3, 5] shown). (2018)

C.4 Ducting for services



System of vertical and horizontal service ducts (Chemistry [4] shown). (2018)

C.5 Adhoc alterations



Numerous adhoc alterations for partitions, services, fixtures and finishes. (2018)

D Finishes and details

D.1 Timber veneer



Extensive use of timber veneer in early phase fit-outs (Chemistry [4] shown). (2018)

D.2 Contents from different eras



Contents accumulated haphazardly from different eras (F&M zone [3, 5] shown). (2018)

D.3 Mixed conservation



Mixed conservation achievements – here original lights retained and precast concrete unpainted, overlaid by non-original features (Lasdun zone [3, 4, 6] shown). (2018)

Refurbishment

Buildings require periodic refurbishment to take account of wear and tear, changing requirements, and changes in technology and regulations, as discussed in Section 2 (*see page 2-5 et seq*). The Academic Wall has been in use for about 50 years: in this time there have been many localised alterations and adaptations. The University is now preparing a strategy for radical upgrading.

UEA takes the view that the Academic Wall now requires comprehensive refurbishment to address the building's numerous current problems:

- *Fenestration* The original glazing system has very poor thermal performance, leading to highly unsatisfactory internal environmental conditions and high energy consumption
- *Spandrel panels* The secret gutters at the top of the spandrel panels have leaked causing corrosion of the panel fixings and some failures
- *Services* The services in the building are chaotic, with many inadequate, obsolete and redundant systems, and numerous adhoc alterations
- *Asbestos* Asbestos in the original construction and fit-out has been removed in a piecemeal fashion as opportunities arise, but the system of interconnected service ducts means that it is impossible to clear individual areas effectively
- *Fire separation* The Academic Wall is a very large building and requires an effective system of fire separation, but this is not currently achieved
- *Access* The building does not meet current standards for disabled access
- *Accommodation* There is a mismatch between the numbers, types and sizes of space provided in the Academic Wall and UEA's current needs
- *Visual quality* The Academic Wall in its present state is not attractive to the current generation of fee-paying students: the interior retains the character of a 1960s university building, degraded by decades of heavy use.

UEA is developing plans for a thorough refurbishment programme for the Academic Wall, to ensure its continuing use for teaching and research. Consideration of ways to avoid or minimise harm to its significance is a crucial factor in the planning of the refurbishment.



Adhoc accumulation of services in the Academic Wall, no longer accommodated by the service ducts provided in the original construction. (2018)

Aspects of significance of the Lasdun Academic Wall and their vulnerabilities

Aspect of significance	Level of significance	Elements carrying this significance*
1. Architectural 'backbone' of UEA's urban-scale campus	High	Exterior elements, walkway
2. Architectural design quality; good example of 1960s Brutalism; status as key component of one of Lasdun's most important projects (UEA)	High	Exterior elements; Lasdun interiors
3. Evidence of UEA's founding ethos – compact campus and the 'unity of knowledge'	Low	South elevation and walkway
4. Evidence of architectural design ideals of the 1960s – use of concrete, repetitive design for industrialised building (Lasdun elements), design for flexibility, integration of ducting for services	Low	All elements
5. Exemplary use of precast concrete	Moderate	Lasdun interiors; south elevation; north elevation to lesser degree
6. Design quality of interiors and fit-outs	Low	Lasdun interiors; F&M interiors to lesser degree
7. Evidence of non-completion of Lasdun's vision for a larger Academic Wall	Low	Unfinished west elevation of Biology and north elevation of Arts Spur

*Policies to minimise the risk of harm to significance are given in the element-specific entries below

1. Architectural 'backbone' of UEA campus

High significance

At site scale the Academic Wall is a crucial and highly successful component of Lasdun's urban vision for the Campus, the long cranked form having a boldness and grandeur that could not be matched by separate buildings.

Appropriate refurbishment of the Academic Wall could retain this aspect of its significance.



The large-scale silhouette of the Academic Wall is the backdrop to the more highly articulated Norfolk Terrace ziggurats in one of the most important views of UEA from the south, which captures Lasdun's 'Italian hill town' image of dense urban development overlooking open landscape. (2018)

2. Architectural design quality

High significance

Viewing the Academic Wall as a whole, Lasdun's architectural idea is relentlessly pursued, with continuous bands of concrete and glazing and massive service towers – something that would be inconceivable from a more timid architect. The realisation of this dominant architectural idea is the primary source of the Academic Wall's architectural significance.

Although not as large as envisaged by Lasdun, today's Academic Wall is a complete design statement, thanks to Feilden & Mawson who filled the gap between Biology to the west and Chemistry and Arts I to the east. Two isolated fragments were much weaker architecturally.

The tough aesthetic of the Academic Wall and exclusion of decorative features was typical of Brutalism, a leading architectural style of the 1960s (although Lasdun rejected the label). However, the Ziggurats, especially their north elevations, are a more striking instance of the Brutalist aesthetic at UEA.

The Academic Wall is a key element of Lasdun's design for UEA, which is regarded as one his three most important projects, together with the Royal College of Physicians and the National Theatre.

To retain this aspect of its significance, refurbishment the exterior of the Academic Wall should be applied uniformly to the whole building and follow its architectural language.

3. Evidence of UEA's founding ethos

Low significance

The Academic Wall was Lasdun's response to the ethos of UEA expressed by Frank Thistlethwaite, the first Vice-Chancellor, who asked for a compact, integrated university that would 'foster a striving toward the unity of knowledge.' It is questionable whether the Academic Wall actually contributes to cross-disciplinary engagement, because behind a uniform facade it is made up of separate buildings for different disciplines. But its uniform appearance suppresses the boundaries between disciplines, and reflects UEA's original ethos.

Appropriate refurbishment of the Academic Wall could retain this aspect of its significance.



There is no visual distinction between the parts of the Academic Wall used by different disciplines. This view is from Environment [5] (designed by Feilden & Mawson) to Chemistry [4] (designed by Lasdun). (2018)

4. Evidence of architectural design ideals of the 1960s

Low significance

The Academic Wall provides evidence of several design ideas that were widely shared in the 1960s. They can also be seen at other new universities and university expansions of the period.

Use of concrete As noted in Section 1 (*see* page 1-11) Lasdun believed that concrete was the definitive material of the 20th century. The Lasdun sections of Academic Wall are largely of precast concrete with insitu concrete service towers; the Feilden & Mawson section repeat the precast concrete cladding panels but the internal structure is of insitu concrete.

Repetition for industrialised building Lasdun intended that the whole of the Academic Wall would have standard floor dimensions, with 50 ft (15.25m) width and 21 ft (6.4m) structural bays, suitable for the needs of both humanities and sciences. Feilden & Mawson retained the 21 ft (6.4m) structural bays but made some adjustments to the width in the Science section to accommodate specific departmental requirements.

Design for flexibility A fundamental design objective for the Academic Wall was internal flexibility for change over time to meet evolving needs. All partitions in both the Lasdun and Feilden & Mawson zones are non-structural subdivisions of an open floor plan between the external walls, with structural supports at the centre of the building. There have been many changes in the layout and use, mostly incremental (*see* plan on page 5-21) – for example: when Physics was closed its floorspace was assigned to other disciplines, most laboratories have been refitted, many partitions have been added or demolished, many new services have been added including IT and additional fume extract ducting. The creation of the Postgraduate Study Centre in an area that had been sub-divided into small offices is an example of more radical change that the building is capable of accommodating (*see* also page 2-7).

Integration of ducting for services The Lasdun design for the Academic Wall incorporated an ingenious system of service ducts branching from vertical shafts recessed into the perimeter columns, reaching all parts of the plan. It was retained in a modified form by Feilden & Mawson.

Appropriate refurbishment of the Academic Wall could retain this aspect of its significance.

The building industry is rapidly becoming committed both nationally and regionally. In view of the University's development plan it is very important to specify a structure which can be erected quickly and cheaply. To meet the programme the basic structure must be erected 20-24 weeks, allowing adequate time for installation of the services.

A system of prefabricated parts is proposed. The element would be made under strictly controlled conditions and then transported to the site and assembled by a small semi-skilled team or, alternatively, it may be more economical to erect a special factory for precasting concrete on the site. A final decision on this point will be made after discussions with the successful contractor.

The use of such industrialized techniques becomes economically viable when there is sufficient repetition for a contractor to recover the initial cost of special moulds.

In these buildings the floors will be made of reinforced concrete in the form of a structural slab of constant depth. This slab will be composed of precast ribbed slab units and edge beams and the central section will be cast in place to stabilize the whole building.

The same structural system is proposed for both science and arts teaching buildings. These buildings are similar and by careful planning a degree of dimensional co-ordination can be introduced, thus permitting the maximum repetition of the precast units. A module of 2' 7 1/2" [800 mm], which fits the stringent requirements of the research laboratories, has been chosen and will be used throughout. Variations in departmental requirements are catered for by adjustments in the position of the corridor and the central column and beam.

To allow maximum freedom for internal planning from building to building and floor to floor, the vertical supporting structure must be arranged to cause the minimum obstruction.

In the science buildings, the services are of major importance. They must be efficiently distributed throughout the building where required and capable of easy alteration and extension when necessary. The vertical piped services rise within hollow columns along both elevations and distribute horizontally at each floor behind the precast spandrel units while air and extract ducts are located within the central corridor suspended ceiling and walls.

Denys Lasdun & Partners' design report of May 1964 on Chemistry, the first building in the Academic Wall. The first paragraphs on the use of prefabrication were repeated in many other DLP reports to the University.

5. Exemplary use of precast concrete

Moderate significance

The parts of the Academic Wall carried out by Lasdun's office (Biology, Chemistry, Arts I) use a well-developed system of precast concrete components, which have a rational lucidity and robust elegance. Lasdun intended that it should all remain as fairface concrete without finishes, but some areas have been painted and some masked, eg. by false ceilings. The precast concrete structural components would be retained in refurbishment.

The later parts by Feilden & Mawson replaced much of the precasting with insitu concrete to reduce costs.

Although refurbishment would retain Lasdun's precast concrete structural components there is a risk that their visual impact could be compromised, harming this aspect of the Academic Wall's significance.

6. Design quality of interiors and fit-outs

Moderate/low significance

A great deal of work was put into fitting out the floors of the Academic Wall for the different disciplines, taking account of their detailed schedules of room sizes and types, servicing requirements and all kinds of special needs. The fit-outs were driven by the disciplines' functional needs and provided only limited architectural opportunities. In the Lasdun zones higher quality materials and detailing were used than in the later fit-outs by Feilden & Mawson when cost limits were tighter. Most areas were laid out with central corridors, as is usually the case in linear building forms.

Although there have been many changes since the original fit-outs were installed, a considerable amount survives, some in degraded condition. If elements of the original fit-outs are removed in refurbishment, those elements' contribution to significance would be lost. With partial removal of the original fit-outs, especially if the best elements are retained, this aspect of significance could be partly retained.

Unlike the fit-outs, the lecture rooms and staircases are permanent features of the Academic Wall. They provided greater architectural opportunities, more so in the Lasdun zones.

Refurbishment of the Academic Wall which which removes part of all of the original departmental fit-outs would harm this aspect of the Academic Wall's significance.



The precast structure of the Lasdun zones with U-shaped vertical columns enclosing vertical ducts, edge beams between columns with recesses for blinds, and floor slabs of wide planks with T-shaped downstand ribs. The ribs align with the window mullions. (2018)



Open floor in the Academic Wall without non-structural partitioning, in a Feilden & Mawson element, indicated by flat insitu slab not precast ribs. (2018)

7. Evidence of non-completion of Lasdun's vision

Low significance

Lasdun's masterplan showed a larger Academic Wall, with an extension of about 100m to the west of Biology, and a second Wall to the north connected by spurs built out from the service towers, but only the Arts Spur was built. Consequently the west wall of Biology and the north wall of the Arts Spur have blank concrete walls and 'temporary' escape stairs. They provide evidence of the non-completion of Lasdun's vision, which has some significance. However, extensions have been added to the north of the Academic Wall, as envisaged by Lasdun but not continuing his architectural language (Biophysical Chemistry, Education, ZICER, Hubert Lamb).

There is no chance that the Academic Wall will be extended as Lasdun envisaged, and if extensions were now added to the west wall of Biology and the north wall of the Arts Spur in a different way, there would be a break in construction and the non-completion of Lasdun's vision would still be evident.

Appropriate refurbishment of the Academic Wall could retain this aspect of its significance..

Elements of the Academic Wall – exterior

South Elevation

Assessment: High significance

Observations:

The 460m long south elevation of the Academic Wall is seen in the background in important views of UEA across the Broad. Service cores and divisions between departments are suppressed on the continuous south façade.

The university has commissioned a structural survey of the spandrel panels, due to concerns about the integrity of the original fixings.

There are several intrusive alterations at ground level which harm the significance of the building.

Solar heat gain is a problem although shading is tackled consistently at every opportunity. The single



The north elevation of the Arts Spur with an unfinished 'open' end that Lasdun envisaged connecting to, and being masked by, a second academic wall. (2018)



The south side of the Academic Wall, from Arts II [3]. (2018)

glazing system on the southern side causes summer temperature to reach about 36 degrees in the internal rooms, which is leading to much greater demand on the air handling units.

The windows are cleaned by specialists using mobile platforms.

The rooftop extension over Lasdun's original Chemistry element was added by Feilden & Mawson at the same time as their Sciences element of the Academic Wall.

Policies:

Maintenance & management

Heat gain An assessment should be made regarding this problem and a rectification strategy prepared.

Refurbishment & alteration (these Policies also apply to the north elevation of the Academic Wall)

Ad hoc extensions The removal of intrusive alterations at ground level should be considered when practical and affordable.

Windows in all elevations of the Academic Wall In conservation terms the first preference is to retain and upgrade the existing windows, but if replacement is necessary the future replacement windows should retain the main characteristics of the original window appearance. If windows have to be replaced, whole elevations or large sections/blocks of windows should be replaced at one time, as opposed to piecemeal replacement. (2.4, 6.2, 6.3)

New windows should have the following characteristics:

- same configuration of opening and fixed lights
- dark colour
- similar sections corresponding to the original windows.

Consider incorporating measures to improve the thermal performance of the windows, unless they would cause unjustifiable harm to significance. (2.4, 5.8, 6.9)

Any roof safety barriers should be as unobtrusive as possible and practicable, and be set back from the face of the building wherever possible. (2.4, 5.2)



East elevation [3]. (2018)

East Elevation

Assessment: High significance

Observations:

The freestanding columns of the east elevation were intended to mark the entrance to the campus. A pedestrian access routes passes under this colonnade.

Policies:

Refurbishment & alteration

The architectural feature of the colonnade could be exploited more positively, eg. by lighting, signage and landscaping and acknowledgement of the original architect. (2.4, 5.1, 5.5)

North Elevation

Assessment: Generally – High significance

North elevation of Arts Spur – Moderate significance

Single storey Biology teaching labs – Low significance

Observations:

Service cores are prominent on the north elevation. The Biology plant room, stair and WC towers have undergone a major refurbishment project for concrete repairs.

The low-rise Chemistry extension to the north was by Feilden & Mawson, added at the same time as their Sciences element of the Academic Wall.

The north elevation of the Arts spur is a temporary screen wall. Lasdun intended that it would connect to a second Teaching Wall. The spiral escape stair signifies that Lasdun expected the building to be extended. The evidence of the non-completion of Lasdun's vision is of some significance.

New bridge connections to Hubert Lamb Building, ZICER and Lawrence Stonehouse Building. The opening to the Biology Extension cuts into the original north elevation.



The north side of the Academic Wall, showing the Chemistry service core [4]. (2006)



The north side of the Academic Wall at the junction between the original Lasdun Chemistry element [4] (left) and the F&M Sciences element [5] (right), where the building depth is greater than the original 50 ft (15.25m). The bridge link to the Humbert Lamb Building [8] (far right) cuts into the Academic Wall elevation. (2018)

Policies:

Prospective improvements

When practical and affordable, an extension could be added to the Arts Spur, to provide additional floorspace and improve the quality of the building and the setting. (2.5, 4.1, 4.5, 5.1)

Consideration should be given to utilising the ‘knock-out’ panels in the construction of the Arts Spur if the original building is extended. (2.5, 5.7)

West elevation

Assessment: Moderate significance

Observations:

The west end of the Academic Wall was never intended as a finished elevation. Lasdun planned to extend the Academic Wall by another 100m.

The spiral escape stair signifies that Lasdun expected the building to be extended. The evidence of the non-completion of Lasdun’s vision is of some significance.

Policies:

Prospective improvements

When practical and affordable, an extension could be considered on the west elevation, of very high design quality and retaining original significant fabric. (2.5, 4.3, 4.5, 5.1)

Roofs

Assessment: Moderate significance

Observations:

As the demand for air handling increases so does the pressure to provide more plant on the roofs.

As communications demand increases so has the number of phone masts on the roofs.



The ‘unfinished’ west elevation [6] of the Academic Wall with projecting nibs that were intended to link with a continuation of the building, and a ‘temporary’ spiral stair. (2018)



Policies:

Refurbishment & alteration

Rooftop plant and services should be managed to ensure that new services do not compete with or visually impair the original service towers and roof profile. (2.4, 7.4, 7.5)

Raised walkway

Assessment: High Significance

Observations:

Improvements to surfaces need to be considered in respect of DDA requirements for surface treatment and visibility. The height of the balustrades have been raised and they have been treated with an approved corrosion-inhibiting Keim coating.

The south side of the walkway next to the landscape 'harbour' has railings rather than a parapet, presumably to give an open outlook to the harbour and the landscape beyond. Intermediate rails have been added.

The main horizontal services distribution runs are beneath the walkways.

The walkway alongside the school of Environmental Sciences was built at the same time as this segment of the Teaching Wall. Originally the School of Biological Sciences was reached via the Norfolk Terrace walkway.

The spiral stair from the plaza at the west end is an inadequate way of connecting the walkway system to the western end of the campus, where pedestrian circulation is at ground level.

The walkways are listed Grade II along with the rest of the Academic Wall.

Policies:

Prospective improvements

When practical and affordable, reinstate the bridge to Norfolk Terrace. (2.5, 6.8)



The roof and raised walkway viewed from the lecture room on the roof of Sciences, looking towards Chemistry and Arts I. (2018)

When practical and affordable, improve the connection to ground level from the raised plaza at the west end of the walkway system. (2.5, 4.1, 5.5)

Access surface alterations to enable compliance with disability access requirements. (6.1)

Elements of the Academic Wall – interior

The principle of a standard, flexible building for all disciplines was adjusted in response to the particular needs of different disciplines. For example, the structural supports at the centre of the building vary for different disciplines: in the Lasdun zones, Biology has off-centre columns with service openings between them, Chemistry is similar but with a smaller offset, and Arts I has central columns without service openings; in the Feilden & Mawson zones Environment/Science has paired central columns but Arts II has a single central column. The ducting below the windows, which houses the horizontal service runs, also varies between disciplines.

Fixed elements – lecture rooms, staircases and entrances

Assessment: Moderate/low significance

Observations:

The Lasdun stairs are spacious and are located in the service cores. The F&M stairs are more compact and are distributed around the building in a variety of configurations; F&M used a design vocabulary (*see* page 3-30) derived from the Lasdun stair in the Lecture Room block.

The rooftop lecture room over Sciences is the most striking contribution by Feilden & Mawson. The access to this lecture room is tortuous.

All entrances to Schools now have electric sliding doors.

Fire compartmentation is poor in some areas. Some service risers have no horizontal compartmentation and are effectively chimneys. Asbestos has been found within the services voids. This is documented and has been removed where accessible. Non-accessible areas are sealed off.

Policies:



Lasdun staircase in the Academic Wall. (2018)

Maintenance & management

Finishes

- Where possible, original fittings and finishes should be retained or reinstated. (2.4, 6.2, 6.3, 6.8)
- Any unpainted surfaces should remain unpainted.
- Ceilings which have been painted should be stripped if possible.
- New false ceilings should not be introduced in any original Lasdun spaces.
- Much of the original joinery is in Columbian pine timber and veneers. Some replacements have been made with other timbers or veneers. The original materials and veneers should be retained and where possible re-established.

Refurbishment & alteration

Fire compartmentation Opportunities to achieve acceptable fire compartmentation of the walls or floors/ceilings in ways that avoid or minimise harm to significance should be exploited. (2.3, 3.1, 3.4. 5.1. 6.7)

Asbestos Opportunity to remove all asbestos from the buildings must be exploited in a planned programme. (2.3, 3.1, 3.4. 5.1. 6.7)

Departmental zones – corridors, offices, teaching spaces and seminar rooms

Assessment: Lasdun zones – Low significance
F&M zones – Low/neutral significance

Observations:

The layouts use non-structural partitions to meet the individual departments' functional requirements, as defined at the time of construction. They were expected to change over time. In the Lasdun zones higher quality materials and detailing were used than in the later fit-outs by Fielden & Mawson when cost limits were tighter. Some corridors in the Lasdun zones retain Columbian pine panelling and fairface concrete. This combination of materials is successful.

There have been many changes over the years but a large amount of the original fit-outs still remains. There is little architectural interest but some of the original joinery and fittings of the 1960s, for



Chemistry [4] corridor – an early fit-out by Denys Lasdun & Partners. (2018)

example an early adjustable shelving system, have acquired some heritage significance.

Many areas are degraded by wear and tear and ad hoc alterations. Some seminar rooms in the Arts Spur have been successfully refurbished, stripping out clutter and re-presenting the Lasdun design.

The undersides of some of the Lasdun precast concrete floors have been painted, but many remain unpainted, as intended. The undersides of the flat Feilden & Mawson floor slabs are painted.

In some larger spaces in the Arts Spur pods are being used as serviced offices.

Policies:

Maintenance & management

Finishes

- Original finishes should be retained or reinstated. (2.4, 6.2, 6.3, 6.8)
- Any unpainted surfaces should remain unpainted.
- Ceilings which have been painted should be stripped if possible.
- New false ceilings should not be introduced in original Lasdun spaces.
- Original joinery in Columbian pine timber and veneers should be retained and reinstated where replacements have been made with other timbers or veneers.

Services Existing services ducts or trunking should be utilised for service runs. If they are not adequate then consideration should be given to the provision of new service ducts. Surface mounted wiring should be kept to a minimum. (2.4, 7.4)

Fittings When fittings like door ironmongery, electrical sockets or radiators have to be replaced, or new items introduced, proprietary ranges that are comparable in character and quality with the originals should be selected and used consistently. (6.2, 6.3)

Fitted furniture Items of the original fitted furniture should be retained where practical and compatible with current demands, as established in a survey of fittings and furniture undertaken as part of the assessment of the Wall prior to any refurbishment and agreed with the LPA/conservation authorities. (2.4, 6.2, 6.3)

Insulation Consider incorporating measures to improve the thermal insulation of the external walls or floors/ceilings, unless they would cause unjustifiable harm to significance. (2.4, 5.8, 6.9)



Underside of a Lasdun precast floor with traces of change – there is no need to obliterate traces which do not impair functionality and provide evidence of change over time. (2018)

Refurbishment & alteration

If areas of the original fit-outs are cleared for the introduction of new layouts, detailed surveys should be carried out to identify significant original features or fittings. Where it is compatible with new requirements, significant elements of the original fit-outs should be retained or re-used, to minimise harm to significance and preserve a record of the history of the University. (2.5, 5.4)

Departmental zones – laboratories

Assessment: Low significance

Observations:

Refurbishment schemes are constantly under way to re-fit the laboratories.

Advances in scientific techniques and health and safety regulations mean that it is becoming difficult to accommodate research laboratories in the Teaching Wall. The spaces are more suitable for teaching laboratories, but even these require increased provision of services and extract cupboards. If laboratory users relocate elsewhere, the accommodation should be suitable for re-use in alternative ways.

Almost all of the original laboratory services, equipment and furniture has been replaced. There are two almost intact laboratories and, as original examples, have some significance.

The original glass drainage has been stored in the basement, although there are examples of it still in use in some service risers and at roof level.

Policies:

Maintenance & management

Finishes

- Original finishes should be retained or reinstated. (2.4, 6.2, 6.3, 6.8)
- Any unpainted surfaces should remain unpainted.
- Ceilings which have been painted should be stripped if possible.
- New false ceilings should not be introduced in any original Lasdun spaces.

Fitted furniture Items of the original fitted furniture should be retained where practical and compatible



Few chemistry laboratories retain the original fittings of the 1960s. Note ceiling of exposed, unpainted precast concrete T-beams and original light fittings. (2006)



Laboratory with new equipment and furniture, and a false ceiling. (2018)

with current demands, as established in a survey of fittings and furniture undertaken as part of the assessment of the Wall prior to any refurbishment and agreed with the LPA/conservation authorities. (2.4, 6.2, 6.3)

Services Special light fittings between T-beams should be repaired or replicated where practicable. Replacement of these lights should be recorded. (2.4, 3.2, 6.2, 6.3)

Insulation Consider incorporating measures to improve the thermal insulation of the external walls or floors/ceilings, unless they would cause unjustifiable harm to significance. (2.4, 5.8, 6.9)

Two laboratories with original furniture and fittings Consideration should be given to preserving these laboratories. (2.4 5.2, 6.2, 7.4)

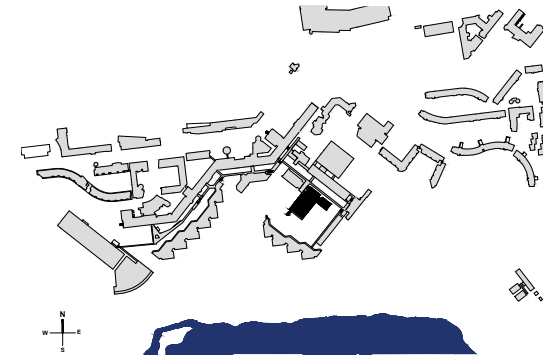
Refurbishment & alteration

As part of any refurbishment proposals detailed surveys should be carried out to indefinite significant original features, fittings, or fitted furniture with a schedule of what can be retained. Where it is compatible with new requirements, significant elements of the original fit-outs should be retained or re-used, to minimise harm to significance and preserve a record of the history of the university. (2.5, 5.4)

Library [14]

Listed at Grade II. The Library's overall significance is discussed in Section 1, Understanding (*see* page 1-15).

The original Library was constructed in two stages, 1966-68 (north-east) and 1972-74 (south-west). Stage 1 was design by Denys Lasdun & Partners and for Stage 2 DLP were retained as design architects with Feilden & Mawson as executive architects. The Library was extended in 2004-05 (Stage 3).



Library – exterior

Assessment: Main building – High Significance

Extension (2004-05) – Low significance

Observations:

Externally there is no distinction between Stage 1, 1966-68, and Stage 2, 1972-74. Precast concrete. It is a bold, well-proportioned design, calmer than the ziggurats or Academic Wall.

Lasdun's Development Plans show the Library being extended to the north-east to form a square on plan. However, he built a permanent rather than a temporary north-east elevation.

The Stage 3 extension was built in 2004-05, by Shephard Epstein Hunter architects. It follows the massing of the Lasdun library but uses different materials and visual expression, including external timber sunshades.

Library – interior

Assessment: Main building – Moderate significance

Extension – Low significance

Observations:

A line of paired columns marks the break between Stage 1 and 2.

There are no ambitious architectural gestures in the interior. The main elements remain largely unchanged but new layouts have been introduced.



Library [14]: south-west elevation. This part of the building was completed in 1974. (2006)

Some original study carrels are still in use. Doors are very narrow and they have no ceilings.

There are problems because the external envelope is poorly sealed, and there are also overheating problems. The original shelving layout does not comply with disabled access requirements.

The smooth precast concrete walls and ceiling units are painted, in areas, with emulsion. Concrete ceilings in perimeter bays remain unpainted. There is a suspended ceiling in the centre of the building. There are fairface concrete structural columns. No skirting. Concrete walls have shallow recesses for light switches and sockets. Some are now redundant. Some new switches have been mounted in other positions. Some new services in surface mounted conduits.

Original wall lights have been removed and positions are covered over. Some new large surface strip lights in stairwell.

Carpet and underlay is laid directly to the concrete floors.

Windows are the original dark green/grey aluminium sections. Much of the single glazing has been replaced with double glazing without loss of significance. Some energy-inefficient single glazed high level louvres still in use. Doors are generally the original with Columbian pine veneer and architraves. Some windows have curtains utilising the original tracks.

The construction of the main stairs is a combination of insitu and precast concrete. Balustrading is a low concrete wall with a tubular rail above. The ceiling has been covered with thin acoustic tiles, some of which have fallen off.

The main staircase has been separated from the main spaces with new doors glazed with Georgian wired glass.

Policies:

Maintenance & management

There is some graffiti on the concrete walls next to the perimeter writing tables. Cleaning methods should be tested, agreed and the graffiti removed. (2.4, 6.2)

Finishes

- Original finishes should be retained or reinstated. (2.4, 6.2, 6.3, 6.8)
- Any unpainted surfaces should remain unpainted.



The Library extension was built in 2004-05. (2018)



Interior of the original part of the Library. (2018)

- Ceilings which have been painted should be stripped if possible.
- New false ceilings should not be introduced in any original Lasdun spaces.
- Much original joinery is in Columbian pine timber and veneers. Some replacements have been made with other timbers or veneers. The original materials and veneers should be retained and where possible re-established.

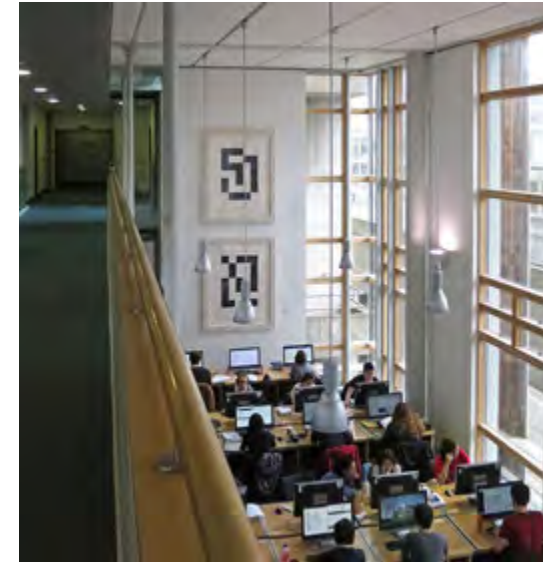
Fittings When fittings like door ironmongery, electrical sockets or radiators have to be replaced, or new items introduced, proprietary ranges that are comparable in character and quality with the originals should be selected and used consistently. (2.4, 6.2, 6.3)

Fitted furniture Items of the original fitted furniture should be retained where practical and compatible with current demands, as established in a survey of fittings and furniture undertaken as part of an assessment prior to any refurbishment and agreed with the LPA/conservation authorities.. (2.4, 6.2, 6.3)

Services Existing services ducts or trunking should be utilised for service runs. If they are not adequate then consideration should be given to the provision of new service ducts. Surface mounted wiring should be kept to a minimum. (2.4, 7.4, 7.5)

Replacement light fittings should run in parallel and be coordinated with the shelving rather than irregular replacement fittings or irregular false ceilings, as previously installed on the ground floor. (2.4, 6.8)

Insulation Consider incorporating measures to improve the thermal insulation of the external walls or floors/ceilings, unless they would cause unjustifiable harm to significance. (2.4, 5.8, 6.9)



Double-height reading room in the Library extension of 2004-05. The original part of the Library lacks any architectural gestures of this type. (2018)

Lecture Theatres [13]

Lecture Theatres – exterior

Assessment: Moderate Significance

Observations:

Denys Lasdun & Partners, 1967-69.

An economical building in concrete blockwork rather than precast or insitu concrete. It lacks architectural excitement but is well-mannered.

A window has been opened in the south-west wall of the foyer, facing the harbour. A section of the external concrete parapet has been removed and replaced with a glass panel to avoid blocking the view from the new window.

Lecture Theatres – interior

Assessment: Low significance

Observations:

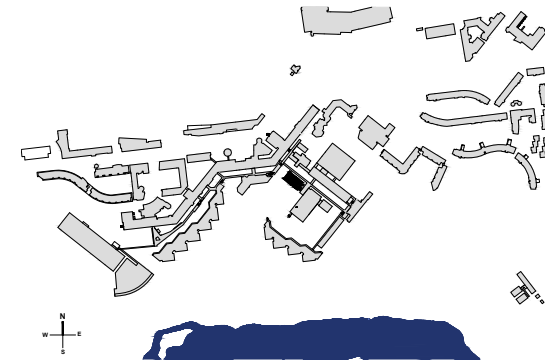
The main elements of the spaces remain unchanged but new finishes have been introduced. The fairface blockwork walls are now painted with vandal-proof paint.

There is a suspended ceiling in the foyer similar to that in the library. No skirting. Concrete walls have shallow recesses for light switches and sockets. Some are now redundant. Some new switches have been mounted in other positions. Some new services in surface mounted conduits.

The construction of the main stairs is a combination of insitu and precast concrete. The guarding is a low concrete wall with a tubular rail above (a pattern replicated by Feilden & Mawson for the staircases in their sections of the Academic Wall).

A new steel and glass lift to all levels has been constructed and the layout of some of the minor rooms has been altered.

The false ceiling of the main lecture theatre was removed to provide additional volume, so that the



The blank south-west elevation of the Lecture Theatre block [13], facing the harbour. The external stairs to the Library [14] walkway are little used. (2018)

room would be suitable for music.

The doors, panelling and joinery are in Columbian pine.

Policies:

Refurbishment & alteration

Consider incorporating measures to improve the thermal insulation of the external walls or floors/ceilings, unless they would cause unjustifiable harm to significance. (2.4, 5.8, 6.9)

Computing Centre [12]

Computing Centre – exterior

Assessment: Phase 1 (east) – Low significance

Phase 2 (west) – Neutral significance

Observations:

The Computing Centre was given a central location in the expectation that a single computer would serve the whole University – an obsolete concept. The first computer was installed in 1968.

The eastern part by Denys Lasdun & Partners, completed in 1968. It is their least successful building at UEA.

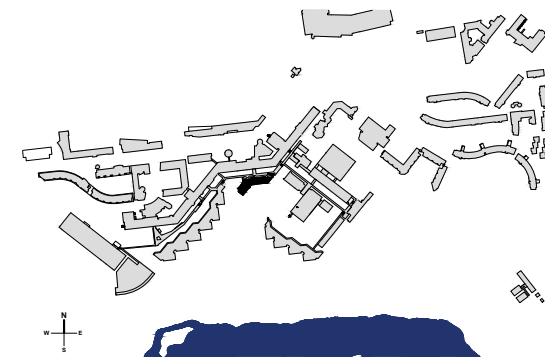
Expansion to the west was anticipated by DLP in a mirror image configuration. However, in 1981-82 the western extension was added in a different configuration projecting into the harbour, designed by Feilden & Mawson.

Later alterations include a steel grating deck to bridge the moat which used to separate the walkway from the Computer Centre. A new lift has also been added and revised stairs at lower level to improve accessibility and use.

Originally entered at a half-level below the walkway; a walkway level entrance has been added.



Lecture Room stairs. (2018)



The Computing Centre in 1970, (23 February 1970)

Policies:

Prospective improvements

When practicable and affordable the partial or complete replacement of the Computing Centre could be considered, by a building of very high design standard which might retain original significant fabric, and making better use of its pivotal site on the campus. (2.5, 4.1, 4.2)

When practical and affordable, an extension could be considered on the west elevation, of very high design quality and retaining original significant fabric. (2.5, 4.3, 4.5, 5.1)

Computing Centre – interior

Assessment: Neutral significance

Observations:

Many adhoc alterations.

Generally fairfaced blockwork. It is now varnished or painted.

The balustrading of the stairs is in blockwork (now varnished). Terrazzo floor.

Doors and joinery in Columbian pine. Simple rectangular section skirting of Columbian pine. Some doors are very narrow.

A new lift has been added and stairs at lower level revised to improve accessibility and use.

Policies:

Refurbishment & alteration

Consider incorporating measures to improve the thermal insulation of the external walls or floors/ceilings, unless they would cause unjustifiable harm to significance. (2.4, 5.8, 6.9)



The Computing Centre [12] is one of the weakest of the early buildings on the campus, but it occupies an exceptionally important site. Phase 2 (left) and Phase 1 (right). (2006)

Suffolk Walk [104]

Assessment: East elevation: Moderate Significance
West elevation: Low significance
[Interiors: not inspected]

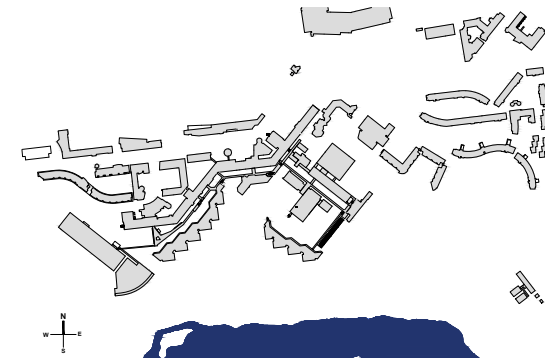
Observations:

Denys Lasdun & Partners, 1965-67. Staff accommodation.

The long pitched roofs are uncharacteristic of Lasdun's work.

Heavy timber sliding windows, similar to those originally used on the ziggurats, are still in place.

The outlook from Suffolk Walk would be very different if the construction of ziggurats had continued to the south-east of Suffolk Terrace, as Lasdun intended.



The south-east elevation of Suffolk Walk [104]. The Careers Centre (former squash courts) [22] is the taller, rectangular building at the far end of Suffolk Walk. (2018)

Careers Centre (former squash court) [22]

Assessment: Low significance

Observations:

Denys Lasdun & Partners, 1965-67.

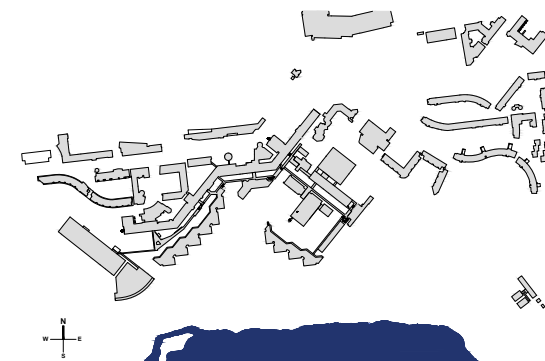
Originally there were two levels of squash courts. The building has been converted to provide four levels for the Careers Centre. Windows inserted in what were originally blank walls – the orange colour is unfortunate. Alterations to blockwork highly visible due to differences in weathering and/or block colour.

The entrance feature at walkway level is prominent and incongruous.

Policies:

Refurbishment & alteration

Opportunities to improve the internal insulation of the external walls or floors/ceilings should be exploited. (2.4, 5.5, 6.9)



Prospective improvements

When practicable and affordable, the exterior of the Careers Centre should be refurbished, or it could be replaced with a higher quality building of very design quality making better use of an important site on the campus. (2.5, 4.1, 6.8)

Estates building [25]

Assessment: Chimney flues: Moderate Significance
Other buildings: Neutral significance

Observations:

Originally two buildings by Denys Lasdun & Partners, 1964-66 – the boiler house to the east and the estates building to the west. Connected by an infill block by Edward Skipper, 1976-77. There have been many alterations.

The twin boiler flues have been painted. Other examples of paired vertical accents are found in Lasdun's work; however, two more flues were anticipated, forming a square on plan.

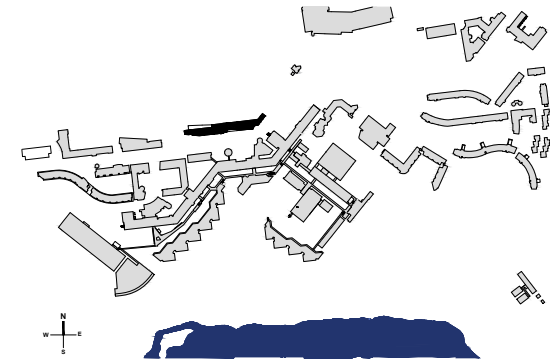
The site plan and models of the masterplan show that the flues are located precisely on the centreline of the Academic Wall and harbour, but this is not evident on the ground.

Originally rooftop carparking over the boiler house.

Policies:

Prospective improvements

When practicable and affordable, the replacement of these buildings, with the exception of the flues, could be considered, by a buildings of high design quality making better use of the site. (2.5, 4.1, 6.8)



The Estates building [25] with chimney flues. In this view the infill block of 1976-77 is seen below the flues. (2018)

Buildings by Foster & Partners: the Sainsbury Centre

The term Sainsbury Centre is used to describe two component parts, the original Sainsbury Centre for Visual Arts (SCVA) and the later Crescent Wing. The general character and significance of the Sainsbury Centre is discussed in Section 1, Understanding (*see* page 1-20).

SCVA is listed at Grade II*; the Crescent Wing is noted to be of merit but is still too recent a building to be listed.

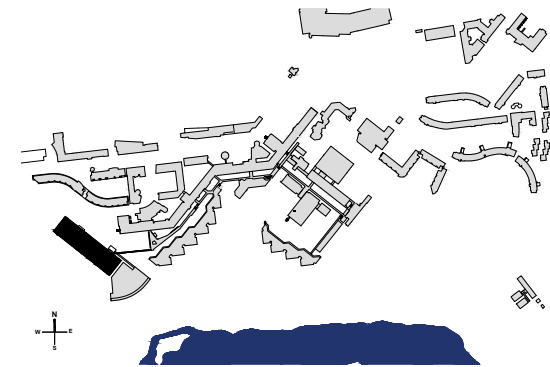
Sainsbury Centre for Visual Arts (SCVA) [7]

SCVA's architectural language

The main features of SCVA's architectural language are set out in an illustrated catalogue. Foster never explicitly formalised SCVA's architectural language in this way, and the catalogue has been inferred from the building itself.

The purpose of the catalogue is to facilitate accurate observation of Foster's building. With a thorough grasp of SCVA's architectural language, it should be easier to devise strategies for responding to new situations at SCVA in ways that respect the significance of the existing building, without necessarily replicating all the original features in precise detail.

Many aspects of the SCVA's architectural language were continued in the later Crescent Wing, particularly the Finishes and details (*see* part D of architectural language).



A SCVA's overall form

A.1 Isolated object



Separation between SCVA and neighbouring buildings. (1978)

A.2 Simple massing



Simple rectangular massing. (1981)

A.3 Extruded form



Extruded 'tube' of uniform cross-section with cut ends. (2018)

B Primary structure

B.1 Deep structure



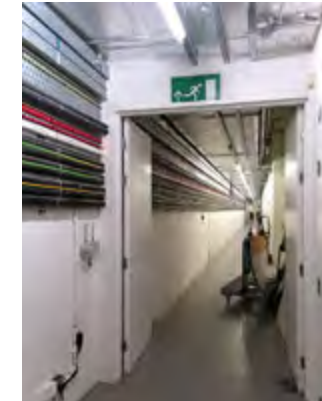
Vertical and horizontal structure forming lattice of 2.4m depth, defining clear internal cross-section. (1977)

B.2 Continuous external skin



Minimal disruption to smooth face of 'tube' (bridge and entrance canopies only). (2018)

B.3 Basement



Continuous basement under northern part of plan. (2006)

B.4 Uniform surfaces of 'tube'



Both vertical and horizontal surfaces of 'tube' clad with solid, glazed, vent or door panels on uniform grid. (1978)

B.5 Cut ends have set back glazing



At cut ends of 'tube' the structure is exposed with glazing set back to the dimension of the clear internal cross-section. (2017)

B.6 Internal mezzanines



Two enclosures across full width of clear internal cross-section, with mezzanines over. (2017)

C Secondary elements

C.1 Assembled components



Building fabric above ground is assembled from precise, machine-made components. (2006)

C.2 Service zones



All services within deep structure or basement. (2018)

C.3 Open interior



The volume defined by the clear internal cross-section is open and unobstructed (except by mezzanines and stairs from bridge). (2018)

D Finishes and details

D.1 Uniformity of finishes



Single material/component/design used for all instances of a finishing element, such as carpet, louvre, handle, signage, etc. (2018)

D.2 Monochrome colour palette



All materials finished in monochrome colour palette – silver-white-grey-black. (2017)

D.3 Minimal detailing



All components and junctions designed to maximise simplicity of appearance. (2018)

D.4 Standardised loose fittings



Loose fittings from standardised ranges are used throughout the building. (2018)

D.5 Consistent alterations



Alterations to SCVA have continued the same architectural language. (2018)

Overall assessment of the Sainsbury Centre

Assessment: SCVA – High significance
Crescent Wing – High significance

Observations:

The original SCVA is listed Grade II*, along with the attached walkway and underground loading bay. The Crescent Wing is not listed.

Foster's SCVA project was based on a powerful architectural vision, which is the source of its significance, but there are aspects of the vision that are not wholly matched in reality. The on-going care of the SCVA by UEA has to take account of the real situation, even when it is at variance with Foster's vision.

1. Vision: All SCVA's functions are accommodated in a single volume, the spacious urban room.

Reality: SCVA's urban room occupies only a little over half the volume of the building, with 45% being taken up by the double skin and basement.

Implications: SCVA's significance is almost entirely based on its external envelope and the internal urban room. The service zones (double skin and basement) make a small contribution to significance and alterations in these zones for functional reasons have a lower risk of harming significance, so long as there are no damaging impacts on elements of higher significance.

2. Vision: SCVA makes economical use of prefabricated industrial components.

Reality: SCVA is assembled from expensive, purpose-made components.

Implications: Precise like-for-like replacement for localised component failure is often expensive and involves long delivery periods, for example the discoloured glass on the lift enclosure to the eastern mezzanine; but it is important to avoid the introduction of non-matching components into SCVA. However, like-for-like component replacement is impossible when the components originally used are unobtainable or no longer suitable for use (for example, for health & safety reasons).

3. Vision: SCVA is a sustainable, energy-efficient building.

Reality: SCVA is poorly insulated, has poor airtightness, has a very high energy demand, and leaks.

Implications: SCVA is clad with about 2,500 relatively small panels. Some are glazed, but although most are insulated they are compromised by thermal bridging at the panel perimeters. Between



Diagram showing the overall dimensions of SCVA [7] and the urban room. About 45% of the volume of building is taken up with service areas in the double skin and basement.

the panels are about 8,000m of uninsulated neoprene (synthetic rubber) gaskets; the neoprene gaskets also act as gutters and suffer from leaks. The glazed end walls are uninsulated, although they make up only about 6.5% of the external surface area. At each end of the building where the structure is exposed around the glazing, the panels fitted between the structural members are poorly insulated and poorly sealed. The net effect is a low insulation value for the external envelope, which leads to a high heat loss.

4. Vision: SCVA displays works of art using natural light and avoids the need for air-conditioning.

Reality: SCVA provides a poor conservation environment for displaying works of art.

Implications: The Sainsburys' art collection was displayed in their own house in London in natural light without air-conditioning, and Foster argued that this was also appropriate for the display in SCVA. Current thinking by the SCVA staff is that the resulting environmental conditions are problematic for the conservation of works of art, due to excessive light levels and variations in humidity. Many artworks are in sealed cases to give protection from environmental variations. The level of natural light has been substantially reduced by adjusting the rooflight louvres compared to the situation when the building was opened, and sunlight, which used to fall into the display area, is now excluded. The zone between the east glazed wall and the foyer was originally intended for temporary exhibitions, but it has the most adverse environmental conditions; the glazing is usually screened, blocking the view. Temporary exhibitions now use the basement galleries in the Crescent Wing.

Given these issues, it will be challenging for UEA to conserve SCVA's significance over the long term, in a way that is sustainable in terms of energy consumption, environmental and functional performance, durability and affordability. As the fabric ages and performance standards rise, it seems inevitable that a strict policy of like-for-like replacement of components and materials will become unfeasible. Decision-making in changed circumstances so as to retain significance will require an imaginative exploration of possible strategies and systematic judgment between alternatives.

A consented programme of repairs was carried out in 2010-11.

Policies:

The following general policies should be applicable to the conservation of SCVA's significance:

- Maintain the characteristics of SCVA's architectural language that give the building significance.
- Prioritise uses for the building that are compatible with its fundamental properties, to give



Discoloured glass in the lift enclosure to the eastern mezzanine. (2018)

good functional performance and minimise reliance on energy-consuming systems.

- If there are individual components failures or localised failures of materials, make good with matching components/materials, avoiding adhoc alternatives; if replacement components/materials are unavailable, consider transferring components/materials from lower significance areas to higher significance areas, subject to review and approval.
- If a component or material requires replacement throughout the building, and the original is still available, evaluate the option of using alternatives that are consistent with the architectural language and retain significance, for cost-effectiveness and/or to improve performance.
- If a component or material requires replacement throughout the building, and the original is unavailable or no longer appropriate for use, consider alternatives that are consistent with the architectural language and retain significance, and where possible improve performance.
- If alterations to the physical fabric are required, they should be carried out to a high standard of design using high quality materials and workmanship, consistent with the existing fabric.



Between the end wall glazing and the external skin, grey panels are fixed between the triangulated structural members; they are poorly sealed and have poor insulation. (2018)



View of the permanent collection zone of SCVA in 1978, with strips of sunlight.

Elements of the Sainsbury Centre – exterior

End (south-east and north-west) Elevations

Assessment: Elevations – High significance

Loading bay – Moderate Significance

Observations:

These elevations have two elements. The extensive, full height 7.3m, frameless, single glazed panels set at the rear of the tubular steel latticework truss. The infill panels in spaces between the tubular elements are grey aluminium sheets. There is one set of glazed double doors in each elevation.

The north-west elevation includes the cargo bay and side walls which are part of the grade II* listing.

Some items of sculpture which are set in front of these (and other) elevations and affect the setting of this listed building are subject to listed building consent as part of the sculpture park strategy, in order to minimise any impact on the main listed building.

The front lawn is also the roof of the Crescent Wing.

Policies:

Maintenance & management

Repairs to the front glazing should be carried out to enable the protective sheets to be removed (2.3, 6.1, 6.2, 6.8).

The external positioning of artworks that might affect the setting of the listed buildings should be chosen with reference to an agreed strategy (2.3, 5.2).

Side (south-west and north-east) Elevations

Assessment: Elevations – High significance

Attached walkway – High significance



Front (south-east) glazed elevation (above, 2017) and rear (northwest) glazed elevation (below, 2017).



Observations:

The aluminium cladding panels over the trusses were replaced in 1988. There are framed, double glazed panels and doors along both lengths, including some curved sections where the walling panels meet the roof panels. There are aluminium ventilation louvres on these elevations. The trussed structure is not visible along these elevations.

On the northeast elevation there is a high-level walkway that connects this building to the Academic Wall walkway outside Biology. It was built at the same time as the main building. Where the walkway meets the main building there is a small gap to avoid physical connection.

The entrances are on the north-east elevation, with slim-line canopies added during the 2004 refurbishment.

There is a small patio on the south-west side.

Policies:

Maintenance & management

The external positioning of artworks that might affect the setting of the listed buildings should be chosen with reference to an agreed strategy (2.3, 5.2).

Roof

Assessment: High significance

Observations:

The roof uses the same system of cladding panels mounted on trusses as the walls. The panels were replaced in 1988. Cleaning methods have resulted in a rough surface, which encourages vegetation growth.

Policies:

Maintenance & management

Consideration should be given to the repair of the roof panel surfaces, to reduce the amount of vegetation growth while retaining the characteristics (2.3, 6.3, 6.6, 6.7).



Southwest elevation (above, 1978) and northeast elevation with attached walkway (below, 2018).



Consideration should be given to the installation of a safe access system for roof maintenance and repairs which avoids or minimises harm to significance (2.3, 6.1).

Elements of the Sainsbury Centre – interior

Urban room

Assessment:

Overall internal space (urban room) – High significance

Temporary exhibitions gallery – High significance

Foyer – High significance

Permanent collection gallery – High significance

Raised deck (1) for offices etc – Moderate Significance

Rooms under raised deck (except Department of Art History offices) – Moderate Significance

Department of Art History and World Art Studies including offices under raised decks – High significance

Raised deck (2) for exhibitions – Moderate Significance

Kitchen – Low significance

Restaurant – High significance

The urban room has undergone several alterations and refurbishments. Alterations in 2004 included stair and lift access from the ground floor to a naturally lit basement space and an underground gallery to link to the Crescent Wing. The layout of the entrance foyer and shop, and the permanent collection zone, was altered in 2010-11.

The main space has filtered natural light, through strips of roof level glazing, and controlled by adjustable louvres at ceiling level. Side windows are controlled by perforated louvres, and the large south-east glazed wall by a consented system of solar blinds which replace the original, unreliable louvres.



Early view of the roof of SCVA. Note the lack of trees between SCVA and the Academic Wall, and the open edge of the Broad. (1978)



Open interior space. (2018)

The space is divided into six distinct zones. The mezzanines are reached by circular staircases and by lifts.

Some areas are susceptible to damage including the internal perforated aluminium panels and the edges of the glazed fins inside the north-west end wall.

Policies:

Maintenance & management

Consideration should be given to furniture arrangements that reduce the likelihood of damage to the rear glazing (2.3, 6.2).

Prospective improvements

Consideration should be given to the insulation and draught-proofing to improve the thermal efficiency of the building (2.5, 6.9, 7.6, 7.7).

Perimeter service zones

Assessment: Generally – Moderate/Low significance

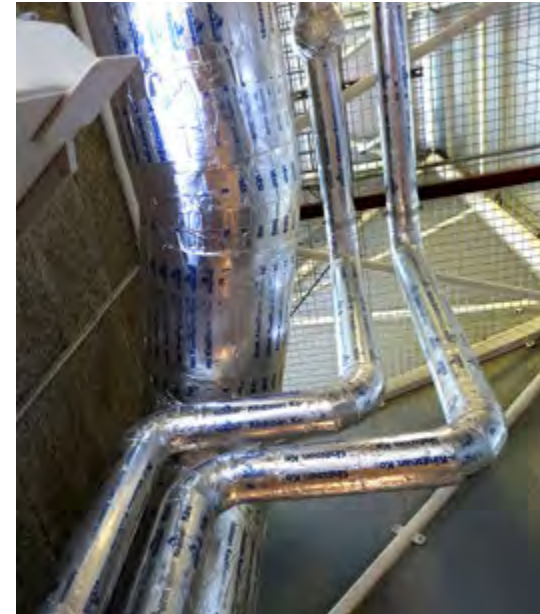
Entrances and toilets – Moderate significance

Observations:

The service zones are an integral part of SCVA's design concept. They run the length of the building, along both sides and over the ceiling, occupying the space within the lattice trusses. There is insulation inside the external cladding. Some areas are uninsulated, for example the side panels around the glazing at the end elevations, and the diagonal joint where the vertical lattices meets the horizontal members.

The zones house all the building services and are also used for storage and toilets, as well as some educational uses, eg. darkroom. Some of the insulation of the services pipework is damaged. The entrances and toilets were refurbished in 2004.

There are multiple failures in the gaskets between cladding panels which have resulting in rainwater ingress and temporary canvas buckets are fixed in place. The detailing relies on the performance of neoprene gaskets which are located in positions that can not be maintained. Additional external gaskets have been fitted.



Perimeter service zone. (2018)



Raised deck (1). (2018)

Policies:

Refurbishment & alteration

Insulation Consider incorporating measures to improve the thermal insulation of the external walls or floors/ceilings, unless they would cause unjustifiable harm to significance. (2.4, 5.8, 6.9)

Basement

Assessment: Loading bay – Moderate Significance

Other spaces – Low significance

Observations:

The underground loading bay and side retaining walls form part of the Grade II* listing. This is the access for vehicles.

This space includes a secure corridor from the loading bay to the utility and storage spaces of SCVA and the Crescent Wing.

A basement room was converted into a lecture room soon after the building opened. It is still in use with original fittings. There is an associated projector room.

The basement was extended in 2004 to provide stair and lift access for the public from the ground floor to a new exhibition area which links to the Crescent Wing.

There is evidence of some structural movement which is being monitored.

Policies:

Apply the general Conservation Principles



Basement corridor. (2006)



Basement lecture room. (2018)

Crescent Wing [7]

Assessment: Front (south-east) elevation – High significance
External excess ramp – Low significance
Curved front corridor – Moderate Significance
Studio spaces – Low significance
Store and utility spaces – Low significance

Observations:

This building is too young to be listed, although once it comes of age it should be considered for listing.

The Crescent Wing is an extension designed by Foster & Partners and built between 1989 and 1991, providing storage and workshops, offices and a temporary exhibition space.

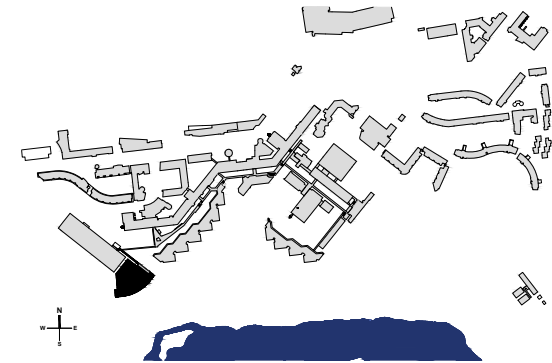
Originally there was no internal connection to SCVA; the Crescent Wing was entered by an external ramp. In 2004 it was connected to SCVA by a new underground gallery. The external ramp is now used mainly by school parties and large groups.

The curved corridor is the most striking part of the building; it has been the setting for several films. Apart from the curved corridor it is a basement building without substantial natural light.

The area originally used for reserve collections is now used for temporary exhibitions. The reorganisation was part of a larger project when the permanent collection was moved upstairs.

Policies:

Apply the general Conservation Principles



The curved front corridor in the Crescent Wing [7]. (2018)

Other buildings on UEA Campus

Buildings to the East of the Academic Wall

Music Centre [21]

Assessment: Moderate Significance

Observations:

Designed by Arup Associates, 1971-73. Their recently completed design for the new concert hall at Snape Maltings was well known at this time.

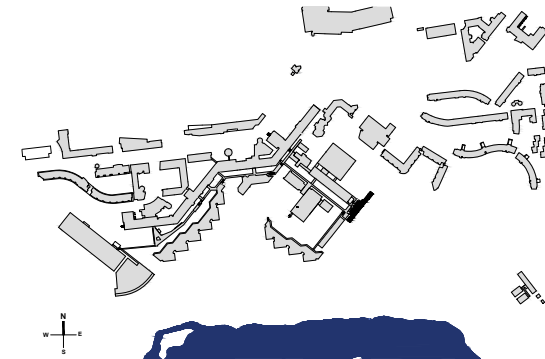
The pitched roof echoes Suffolk Walk. The outlook from the ground floor teaching rooms and offices is pleasant. There are few ground level teaching rooms in the original UEA complex.

The building was extended by three bays to the south-west in 2009 in a highly sympathetic way, as the first phase of a development plan by the UEA Estates Department.

An external performance space on the west of the building appears to be little used but is an interesting feature.

Policies:

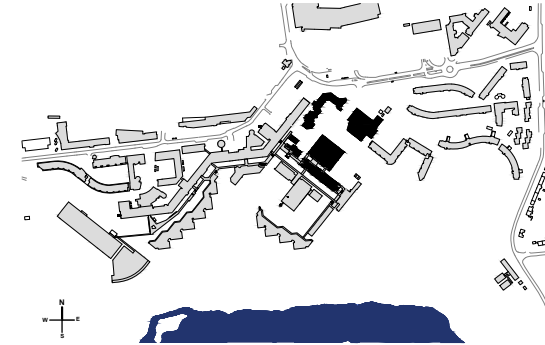
Apply the general Conservation Principles



The Music Centre [21] by Arup Associates. The converted squash courts, now the Careers Centre [22], is the four-story building on the left. (2018)

Central area buildings

Assessment: Council House (2) – Moderate significance
Registry (2) – Low significance
Registry tower (2) – Moderate significance
Multifaith Centre (15) – Low significance
Restaurants (16) – Neutral significance
Union House (17) – Low significance
Shops and Offices above (18 & 19)– Neutral significance
Congregation Hall (23) (old sports hall) – Neutral significance
Drama Studio (24) – Low significance



Observations:

Most of these buildings were built when Bernard Feilden was consultant architect, after Denys Lasdun had withdrawn from UEA in 1968.

Restaurant and Multifaith Centre were by Feilden & Mawson between 1969 and 1971. Concrete blockwork echoing the construction of Lasdun's Computer Centre. Substantial changes to the Restaurant building in 2004.

Union House, Shops and Offices and Congregation Hall (old sports hall) were by Johns Slater & Haward between 1970 and 1973. Union House has precast concrete external wall echoing the Library; the other buildings are blockwork. There have been many changes, and further changes are on-going.

The Council House and Registry were designed by Feilden & Mawson and completed in 1975, around an existing grove of Spanish chestnuts. Concrete blockwork elevations and lots of 45° angles, which was fashionable in the period. The Council Room and foyer were designed with architectural ambition; the interior fittings have been replaced. The tower was intended as a landmark at the entrance to the Campus.

The Drama Studio was designed by Rick Mather Associates, 1992-94, masking the blank south wall of Congregation Hall.



The square, with the Union House [17] on the left, Restaurants [16] on the right and the Library [14] at the back. (2018)

Policies:

Prospective improvements

When practicable and affordable, the replacement of Congregation Hall could be considered, by a buildings of high design quality making better use of the site. (2.5, 4.1, 4.4)



Drama Studio [24]. (2018)



Walkway-level deck over shops [18, 19], with glazed link to Union House [17] on right. (2018)



Congregation Hall [23] (former sports hall). (2018)



Council House, Registry and Registry tower [2]. (2018)

Buildings to the North of the Academic Wall

- Assessment:** The Lodge (1) – Neutral significance
Hubert Lamb (8) – Moderate significance
Lawrence Stenhouse (9) – Moderate significance
Queen’s Building (10) – Low significance
Elizabeth Fry Building (11) – Low significance
Medical Building (43) – Low significance
ZICER Building (44) – Low significance
Biomedical Research Centre (47) – Low significance
Thomas Paine Study Centre (52) – Low significance
Julian Study Centre (57) – Low significance
Science and Engineering Teaching Building (60) – Low significance
Constable Terrace (107) – Moderate significance

Observations:

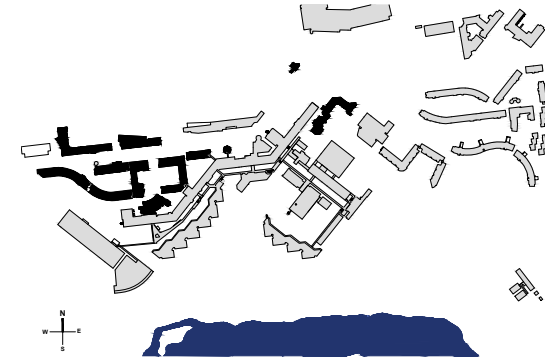
Apart from the Lodge and Maintenance Building, these buildings are by Rick Mather Architects’ or relate to the Rick Mather masterplan of 1989. This part of the Campus to the north of the Academic Wall was previously in secondary uses.

The Lodge was by Feilden & Mawson, 1972-76. Concrete blockwork, with 45° angles like the Council House. No longer functions as an entrance lodge but has a security function.

The Maintenance Building was by Edward Skipper, 1976-77 – an infill building between Lasdun’s Boiler House and Estates Building (*see* page 3-52).

The Lawrence Stenhouse and Hubert Lamb buildings were the first by Rick Mather Associates, 1982-84, predating Chancellor’s Drive. Lawrence Stenhouse connects to the Sciences service core, where Lasdun envisaged a spur to a second Academic Wall. Glazed blockwork and blue windows contrast with Lasdun’s adjacent Academic Wall. The tiles seem to be discolouring where exposed to the weather. These buildings are examples of 1980s post-modernism.

The Queen’s and Elizabeth Fry buildings were by John Miller & Partners between 1992 and 1995. The walls are clad with high performance external insulation, finished in white render. This



The blue windows and tiled north elevation of Mather’s Lawrence Stenhouse building [9]. (2006)

established the subdued architectural language that was followed by other buildings on Chancellor's Drive.

Constable Terrace was by Rick Mather Associates, 1992-93. Elegantly detailed external spiral staircase. West-facing feature elevation, marking the termination of the Chancellor's Drive development.

The Medical Building was by RMJM and built in two phases, completed in 2003 and 2007.

The Zuckerman Institute for Connective Environmental Research (ZICER) was by RMJM, completed 2003. It has a glazed bridge to the Academic Wall, and rooftop glazing with photo-voltaic cells.

The Biomedical Research Centre, an extension to the School of Biology, was by R H Partnership, completed in 2008. It occupies a position intended by Lasdun for a north spur from the Academic Wall.

Thomas Paine Study Centre was by RH Partnership and built in two phases, completed in 2009 and 2010.

The Julian Study Centre by Pick Everard was completed in 2014, constructed with cross-laminated timber. It is connected to the Medical Building but does not face Chancellor's Drive directly; it has a brightly coloured west elevation.



The Hubert Lamb building [8] acts as a landmark at the east end of Chancellor's Drive. (2018)



Constable Terrace [107]. (2018)



The Queen's Building [10]. (2018)



Elizabeth Fry Building [11]. (2018)

The Science and Engineering Teaching Building (Building 60) by Fraser Brown McKenna, completed in 2019, occupies the last site on the north side of Chancellor's Drive. It adopts a variant of the established architectural language of Chancellor's Drive. Because of the fall in the land it has an extra storey compared to other buildings on Chancellor's Drive, but a similar parapet height. The terraced external space between this building and the Julian Study Centre echoes the terracing in the central area.

Policies:

Apply the general Conservation Principles



The Julian Study Centre [57], left, is connected to the Medical Building [43], right. (2017)



Biomedical Research Centre [47]. (2018)



Thomas Paine Study Centre [57], right, and Medical Building [43], left. (2017)



The north side of the Thomas Paine Study Centre [57] breaks away from the white render of the south elevation facing Chancellor's Drive. (2018)



The bridge from ZICER [44] does not connect to an Academic Wall service core. (2018)



The west end of Constable Terrace, viewed from the south [107]. From the west the view of this architectural feature is masked by trees. (2018)



The Medical Building from the south-west [43]. (2018)



The Science and Engineering Teaching Building from the south-east [60]. (2019)

Buildings in the East of the Campus

Assessment: Bike Repair Centre (39) – Neutral significance
Health and Community Centre (49) – Neutral significance
Blackdale Annex (53) – Neutral significance
Energy Centre (54) – Neutral significance
Orwell Close (101) – Low significance
Wolfson Close (102) – Low significance
Nelson Court (103) – Low significance
Colman House (125/126) – Low significance
Browne (127), Kett (128), Victory (129), Paston (130),
Britten (132) – Neutral significance
Crome (133) – Neutral significance
Barton (134) and Hickling (135) – Neutral significance
Central Building (136) – Neutral significance
INTO @ UEA (801) – Neutral significance
Bus shelter – Low significance

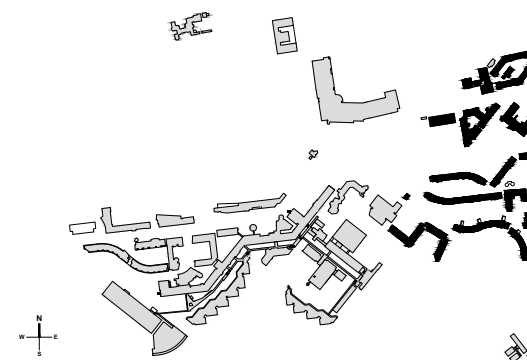
Observations:

The former Waveney Terrace was by the Norwich Partnership (Feilden & Mawson as consultants), 1969-72. It was built of concrete blockwork on a tight budget and provided basic accommodation. It was demolished in 2002.

Orwell Close and Wolfson Close by Anthony Faulkner were built between 1978 and 1980, but the design drawings are dated 1973. The grouping of student rooms into houses was an alternative to the corridor layout of Waveney Terrace. Jaunty concrete blockwork and monopitch roofs, in the ‘shed style’ that was fashionable at the time.

Nelson Court was by Rick Mather Architects, 1991-93. It is sited alongside the old sports hall (now Congregation Hall) on land that had been levelled for sports pitches.

The East Development Plan by LSI Architects guided much of the new development in this area. Colman House by LSI Architects, completed in 2004, was one of the first buildings. Its plan curves



Wolfson Close [102]. (2018)



Nelson Court [103], left, and Colman House [125, 126], right. (2018)

round the prospect mound. The service towers have projecting cornices, in contrast to Lasdun's sheer tower profiles. This building is seen on the skyline in views from the Broad. Subsequent buildings to the north of Colman House (Browne, Kett, Victory, Paston, Britten, Crome) were by LSI Architects; they generally follow the same design language but Crome Court (2014) is taller.

INTO @ UEA by LSI Architects (2008) is a bulky building. It is leased by UEA to a joint venture enterprise.

Barton House and Hickling House by LSI Architects (2016) were built on the land of the former Blackdale School. They are higher than the four storeys used in most of the East Development Plan area, and they feel denser. The old school buildings are referred to as the Blackdale Annex.

The Energy Centre was built for a biomass boiler. Designed by RH Partnership (2013).

The bus shelter by LSI Architects is a striking element with a folded roof structure.

Policies:

Apply the general Conservation Principles



The Energy Centre [54]. (2018)



Crome Court [133]. (2018)



Browne House [127], right, and Kett House [128] beyond. (2018)



Hickling House and Central Building (right) [135,136]. (2018)

Buildings to the north of the Campus

Assessment: SportsPark (33) – Neutral significance
Enterprise Centre (58) – Moderate significance

Observations:

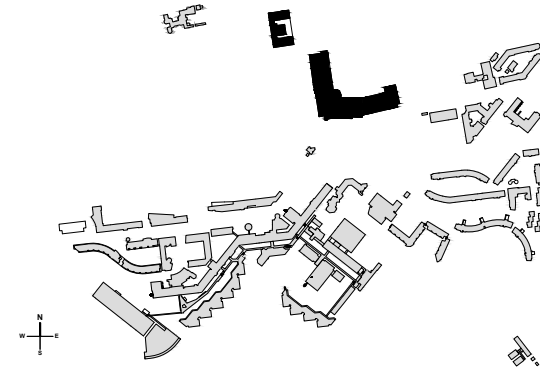
The SportsPark was designed by RH Partnership and opened in 2000. Extended to the east in 2009 and 2011.

The Enterprise Centre by Architype architects, completed 2015, aimed for low embodied energy using natural and bio-renewable materials, and low energy consumption to Passivhaus standards. There are also innovative engineering systems. It has won many awards.

These are the first UEA buildings seen when approaching the Campus from the north along University Drive.

Policies:

Apply the general Conservation Principles



The SportsPark [33]. (2018)



The Enterprise Centre has thatched cladding; view from the north [58]. (2018)

Off Campus buildings

- Assessment:** Sports Pavilion (35) – Neutral significance
DEV Farm (36) – Neutral significance
University Village (109–123) – Neutral significance
Edith Cavell (209) – Low significance
Bob Champion Research and Education (214) – Low significance
Centrum Building (808) – Neutral significance

Observations:

These buildings in locations that are remote from the central Campus and listed buildings make little contribution to UEA's heritage significance, regardless of their design quality.

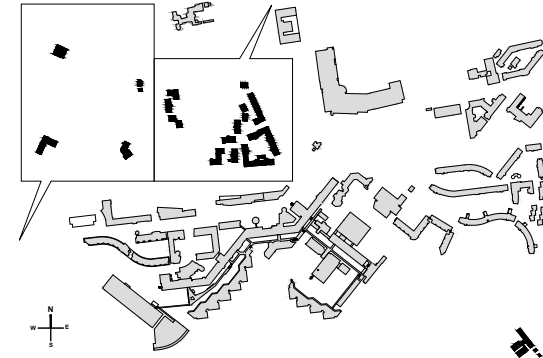
The University Village student housing development by Hantry House Developments, 1994, replaced the original University Village, which provided temporary accommodation for UEA before the permanent buildings were built (*see* page 1-4). The new housing is not architecturally distinguished.

The Edith Cavell building was by RMJM, 2006, houses the School of Nursing. It is to the west of the Yare, on a prominent site near the Norfolk and Norwich Hospital. The architectural character is similar to buildings on Chancellor's Drive of the same period.

The Bob Champion Research and Education building was by Hawkins\Brown, 2014, is also to the west of the Yare. It has timber cladding and a central atrium.

Policies:

Apply the general Conservation Principles



A building in the University Village [109-123]. (2018)



Bob Champion Research and Education Building [214]. (2018)



Edith Cavell Building [209]. (2018)

Earlham Hall

Listed at Grade II* and in the Earlham Conservation Area.

Refurbishment at Earlham Hall has been guided by the Earlham Vision Development Document (2010).

This is a summary entry only for completeness. This document does not aim to give detailed commentary on the building which is distinct in character and age compared to the main campus. Earlham Hall has been the subject of detailed research – *see* references on page 1-34.

Earlham Hall – exterior

Assessment: High significance

Observations:

Extensive refurbishment after acquisition by UEA, completed in 2014, by RH Architects. The fabric had been in poor condition, with localised structural failures.

Policies:

Refer to conservation bodies and the local planning authority, and the conservation plan for Earlham Hall.

Earlham Hall – interior

Assessment: High significance

Observations:

The interior of Earlham Hall had degenerated after adhoc alterations for institutional use since the 1920s, and was thoroughly refurbished for UEA's School of Law, completed in 2014.

Historic fabric was restored, and changes to meet current requirements were carried out using modern materials rather than imitating the historic work.



Earlham Hall: exterior from south-west (above), main hall with glazed fire screen (below). (2018)



Policies:

Refer to conservation bodies and the local planning authority, and the conservation plan for Earlham Hall.

Earlham Hall – outbuildings

Assessment: Moderate significance

Observations:

The outbuildings and stable courtyard were in poor condition when UEA acquired Earlham Hall.

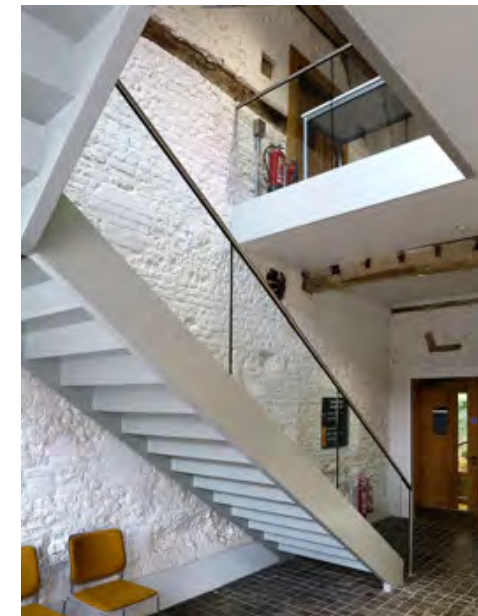
A continuing programme of restoration and adaption for current needs is in progress. There is a clear separation between historic fabric and new insertions.

Policies:

Refer to conservation bodies and the local planning authority, and the conservation plan for Earlham Hall.



Earlham Hall: new entrance to the Hall from the stable courtyard (above), and new staircase in a converted stable building (below). (2018)



Landscape

The landscape zones of the UEA site are shown in the diagram. The landscape heritage significance relates mainly to the two designed landscapes – the Lasdun/Colvin Campus (zone 1 in diagram; *see* page 1-35), and Earlham Hall and Park (zone 7 in diagram; *see* page 1-42).

Landscape improvement should be seen as part of a considered masterplan for the whole site. Significant features of the original landscape masterplan have been lost so the original plan cannot be used as justification for future development. A considered baseline review needs to accompany any future planned development; for example, tree planting needs to be fully evaluated across the site rather than in response to individual development proposals.

Zone 1(a): UEA designed landscape – between the Yare and UEA buildings

Assessment: High significance

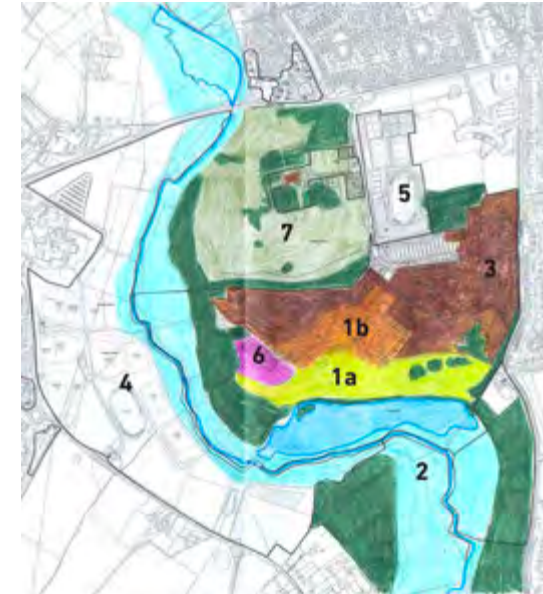
Observations:

The Lasdun/Colvin vision of the 1960s was for the whole for the UEA site which occupies the meandering river valley of the Yare with its flood plain and land rising from the river (*see* plan on page 1-36). The underlying landscape elements extend beyond the UEA boundary but are visually important parts of the University landscape.

The vision for the landscape setting consisted of two parts:

- the parkland between the university buildings and the south side of the river flood plain that was conceived by Colvin and Moggeridge as a twentieth century version of an eighteenth century designed parkland including rolling grass; a stretch of water; tree clumps, belts and individual trees;
- the landscape (hard and soft) running through and within the ‘hill village’ of Lasdun’s university buildings.

This vision was substantially achieved in the central area of the Campus, in the first phase of UEA’s development up the early 1970s – this is defined as landscape zone 1. Development in other parts of the UEA site has deviated in parts from the Lasdun/Colvin plan.



UEA landscape zones:

1. UEA designed landscape
2. River and flood plain
3. Later UEA phases
4. Sports pitches
5. Functional parts
6. Sainsbury Centre
7. Earlham Hall designed landscape

Little has been done to enhance further the landscape vision in this central area of the Campus. The view across the Broad to the ziggurats is UEA's defining image, but is now partially obscured by unplanned tree and shrub growth, and the steep bank edge of the Broad detracts from the design intent of its appearance as a natural lake with gently sloping ground running down to the water's edge.

The land to the north of the mound has been developed with student residences (*see* landscape zone 3). Lasdun and Colvin anticipated that the land to the south of the mound would also be developed, with additional ziggurats continuing Suffolk Terrace to the east and reaching down to a new lake.

Lasdun intended that the centrally located 'harbour' between Norfolk and Suffolk Terraces should be a point of interchange between the buildings and the landscape, but at present it is not a focus of activity.

The earliest parts of the university and parkland used trees that had been planted to create a golf course in the 1930s – which would then have been around thirty years old and were incorporated into the new university layout – notably the 'harbour pines'. These and a number of other groups of pines were saved from plantings lining the fairways and used to contrast with the simple new concrete buildings and to add the idea of an Italianate landscape.

Policies:

Maintenance & management

Existing plantings and landscape features should be managed in accordance with an agreed landscape strategy, to strengthen the visual character of the designed landscape. (2.3, 6.1, 6.2)

Consider any outputs from the movement strategy assessment that impact on movement through this area, eg. allowing the removal of service tracks which have emerged and harmed the landscape quality close to the Ziggurats. (2.3, 6.2)

Prospective improvements

Consider modifications to improve connectivity between the harbour and the open spaces and circulation routes in the developed part of the Campus. (2.5, 5.1, 5.2)



View from the prospect mound towards Suffolk Walk and Suffolk Terrace, with the Yare valley beyond. (2018)



The harbour with Norfolk terrace on the right, looking out to planting on the far side of the River Yare. (2019)

Zone 1(b): UEA designed landscape – developed area of Campus

Assessment: Moderate significance

Observations:

Lasdun's early UEA buildings, as completed by Feilden & Mawson in the early 1970s, formed a compact group overlooking open landscape and substantially achieved the Lasdun/Colvin vision – this is defined as landscape zone 1(b).

Lasdun envisaged that the space between buildings would be treated primarily with hard landscaping. Colvin proposed some planting between the ziggurats and the Academic Wall, and suggested that there could be climbers on some buildings, which Lasdun disagreed with. Both Lasdun and Colvin opposed 'suburbanisation' of the Campus's tough character.

The central Square is a successful open space at the centre of the University, designed by Feilden & Mawson. It relates well to Lasdun's walkway system, but is cut off from the landscape harbour to the south-west by the 'street' building, not envisaged in Lasdun's masterplan

The quality of the Campus is degraded at ground level by carparking, service vehicles and *ad hoc* addition of aircon units, etc. Vehicle circulation (private cars, buses, delivery vehicles, construction vehicles, emergency vehicles, etc.) and pedestrian circulation (students, staff, public, etc.) have evolved piecemeal and not as a single planned strategy. This makes the masterplanning of any new development the spaces between buildings and landscape features more significant.

Policies:

Maintenance & management

Plantings and landscape features within the developed part of the Campus should be managed in accordance with a Campus-wide landscape strategy. (2.3, 6.1, 6.2)

Refurbishment & alteration

'Suburban' features in the settings of Lasdun buildings should be removed. (2.4, 6.2, 6.8)

Prospective improvements

The general clutter of 'stuff' at ground level should be reviewed and, where possible, elements that are necessary should be more thoughtfully planned and screened. (2.5, 5.1, 6.8, 7.6).



Greenery and concrete in the developed part of the Campus. (2018)



The north side of Suffolk Terrace. (2019)

Zone 2: River Yare and flood plain

Assessment: High significance

Observations:

The walk along the River Yare through the University estate is attractive and well-used. It is managed in cooperation with the local authorities. The river is well wooded for most of its length, making the river an enclosed world, especially in the summer. There are open and important views to the main buildings of UEA at the Broad. There is little screening to the University sports pitches.

New buildings for the John Innes Research Centre and Norwich and Norfolk Hospital, which are located just to the west of the campus boundary, are visible on the skyline when viewed from the University, weakening the impression of an open setting that was intended by Lasdun and Colvin.

New woodland has been planted opposite the Broad and will require on-going management.

There is an arched footbridge over the Yare at the west end of the Broad, and a utilitarian concrete bridge to the playing fields that is used by maintenance vehicles.

The possibility of a road connection across the Yare has been put forward a number of times. Currently the idea of a bus link between UEA and the hospital and research facilities to the south and west of the University is under consideration. All proposals should be connected to a comprehensive movement strategy for the University to assess need and impacts.

Policies:

Maintenance & management

Plantings and woodlands should be managed in accordance with an agreed landscape strategy. (2.3, 6.1, 6.2)

Refurbishment & alteration

The planting screen between the Yare and the playing fields should be reinforced in accordance with an agreed landscape strategy for the Campus. Tree planting needs to be fully evaluated across the area rather than in response to individual development proposals. (2.4, 5.1, 6.1)



The river Yare in summer. (2006)



Footbridge over the Yare. (2018)

Zone 3: Later UEA phases

Assessment: Low/neutral significance

Observations:

After Lasdun’s masterplan was abandoned in the early 1970s, UEA development adopted different approaches to architecture and landscape.

The main Campus entrance is visually chaotic. The Registry tower was intended to be a landmark, but trees now obscure it from the entrance road.

The landscape along Chancellor’s Drive is visually cut off from the Yare valley and its landscape character is quite different from the Lasdun/Colvin ‘Italian hill town’ model. It lacks the impact and significance of the Lasdun/Colvin vision.

The west elevation of Constable Terrace is designed as a distinctive feature terminating the development on the south side of Chancellor’s Drive, but it is now obscured by trees (*see* photo on page 3-72).

The East Campus Development Plan has created a new landscape area but it lacks a clear landscape vision.

The prospect mound is an important landscape feature. It is a welcome high point from which to view the Campus.

Lasdun and Colvin anticipated that the land to the east of Suffolk Terrace would also be developed, with additional ziggurats continuing Suffolk Terrace to the east and reaching down to a new lake. This idea was not taken forward, but if future development in a different form is considered in this area its impact on the wider landscape setting will require very careful consideration.

The layout of roads and paths has grown in response to need and new development. Some of the layouts are clear but others are not logical – eg. a major pedestrian access route passes through Union Place, which was originally the bus stop for the University, but it is now an unsightly service yard for Union House; and Chancellor’s Drive ends in a disappointing roundabout which is now the main vehicle approach to the Sainsbury Centre.



Chancellor’s Drive, a tree-lined avenue with individual, detached buildings, in contrast to Lasdun’s megastructures of linked buildings. (2018)



The terraced playing fields beyond from the River Yare. (2019)

Policies:

Prospective improvements

Consider new development of the highest landscape and architectural standard to the east of Suffolk Terrace, as anticipated in Lasdun’s and Colvin’s plans. (2.5, 4.1, 4.2)

The Campus entrance should be improved by modifications of high landscape and architectural quality. (2.5, 4.4, 5.1, 6.8)

Zone 4: Landscape of sports pitches

Assessment: Low/Neutral ~~No~~ significance

Observations:

A functionally useful element of the UEA landscape but lacking in landscape interest. Rugby club development in this zone.

Policies:

Apply the general Conservation Principles

Zone 5: Landscape of functional parts

Assessment: Low/Neutral significance

Observations:

There is a diverse mix of landscape and architectural elements along University Drive.

Policies:

Prospective improvements

Consider a new landscape and architectural strategy of the highest design standard for integrating the diverse elements along University Drive into a coherent visual experience marking the arrival at the University. (2.5, 4.1, 4.4, 5.1).



The Crescent Wing cuts across the meadow between Foster’s earlier SCVA and the Broad. (2018)



The landscape setting on the south-west side of SCVA. (2019)

Zone 6: Landscape of Sainsbury Centre

Assessment: Low significance

Observations:

Norman Foster's Sainsbury Centre, especially the original SCVA, is architecturally significant but its contribution to UEA's landscape significance is weaker.

There are areas to the side of the building that have no relation to the wider landscape and the link down to the Yare edge is neglected and lacks management.

The glazing of the Crescent Wing cuts through the open meadow sweeping from the SCVA to the Broad.

What should be sweeping grassland to the south-east is interrupted by manholes, rabbit damage, exposed walls and a generally 'spotty' effect.

Policies:

Maintenance & management

Tackle the intrusive and untidy elements in the landscaping of the Crescent Wing. (2.3, 6.1, 6.8)

A landscape masterplan and management plan for the whole site should be developed to encourage a unified approach to Campus change. (2.3, 6.1, 6.2)

Zone 7: Landscape of Earlham Hall and Park

This is a summary entry. Earlham Hall has been the subject of detailed research – *see* references on page 1-34.

Assessment: High significance

Observations:

The park is a late 18th, early 19th century designed landscape with a garden/pleasure ground around the historic Hall. There is a defined boundary but the views extend beyond this designed parkland.

The Hall and its surrounding designed parkland have been in different ownerships / management



View towards UEA Campus from Earlham Park. The UEA buildings are hidden by the screen of mature trees. (2017)



Earlham Hall retains elements of the historic designed landscape, but in a neglected state. (2018)

regimes and uses that have not recognised the big picture and has resulted in the complete landscape picture being blurred and mostly illegible.

The footprint of the building has principal rooms thrusting out into the gardens to take advantage of the wider landscape setting.

Wider topographical setting has 180 degree views south and west across the park and beyond the river valley to the landscape on the other side.

There are relatively intact set of outbuildings and functional areas that explain how the Hall and its gardens / landscape worked as a 'living machine' to provide for all its own needs – from herbs and salads to drinks and medicines.

The Ha-Ha or sunk fence is no longer used as the distinction between manicured garden and the slightly fuzzier parkland beyond.

The dovecote and some earthworks survive from an earlier phase and helps understand how the formal landscape worked before the loosened landscape pattern of the later 18th century.

There is a range of trees from different periods and a large Victorian Rock Garden.

The designed parkland incorporates trees from the former agricultural landscape – probably hedgerow trees – which are earlier than the eighteenth century parkland and lend an air of 'ancientness'. These trees are also significant in their own right as 'Veteran trees'.

The tree belts that surround the Earlham Hall designed parkland are also now important backdrops to the 1960s and later university buildings.

Current issues:

- Lack of recognition of the whole designed landscape around Earlham Hall and coherent management of it 'as one'
- Loss of the Ha Ha / sunk fence as the boundary between the core garden and the designed parkland around it. The Ha Ha should only have one or two points where it can be crossed.
- The core garden leaks into the surrounding parkland.
- Presentation of the gardens around the Hall should be based on their historical evolution and should appear as an interconnected set of gardens around the hall – each garden having a particular function or meaning.



Earlham Park viewed from University Drive. Earlham Hall is hidden. (2019)

- The grassland in the parkland should appear to be grazed and to have a diversity of wildflowers in the sward – which it mostly does. What detracts from the appearance of flowing parkland are the straight paths cut into the longer grass that visually interrupt the flow.
- Management and strategy for replacement of historic trees and tree belts.

The planned development of the UEA will bring increasing use of the Hall and gardens/grounds. The whole Campus including Earlham Hall and grounds requires a landscape strategy based on a comprehensive audit of existing assets (supported by a comprehensive tree survey for the wider area) and including a masterplan and management and maintenance plan.

Policies:

Maintenance & management

Plantings, woodlands and gardens should be managed in accordance with an agreed strategy, to recover the sense of the historic designed landscape. (2.3, 6.1, 6.2)

Prospective improvements

Consider undertaking landscape archaeology, planned as an integrated study with Earlham Park. (2.5, 3.2)

Sculpture Park

Assessment: Low significance

Observation:

At the initiative of the Sainsbury Centre the University has begun to treat the Campus as a sculpture park, with pieces placed in the landscape for temporary display.

Sculptures have temporary planning permission. The University should seek to work with the LPA and conservation authorities to create an identified set of preferred areas for the siting of sculptures in a rolling programme of displays.



The sculpture 'Proximity' by Ian Tyson placed to the south of Norfolk Terrace. Note the Antony Gormley figure on the Academic Wall in the background. (2018)

Policies:

Maintenance & management

The external positioning of artworks that might affect the setting of the listed buildings should be chosen with reference to an agreed strategy, taking account of the architectural and landscape significance of the Campus. (2.3, 6.1)

Impact assessment

The Conservation Development Strategy should have many uses in the on-going management at UEA. One use is impact assessment, that is, the evaluation of proposals for change. This section presents a procedure for impact assessment which will, it is hoped, add to the usefulness of the Strategy.

It is essential that the Conservation Development Strategy is applied as a whole. A proposal for change may be affected by a number of Principles and Policies, and all of them should be taken into account when assessing the impact of the change. If the Conservation Development Strategy is applied selectively, there is a risk of drawing invalid conclusions.

The procedure is based on the Principles set out above. All relevant criteria for conservation management should be covered by the Principles, so it should not be necessary to introduce additional factors when carrying out impact assessment. If it turns out that additional criteria have to be considered, there is probably a need for new or amended Principles or Policies.

Structure for impact assessment

The impact assessment procedure has four components, described below, which would normally be presented in a report. The four-part structure should be suitable for assessing proposals of any scale, but the level of detail would vary depending on scale and importance – the length of an impact assessment could vary from a page or two to a short report.

A Key data

This is a list of the basic data for the impact assessment:

- A1 Identify the proposed work;
- A2 Identify the elements of the building that are affected, and the level of significance attached to them in Section 3 of the Conservation Development Strategy;
- A3 Identify the Principles in Section 3 of the Conservation Development Strategy that have a

bearing on the proposed work.

A4 Identify Policies that are relevant to the work, if any.

B Description of the proposal

This can be in words or drawings, in sufficient detail for the evaluation to be carried out. The reasons for the proposed change should also be stated.

C Evaluation

For each element that is affected (A2), consider each of the relevant Principles (A3) and Policies (A4), and state whether the proposal is consistent with the Principles and Policies. Often the evaluation will go beyond a simple, factual exercise: judgement may be required, and in such cases the basis for the evaluation should be set out clearly.

D Conclusion

The conclusion establishes whether, having reviewed each element for each Principle and Policy, the proposal is or is not consistent with the Conservation Development Strategy. If the proposal is consistent for every element and relevant Principle and Policy, it should normally be acceptable from a conservation point of view; whereas if it is inconsistent for one or more of the elements and Principles or Policies it may not be acceptable.

SECTION 4

SOURCES OF INFORMATION

This section lists the main sources of information about the buildings and landscape of UEA. The statutory listing statements are included.

Published sources

- R Banham (1976) *Megastructure: urban futures of the recent past* London: Thames & Hudson
- T Birks (1972) *Building the New Universities* Newton Abbot: David & Charles
- M Brawne (1970) 'An Appraisal' *Architectural Review* (special issue on new universities) April, pp.251-254, 283-285
- B Calder (2015) 'The sweetest music you will ever hear': structural and programmatic uses of concrete by Denys Lasdun & Partners *Journal of Architecture* vol.20, no.3, pp.376-418
- J Carswell (1985) *Government and the Universities in Britain: programme and performance 1960-1980* Cambridge: Cambridge University Press
- W Curtis (1994) *Denys Lasdun: architecture, city, landscape* London: Phaidon
- P Dormer & S Muthesius (2001) *Concrete and Open Skies: architecture at the University of East Anglia 1962-2000* London: Unicorn
- N Foster and K Powell (2010) *Sainsbury Centre for Visual Arts* Munich: Prestel
- D Jenkins (ed) (2000) *On Foster ... Foster On* Munich: Prestel
- D Jenkins (ed) (2002) *Norman Foster: Works 1* Munich: Prestel (Sainsbury Centre pp.370-421; Crescent Wing pp.430-449)
- A Geitner (2003) *Sainsbury Centre for Visual Arts 25 Years* Sainsbury Centre
- T Gibson (2011) *Brenda Colvin: a career in landscape* Frances Lincoln
- D Lasdun & J H V Davies (1956-57) 'Thoughts in progress' *Architectural Design* (series of articles between December 1956 and December 1957, reproduced in Curtis, 1994)
- D Lasdun (1965) 'Architect's approach to architecture' *RIBA Journal* April (reproduced in Curtis, 1994)
- D Lasdun (1966) 'A sense of place and time' *Listener* 17 February (reproduced in Curtis, 1994)
- D Lasdun (1977) RIBA Gold Medal address (reproduced in Curtis, 1994)
- D Lasdun (ed) (1984) *Architecture in an Age of Scepticism: a practitioner's anthology* London: Architectural Press
- D Lasdun & Partners (1976) *A Language and a Theme: the architecture of Denys Lasdun & Partners* (Exhibition catalogue) London: RIBA Publications
- J Lasdun (2003) 'The Master Builder' *The Guardian* 29 November 2003

- J Lubbock (2002) 'The Counter-modernist Sublime: the campus of the University of Essex', in E Harwood & A Powers (eds) *The Sixties* London: Twentieth Century Society
- S Muthesius (2000) *The Postwar University: utopianist campus and college* London: Yale University Press
- P Oliver, I Davis & I Bentley (1981) *Dunroamin: the suburban semi and its enemies* London: Pimlico
- J Pavitt and A Thomas (eds) (2018) *Superstructure: the making of the Sainsbury Centre* Sainsbury Centre
- H Pearman (1992) *Rick Matber: urban approaches* London: Fourth Estate
- N Pevsner and B Wilson (1997) *The Buildings of England: Norfolk 1* Harmondsworth: Penguin
- E Pizzi (1998) *Mario Botta* (3rd edn) Basel: Birkhauser
- A Powers (1994) 'Denys Lasdun', in M Emanuel (ed) *Contemporary Architects* (3rd edn) Andover: St James' Press
- W Rybczynski (2011) *The Biography of a Building: how Robert Sainsbury and Norman Foster built a great museum* London: Thames & Hudson
- A Saint (1992) *A Change of Heart: English architecture since the war – a policy for protection* London: Royal Commission on the Historic Monuments of England & English Heritage
- M Sanderson (2002) *The History of the University of East Anglia Norwich* London: Hambledon & London
- A & P Smithson (1973) *Without Rhetoric: an architectural aesthetic 1955-1972* London: Latimer New Dimensions
- F Thistlethwaite (2000) *Origins: a personal reminiscence of UEA's foundation* Cambridge: privately published
- N Timmins (1995) *The Five Giants: a biography of the Welfare State* London: HarperCollins

Journal articles

Lasdun buildings at UEA

Architectural Design June 1965, pp.288-91

'UEA' *Architectural Design* May 1969, pp.245-268

'Denys Lasdun: the evolution of a style' *Architectural Review* May 1969, pp.316, 345-348

'University of East Anglia' *Architectural Review*, special issue on new universities, April 1970, pp.263-266

'Pyramidal student residences' *Industrialised Building Systems and Components* vol.2, no.9, pp.24-28, September 1965

Architects' Journal, 14 June 1972, pp.1322-38

'The history man' *AA files* 2012, no.65, pp.3-18

Sainsbury Centre

'Fostering the arts', *Architects' Journal*, 5 April 1978, pp.622-25

'East Anglia arts', *Architectural Review*, December 1978, pp.345-61

'Foster Associates' Sainsbury Centre' *Architectural Design*, February 1979

'Shed aesthetics', *Architects' Journal*, 14 August 2003, pp.26-35

'Foster's period piece has been brought into the 21st century' *Architects' Journal*, 22 June 2006, pp.87-91

'Test of time: how great buildings adapt' *RIBA Journal* March 2012, pp.52-53

Sainsbury Crescent Wing

Architects' Journal 'Second generation', 8 May 1991, pp.24-27

RIBA Journal July 1991, pp

Mather residences

'Warm space, cool aesthetic' *Architecture Today* no.45, February 1994, pp.28-33

ZICER building

'Solar gains' *Architects' Journal* 10 June 2004 pp.40-41

Library extension

'A fresh twist on a modern classic' *Building* 11 November 2005, pp.54-59

Enterprise Centre

'It's only natural' *RIBA Journal* September 2015, pp.7, 28-38

'Local hero' *Architecture Today* no.260, July/August 2015, pp.24-30

UEA sources

- J Hovey (1994) *Landscape Management Plan* Premises Division, University of East Anglia
- C Gibson (1987) *A Natural History of the University of East Anglia Norwich* School of Biological Sciences, University of East Anglia (with review, 1989, and memorandum, 1995)
- B Colvin (1967) *Interim Landscape report and Approximate Estimate of Cost* Brenda Colvin Landscape Architect
- Rick Mather Architects (1989) *Development Plan for the University of East Anglia* Rick Mather Architects
- Rick Mather Architects (1990) *University of East Anglia Proposed Campus Development* Rick Mather Architects
- Purcell (2019) *Statement of Significance for Lasdun Academic Teaching Wall* (Issue 05, February 2019)
- P Yorke (1996) *Brief notes on the University's physical development* Premises Division, UEA
- UEA (2003) *UEA Corporate Plan 2003-08*
- UEA (2004) *Estate Development Strategy Statement*
- UEA (2010) *Development Framework Strategy*
- Bidwells (2010) *UEA Landscape Strategy*
- UEA (2017) *Concrete Preservation at the University of East Anglia: Strategic Report*
- UEA (no date) *Biodiversity and Landscape Management Strategy 2016-2020*

Archive sources

- University of East Anglia Library
- University of East Anglia Photo Library
- University of East Anglia Estates Office
- Lasdun Archive, RIBA Library
- Archives in possession of Lady Susan Lasdun
- Materials in the possession of former Lasdun associates and employees
- Feilden & Mawson archive
- British Library 'Sounds' archive has spoken word recording of architects, including Sir Denys Lasdun and Sir Bernard Feilden – <https://sounds.bl.uk/Oral-history/Architects-Lives>

Statutory listing statements

Six parts of the UEA campus are listed:

Suffolk Terrace (the four eastern ziggurats) – Grade II*

Norfolk Terrace (the six western ziggurats) – Grade II*

Academic Wall – Grade II

Library – Grade II

Sainsbury Centre – Grade II*

Earlham Hall – Grade II*

The listing statements are given below. They include some factual errors, some of which are noted; they should not be regarded as authoritative.

Suffolk Terrace

GV II*

List Entry Number: 1390646

Date first listed: 16-Oct-2003

Statutory address: Suffolk Terrace and adjoining walkway and stairs to rear, at the University of East Anglia

Details:

GV II* Four linked blocks of student accommodation, with facilities for resident tutors. 1964-8 by Denys Lasdun and Partners, commissioned in 1962 to produce a master plan for the new University of East Anglia.

Cross wall concrete construction with precast panels made on site, 10” thick externally, with 6” bearing crosswalls within. Internal joints recessed, external joints with neoprene baffle and damp proof backing. Siporex precast concrete roof units. Seven storeys and service tower, though sloping site means that no part of the building is more than five storeys at any one point. The stepped section and the continuous profile with each block at 90° to the next gives the terrace its more common name of ziggurat. Each block itself with a 90° corner ending in a concrete gargoyle.

Each block has a flat on each floor for up to twelve students, with ten single rooms and (in the concave angle) one shared unit, and a shared kitchen in the projecting corner. Bathrooms and storage areas at the rear. Smaller flats at top of each block for graduates and resident tutors. Each floor is set back behind the one below, and lowered so that the roof level of the lower flat is the sill level of that above. The consequent reduction in ceiling heights in the rear part of the block makes for a shorter access stair, with twelve steps between each floor. Internal staircases at centre of each block lead from each flat to rear walkway at level of uppermost flat (though only third floor at rear) over bicycle and car parking area. Escape stairs, dog-leg and of shuttered concrete, at each end of the range [*sic* – there is no stair at the eastern end]. Continuous timber windows to south, each in two halves with horizontal sliding section. They form an important part of the striking composition of stepped-back vertical and repetitive horizontal grid. The interiors of the students' units with fitted cupboards to the rear of each room.

The University of East Anglia was founded in 1960, and Lasdun was commissioned as consultant architect in April 1962. The site was 165 acres of parkland on the edge of Norwich, used by the local authority as a golf course and flanked by the River Yare, dammed to form a lake (or broad) in c.1977 [*sic* – *the Broad was formed by excavation beside the River Yare*]. Lasdun was determined to preserve the flat, marshy and very open valley landscape and the line of ziggurats placed where the valley begins to rise is part of this. In 1960 Chamberlin, Powell and Bon had conceived the 'ten minute university' where departments and student accommodation was to be concentrated on a compact site. UEA and Leeds both adopted the principle of the continuous teach block, something developed almost concurrently, but independently, in North America and particularly Canada. Lasdun's nascent scheme, published in May 1963, intended a development of up to 6,000 people over fifteen years, and shows the form of the ziggurats and long spinal teaching block in a form clearly recognisable though more complex and extensive than that built. The accommodation of the students greater freedom within a 'family unit' of their peers. The stepped form owes something to Sant'Elia's drawings for 'Casa a gradinate', and to Marcel Breuer's 1928 scheme for a hospital at Elberfeld, which had a stepped section and an upper gallery for rear access. The expression of the services as rooftop sculpture reflects Lasdun's awareness of Louis Kahn's Richards Medical Laboratories at the University of Pennsylvania, as well as earlier projects of his own. His scheme for Churchill College, Cambridge (1960), had already used similar terraces, as did his built scheme at Christ's College and proposals for the Cripps Building at St John's (both Cambridge 1962). There, too and at Leicester, Sir Leslie Martin had already been experimenting with stepped terraces. UEA was Britain's first and most successful expression of a university as a small city rather than a dispersed campus, and William Curtis suggests that it was influential internationally, particularly on Giancarlo de Carlo, and Josic Candilis and Woods, members of Team 10 who shared Lasdun's interest in clustered communities.

‘The powerful sculptural forms of the Lasdun UEA make the university proud to find itself on the international circuit. The buildings themselves, however, should be seen not only as form-making and an intellectualised counterpart between the building mass and the landscape; they give lessons in consistent detail throughout a wide-ranging building programme and illustrate a single-minded effort to ensure high quality maintenance-free exteriors and internal elements within permitted cost levels’ (*Architects’ Journal*, 14 June 1972, p.1334).

Of all the new universities of the 1960s the architecture of UEA ‘has most consciously created a visual impression of experiment and enquiry, yet without the use of bizarre forms of materials, and notably without recourse to any academic architecture’ (Tony Birks and Michael Holford, *Building the New Universities*, 1972, p.73).

‘Why one likes Lasdun’s East Anglia student clusters is that they have a front and a back and a counter-part space – that it is a unitary living idea, harnessing repetition’ (Peter Smithson).

Sources:

Arup Journal, March 1968, pp.36-41

Peter Smithson, ‘Simple thoughts on repetition’, *Architectural Design*, August 1971, pp.479-81.

Architects’ Journal, 14 June 1972, 1322-38

Tony Birks and Michael Holford, *Building the New Universities*, Newton Abbot, 1972, pp.73-83.

Denys Lasdun and Partners, *A Language and a Theme*, London, 1976.

Diane Kay, *University Architecture in Britain 1950-75*, unpublished PhD thesis, Oxford, 1987, p. 184.

William J. R. Curtis, *Denys Lasdun*, London, 1994, 87-101.

Stefan Muthesius, *The Postwar University, Utopianist Campus and College*, London, Paul Mellon Centre/ Yale University Press, 2001 pp. 138-149.

Stefan Muthesius, *Concrete and Open Skies*, The University of East Anglia, 2001.

Norfolk Terrace

Grade: II*

List Entry Number: 1390647

Date first listed: 16-Oct-2003

Statutory Address: Norfolk Terrace and attached walkways, at the University of East Anglia, Earlham Road

Details:

GV II* Six linked blocks of student accommodation, with facilities for resident tutors. 1964-8 by Denys Lasdun and Partners, commissioned in 1962 to produce a master plan for the new University of East Anglia.

Cross wall concrete construction with precast panels made on site, 10" thick externally, with 6" loadbearing crosswalls within. Internal joints recessed, external joints with neoprene baffle and damp proof backing. Siporex precast concrete roof units. Seven storeys and service tower, though sloping site means that no part of the building is more than five storeys at any one point. The stepped section and the continuous profile with each block at 90° to the next gives the terrace its more common name of ziggurat. Each block itself with a 90° corner ending in a concrete gargoyle. Each block has a flat on each floor housing up to twelve students, with ten single rooms and (in the concave angle) one shared unit, and a shared kitchen in the projecting corner. Bathrooms and storage areas at the rear. Smaller flats at top of each block for graduates and resident tutors. Each floor is set back behind the one below, and lowered so that the roof level of the lower flat is the sill level of that above. The consequent reduction in ceiling heights in the rear part of the block makes for a shorter access stair, with twelve steps between each floor. Internal staircases at centre of each block lead from each flat to rear walkway at level of uppermost flat (though only third floor at rear) over bicycle and carparking area. Escape stairs, dog-leg and of shuttered concrete, at each end of the range [*sic* – there is no stair at the western end]. Continuous timber windows to south, each in two halves with horizontal sliding section. They form an important part of the striking composition of stepped-back vertical and repetitive horizontal grid. The interiors of the students' units with fitted cupboards to the rear of each room.

The University of East Anglia was founded in 1960, and Lasdun was commissioned as consultant architect in April 1962. The site was 165 acres of parkland on the edge of Norwich, used by the local authority as a golf course and flanked by the River Yare, dammed to form a lake (or broad) in c.1977 [*sic* – *the Broad was formed by excavation beside the River Yare*]. Lasdun was determined to preserve the flat, marshy and very open valley landscape and the line of ziggurats placed where the valley begins to rise is part of this concept. In 1960 Chamberlin, Powell and Bon had conceived the 'ten minute university' in their expansion scheme for Leeds; here Lasdun's aim was the 'five minute university' where departments and student accommodation was to be concentrated on a compact site. UEA and Leeds both adopted the principle of the continuous teaching block, a concept being developed concurrently but independently in North America (especially in Canada). Lasdun's nascent scheme,

published in May 1963, intended a development of up to 6,000 people over fifteen years, and shows the form of the ziggurats and long spinal teaching block in a form recognisable but more complex and extensive than that built. The accommodation of the students in independent flats, away from a collegiate system, marked a new departure in allowing students greater freedom within a 'family unit' of their peers. The stepped form owes something to Sant'Elia's drawings for 'Casa a gradinate', and to Marcel Breuer's 1928 scheme for a hospital at Elberfeld, which had a stepped section and an upper gallery for rear access. The expression of the services as rooftop sculpture reflects Lasdun's awareness of Louis Kahn's Richards Medical Laboratories at the University of Pennsylvania, as well as earlier projects of his own. His scheme for Churchill College, Cambridge (1960), had already used similar terraces, as did his built scheme at Christ's College and proposals for the Cripps Building at St John's (both Cambridge 1962). There, too, and at Leicester, Sir Leslie Martin had already been experimenting with stepped terraces. UEA was Britain's first and most successful expression of a university as a small city rather than a dispersed campus, and William Curtis suggests that it was influential internationally, particularly on Giancarlo de Carlo, and Josic Candilis and Woods, members of Team 10 who shared Lasdun's interest in clustered communities.

'The powerful sculptural forms of the Lasdun UEA make the university proud to find itself on the international circuit. The buildings themselves, however, should be seen not only as form-making and an intellectualised counterpoint between the building mass and the landscape; they give lessons in consistent detail throughout a wide-ranging building programme and illustrate a single-minded effort to ensure high quality maintenance-free exteriors and internal elements within permitted cost levels' (*Architects' Journal*, 14 June 1972, p.1334).

Of all the new universities of the 1960s the architecture of UEA 'has most consciously created a visual impression of experiment and enquiry, yet without the use of bizarre forms of materials, and notably without recourse to any academic architecture' (Tony Birks and Michael Holford, *Building the New Universities*, 1972, p.73).

'Why one likes Lasdun's East Anglia student clusters is that they have a front and a back and a counter-part space - that it is a unitary living idea, harnessing repetition' (Peter Smithson, p.481).

Sources:

Arup Journal, March 1968, pp.36-41

Peter Smithson, 'Simple thoughts on repetition', *Architectural Design*, August 1971, pp.479-81.

Architects' Journal, 14 June 1972, 1322-38

Tony Birks and Michael Holford, *Building the New Universities*, Newton Abbot, 1972, pp.73-83.

Denys Lasdun and Partners, *A Language and a Theme*, London, 1976.

Diane Kay, *University Architecture in Britain 1950-75*, unpublished PhD thesis, Oxford, 1987, p. 184.

William J. R. Curtis, *Denys Lasdun*, London, 1994, 87-101.

Stefan Muthesius, *The Postwar University, Utopianist Campus and College*, London, Paul Mellon Centre/ Yale University Press, 2001 pp. 138-149.

Stefan Muthesius, *Concrete and Open Skies*, The University of East Anglia, 2001.

Teaching Wall [*now called Academic Wall*]

Grade: II

List Entry Number: 1390648

Date first listed: 16-Oct-2003

Statutory Address: Teaching Wall and raised concourse, with attached walkways, at University of East Anglia, Earlham Road

Details:

GV II Staggered spinal block of teaching accommodation. 1964-8 by Denys Lasdun and Partners, commissioned in 1962 to produce a master plan for the new University of East Anglia; completed 1968-70 by Feilden and Mawson.

Cross wall concrete construction with precast panels made on site, 10" thick externally, with 6" loadbearing crosswalls within [*this is incorrect – the sentence seems to have been copied from the descriptions of Norfolk and Suffolk Terraces*]. There are four large basic components, which were manufactured in Norwich and assembled on site with some in situ specials. The panels are 2'7" [*sic – 2' 7.5"* module] to produce a 21' overall grid. Internal joints recessed, external joints with neoprene baffle and damp proof backing. This was determined to obtain the maximum repetition of units and flexibility in the use of the building, with the same system used for arts and science subjects. The central section built of concrete frame construction, clad in concrete block. Siporex precast concrete roof units.

Five storeys and service towers. Linked by in situ concrete walkway at second-floor level that joins on that to Norfolk and Suffolk Terraces (q.v.) Service entrances from roadway at ground level. Anodised aluminium windows designed to be resistant to chemical action, and containing vertical sliding sash units with glass slid directly against the frame. The areas for Chemical Sciences, Biological Services and Arts were built to Lasdun's specifications; the infill sections to a simplified system by Bernard

Feilden.

Interiors not of special interest as designed for rapid, easy change. Walkway of reinforced concrete with precast [*insitu*] balustrading. Spiral stairs link it to ground level; similar concrete spiral staircases serve as fire escapes on the main spine building, particularly at the end (biological sciences) where the walkway is furthest from ground level.

The University of East Anglia was founded in 1960, and Lasdun was commissioned as consultant architect in April 1962. The site was 165 acres of parkland on the edge of Norwich, used by the local authority as a golf course and flanked by the River Yare, dammed to form a lake (or broad) in c.1977 [*sic – the Broad was formed by excavation beside the River Yare*]. Lasdun was determined to preserve the flat, marshy and very open valley landscape and the line of ziggurats placed where the valley begins to rise is part of this. The spine was conceived in close relation to this, just like the relationship between the infant and junior wings at Hallfield School had done on a very much smaller scale in 1953-5 (City of Westminster, grade II*). This is a version that shows Lasdun's mature style at its finest. In 1960 Chamberlin, Powell and Bon had conceived the 'ten minute university' in their expansion scheme for Leeds; here Lasdun's aim was the 'five minute university' where departments and student accommodation was to be concentrated on a compact site. UEA and Leeds both adopted the principle of the continuous teaching block, derived from North American (especially Canadian) models. Lasdun's nascent scheme, published in May 1963, intended a development of up to 6,000 people over fifteen years, and shows the form of the ziggurats and long spinal teaching block in a form clearly recognisable though more complex and extensive than that built. The accommodation was designed to bring all the teaching together, representative of the belief of the Vice Chancellor, Frank Thistlethwaite, and the Academic Planning Board, that the most productive areas of research were at the boundaries between subjects, and that much was to be gained by study in 'schools' of related subjects.

'The powerful sculptural forms of the Lasdun UEA make the university proud to find itself on the international circuit. The buildings themselves, however, should be seen not only as form-making and an intellectualised counterpoint between the building mass and the landscape; they give lessons in consistent detail throughout a wide-ranging building programme and illustrate a single-minded effort to ensure high quality maintenance-free exteriors and internal elements within permitted cost levels' (*Architects' Journal*, 14 June 1972, p.1334).

Of all the new universities of the 1960s the architecture of UEA 'has most consciously created a visual impression of experiment and enquiry, yet without the use of bizarre forms of materials, and notably without recourse to any academic architecture' (Tony Birks and Michael Holford, *Building the New Universities*, 1972, p.73). Lionel Brett, Lord Esher, described the concept as 'this beautiful

organism ... this deeply felt and imaginative concept' (quoted in Muthesius, *The Post-War University*, p.141)

Sources:

Arup Journal, March 1968, pp.36-41

Frank Thistlethwaite, 'The University of East Anglia', in Murray G Ross, *New Universities in the Modern World*, London and New York, Macmillan/St Martin's Press, pp.53-68

Architects' Journal, 14 June 1972, 1322-38

Tony Birks and Michael Holford, *Building the New Universities*, Newton Abbot, 1972, pp.73-83.

Denys Lasdun and Partners, *A Language and a Theme*, London, 1976.

Diane Kay, *University Architecture in Britain 1950-75*, unpublished PhD thesis, Oxford, 1987, p. 184.

William J. R. Curtis, *Denys Lasdun*, London, 1994, 87-101.

Stefan Muthesius, *The Postwar University, Utopianist Campus and College*, London, Paul Mellon Centre/ Yale University Press, 2001, pp. 138-149.

Stefan Muthesius, *Concrete and Open Skies*, The University of East Anglia, 2001.

Library

Grade: II

List Entry Number: 1390649

Date first listed: 16-Oct-2003

Statutory Address: Library and attached stairs to grounds at the University of East Anglia, Earlham Road

Details:

GV II University Library. Built in two phases, 1968 and 1972, to the designs of Denys Lasdun and Partners, commissioned in 1962 to produce a master plan for the new University of East Anglia, and completed by Bernard Feilden and David Luckhurst. In situ 12" thick reinforced concrete slabs spanning both ways supported on 20" by 20" columns spaced at 22'6" centres. Increased loads at the perimeter are supported on a system of factory-made precast concrete walls 6'6" deep and 8" thick which serve also as natural light diffusers. External precast spandrel panels 11'3" long interlock with the structural columns. Flat roof with service and lift towers. Six floors with pedestrian entry off the

university walkway at second floor level. Two floors of reading and stack are positioned above the entrance and administration floors and two floors of reading and stack below. The services, lifts and stairs rise within an internal vertical core – the rest of the space left as flexible as possible.

Aluminum anodized frames, vertically pivoted. Pre cast concrete transoms acting as photobolic reflectors span over windows at 7' above floor level. The enclosure of space by these walls and the wide concrete transoms spanning between them provides an intimate scale at the perimeter; their absence from the set-back administrative floor over the entrance gives the building its modulation while giving emphasis to the entrance floor and walkway, which continues as a 'gallery' round two sides of the building. Top ventilation windows are set back to the inner edge of the transom. Spiral staircases from second-floor (entrance floor) walkway to ground in corner. The connecting section of the walkway and attached buildings, that link the library with the spine and Norfolk and Suffolk Terraces are not included.

The building was designed to be built in two phases to hold nearly 500,000 books and seat 1,000 readers. Interior with stacks, fluorescent light fixings, and seating in bright colours set close to the windows. Concrete stairs in unpainted concrete well at the junction between the two phases.

The University of East Anglia was founded in 1960, and Lasdun was commissioned as consultant architect in April 1962. The site was 165 acres of parkland on the edge of Norwich, used by the local authority as a golf course and flanked by the River Yare, dammed to form a lake (or broad) in c.1977 [*sic – the Broad was formed by excavation beside the River Yare*]. Lasdun was determined to preserve the flat, marshy and very open valley landscape and the line of ziggurats placed where the valley begins to rise is part of this. The library was the university's first 'signature' building, placed at the centre of the site in a greensward or 'harbour' created by Lasdun as the centrepiece of his campus.

'The powerful sculptural forms of the Lasdun UEA make the university proud to find itself on the international circuit. The buildings themselves, however, should be seen not only as form-making and an intellectualised counterpart between the building mass and the landscape; they give lessons in consistent detail throughout a wide-ranging building programme and illustrate a single-minded effort to ensure high quality maintenance-free exteriors and internal elements within permitted cost levels' (*Architects' Journal*, 14 June 1972, p.1334).

Of all the new universities of the 1960s the architecture of UEA 'has most consciously created a visual impression of experiment and enquiry, yet without the use of bizarre forms of materials, and notably without recourse to any academic architecture' (Tony Birks and Michael Holford, *Building the New Universities*, 1972, p.73

Sources:

Arup Journal, March 1968, pp.36-41

Frank Thistlethwaite, 'The University of East Anglia', in Murray G Ross, *New Universities in the Modern World*, London and New York, Macmillan/St Martin's Press, pp.53-68

Architects' Journal, 14 June 1972, 1322-38

Tony Birks and Michael Holford, *Building the New Universities*, Newton Abbot, 1972, pp.73-83.

Denys Lasdun and Partners, *A Language and a Theme*, London, 1976.

Diane Kay, *University Architecture in Britain 1950-75*, unpublished PhD thesis, Oxford, 1987, p. 184.

William J. R. Curtis, *Denys Lasdun*, London, 1994, 87-101.

Stefan Muthesius, *The Postwar University, Utopianist Campus and College*, London, Paul Mellon. Centre/ Yale University Press, 2001 pp. 138-149.

Stefan Muthesius, *Concrete and Open Skies*, The University of East Anglia, 2001.

Sainsbury Centre

Grade: II*

List Entry Number: 1409810

Date first listed: 19-Dec-2012

Location Description: Sainsbury Centre at the University of East Anglia in Norwich. It is located to the south-west side of the campus overlooking the Broad.

Statutory Address: University Of East Anglia, Earlham Road, Norwich, Norwich, NR4 7TJ

Summary: The Sainsbury Centre gallery and study centre, erected in 1977.

Reasons for Designation:

The Sainsbury Centre, erected in 1977 for Lord and Lady Sainsbury at the University of East Anglia, and designed by Foster Associates is listed at Grade II* for the following principal reasons:

- * Architectural innovation: a late-C20 building by one of Britain's most significant modern architects. It exemplifies the architect's signature use of technological and engineering innovation and the industrialized, prefabricated, style.

- * Celebrated design: one of the best known and admired modern exhibition and education buildings nationally, and internationally.
- * Historic Association: a purpose-built museum gallery and education centre for the internationally renowned Sainsbury Collection
- * Flexibility of design: the in-built flexibility of its open spaces responds to the changing needs of its use as a museum gallery and education centre. The design has allowed regular, sympathetic changes to work satisfactorily, and the essential elements of the building survive intact. New additions and alterations, while too new to be of special interest, have been thoughtfully incorporated.
- * Group Value: the Sainsbury Centre forms part of a group of listed university buildings, including Norfolk and Suffolk Terrace (Denys Lasdun 1964-8, listed Grade II*), and continues the concepts of site expansion and integrated use, along the zig zag spine of the campus, in a natural landscape, established by the original masterplan. The Sainsbury Centre is connected to the Teaching Wall (Denys Lasdun 1964-8, listed Grade II) by an overhead walkway.

History:

The Sainsbury Centre was constructed through 1977 and opened in 1978. It stands on the edge of the University of East Anglia (UEA) campus, first developed to the master plan and designs of Denys Lasdun in the 1960s, and to the west of the Grade II* listed Norfolk and Suffolk Terrace, the listed Teaching Wall and the library. The centre was constructed in order to house the art collection of Lord and Lady Sainsbury, the founders of the Sainsbury supermarket chain and noted collectors and supporters of the arts [*sic* – Sir Robert and Lady Sainsbury; Robert was a grandson of the founder]. After a successful exhibition in the Netherlands, they approached the UEA Vice Chancellor, Frank Thistlethwaite, who had established the university's School of Fine Arts and Music, and donated their collection in 1973. It quickly outgrew its accommodation and it was clear that a purpose-built home was required. In 1974 Norman Foster met Lord and Lady Sainsbury to discuss the commission and the building work began in 1977. Foster's brief was very specific, based on the Sainsburys' experience of art galleries around the world.

A number of changes have been made since the original construction, all designed by Foster Associates. Notably, the original ribbed, silver, super-plastic aluminium, external panelling began to leak and was replaced with the present panels in 1988 and, in 1991, a semi-sunken extension for stores and offices, known as the Crescent Wing, was added at the south-east end. In 2004, as part of a general refurbishment, slim-line canopies were added over the main entrances, a stair was added to give access from the ground-floor to a naturally-lit, basement shop, and an underground gallery was

created between the main building and the Crescent Wing. At the present time, the Crescent Wing is too young to be assessed for listing.

Details:

The Sainsbury Centre was erected in 1977 for Lord and Lady Sainsbury at the University of East Anglia to the design of Foster Associates, with Anthony Hunt Associates as consulting engineers.

MATERIALS The structural frame is composed of trussed, tubular steel, prismatic latticework, columns and single-span beams, which in series form 36 bays. The frame is clad with sheet aluminium panels, and is glazed in part.

EXTERIOR The layout and structure of the building are said to adhere to proportions of 16:4:1, and form a rectangle in both plan and section, comprising a single-storey structure over a basement. The columns form the thickness of the wall, faced on the exterior with small rectangular panels: mainly sheet-aluminium, but glass for the full height at the two entrance bays on the south west side, and partially glazed at the curved junction of wall and roof. The glass-panelled areas are pierced by a rectangular arrangement of circular ventilation fans which form a design feature. The exterior aluminium panelling is a 1988 replacement, advised by the architects. The insulated thickness of the walls contains plant and services, and some storage, while the end walls are impressively glazed with a series of pioneering, 7.3m high glass panels, with internal glass fins, sealed with mastic. The glazed, south-east end offers a view from the rise of land on which the centre sits, down towards the lake, known as the Broad. At each end, the building extends one bay beyond the glazing, forming a *brise soleil*. The centre is connected to the Teaching Wall (Listed Grade II) by a raised, ribbon walk-way, with glazed sides, which gives access to the north-east side of the Sainsbury Centre at a raised level above the reception area. It delivers visitors to a short internal bridge linking to a metal spiral stair, and thus down to the main floor.

INTERIOR On the inside, the natural light from above, filtered through four strips of roof-top glazing, is controlled by bands of adjustable louvres at the ceiling. Light from the walls is controlled by perforated louvres at the sides, and blinds (a later addition) at the ends. As on the exterior, circular ventilation fans are used internally for design effect, arranged on the walls in a linear group of four in each bay. The architects intended the exhibition areas to be flexible, reusable spaces; so the single-span beams and wall-housed services are designed to leave the ground floor as open as possible. It is divided into six distinct areas. The south-eastern end forms an exhibition gallery, divided from the central gallery by the reception bay (formed of an entrance lobby on the north-east side, and a café on the south-west). At the centre is a circular reception desk. The glazed entrance on the north-east side contains two, circular-lobby doorways. The reception bay was rearranged in 2004, and a light

well and an opening for a circular stair has been cut through the floor to create a top-lit shop in the basement beneath. Access to the main exhibition gallery, dubbed the 'living area', is via a recently located, central opening in a waist-high partition alongside the reception area. It contains axial and angular, freestanding panels, designed by the architect as surfaces for mounting artwork. North-west of the exhibition floor, there are two mezzanines divided by a partially sunken study area which is now used for information technology. On the north-east side is a glazed entranceway. The two mezzanines form exhibition floors over glazed offices and tutorial rooms beneath, and are supported on circular columns sheathed with sheet aluminium, which generally forms the surface finish. The mezzanine levels are reached via metal circular stairs with tubular handrails and glazed panels below (added in 2006), which also give access down to the basement. Access to a restaurant at the north-west end is along the north-east side of the adjacent mezzanine.

Vehicular access to the basement is via a concrete ramp at the north-west end. The sunken loading bay, grassed on the surface, is screened from the main basement area by folding doors with circular lights. The basement, for workshops in the main, is relatively narrow and runs just off-centre down the length of the building. It has a main goods lift and a corridor on the south-west side, which acts also as a cable conduit. From the basement a curved corridor forms a direct entrance into the Crescent Wing which is built into the ground at the south-east end. The Crescent Wing is too young (1991) to be included in this listing and is therefore not described here, beyond its attachment to the original building. However, this wing should be considered for inclusion once it comes of age.

Sources:

Rybczynski, W, *The Biography of Building*, (2011)

'Architects Journal' in Foster's Centre Sheds its Skin, (7 October 1987)

'RIBA Journal' in The Sainsbury Centre for Visual Arts, Norwich; Architects: Foster Associates, , Vol. 85, (8 Aug 1978), 318

Buxton, P, 'Building Design' in Inspiration: Sainsbury Centre, Norwich; Architects (1974-78): Foster Associates., , Vol. 1995, (6 Jan 2012), 14-17

Spring, M, 'Building' in Foster Adds More Finishing Touches To Sainsbury Centre, , Vol. 271, (26 May 2006), 18

Wilcock, R, 'RIBA Journal' in Frontis: Crescent Wing, Sainsbury Centre for Visual Arts, University of East Anglia, Norwich; Architects: Foster Associates., , Vol. 98, (July 1991), 6-7,10,12

Williams, S, 'Building Design' in Informal Touch, , Vol. 381, (3 Feb 1978), 14-15

Earlham Hall

Grade: II*

List Entry Number: 1051296

Date first listed: 26-Feb-1954

Statutory Address: Earlham Hall and attached outbuildings

Details:

II* Large house. Late C16 core with C17, C18 and early C20 additions. C20 alterations by Edward Boardman. Brick and flint rubble with red brick dressings and rendered plinth on north (entrance) front; red brick for C18 and C19 additions, plain tiled roof; 2 sets of clustered red brick ridge chimneys (restored) on main range with other scattered stacks. Cross-wing plan of 2-storeys and attic. Brick and stone quoins of original single-span range to south are visible on the west front under added twin gables with iron numerals 16/42. Converted to 2-span roof by addition of parallel range with cross-wings to north, remodelled in C18, including addition of a canted wing to west, and restored in C19. C19 single-storey pavilions added at corners. Entrance front (north) 3 steps up to double panelled door with rusticated pilasters under a pediment. 3-4 window range of sashes with glazing bars in flush-fronted moulded architraves under flat gauges brick arches. Modillion cornice. Cross-wings each have 2 ground and first floor windows and canted front bays with 4 windows. Garden front (south) is a 5-window range of sashes with glazing bars and some leaded lights, flanked by large 2-storey canted bays added in C18. Brickwork of 2 shaped gables indicates that these, too, are later additions. Former coach house converted to stable attached to north-east corner of Earlham Hall is of C19 red brick with pantiled roof and has flint rubble walls (C17) to rear with C17 timbers inside. Tumbled brick gable to right wing and tall blocked round headed arch in left part with end pilasters and oculi in the east wall. Donkey engine house for well, pentagonal structure, brick piers, slate roof and original equipment of C1880. Interior of the house: Entrance hall has re-set panelling, including some C17; remodelled moulded plaster ceiling with fragment of original above stairs; C17 staircase with flat balusters, probably originally one of a pair flanking the main entrance. First-floor room in west cross-wing has bolection moulded fireplace and C18 panelling with fluted pilasters in the canted bay. Another similar fireplace in ground floor passage. C17 timbers on first floor, including chamfered and stopped doorcase on corridor. Plank doors in attic. Former library in single-storey south-east wing fitted by E. Boardman, 1908.

SECTION 5

PLANS

This Section contains the plans of the UEA site and buildings, including key plan, site plan, chronological plans, listing, significance, and building plans of the listed buildings (Academic Wall, the Library, the Ziggurats, the Sainsbury Centre for Visual Arts, and Earlham Hall).

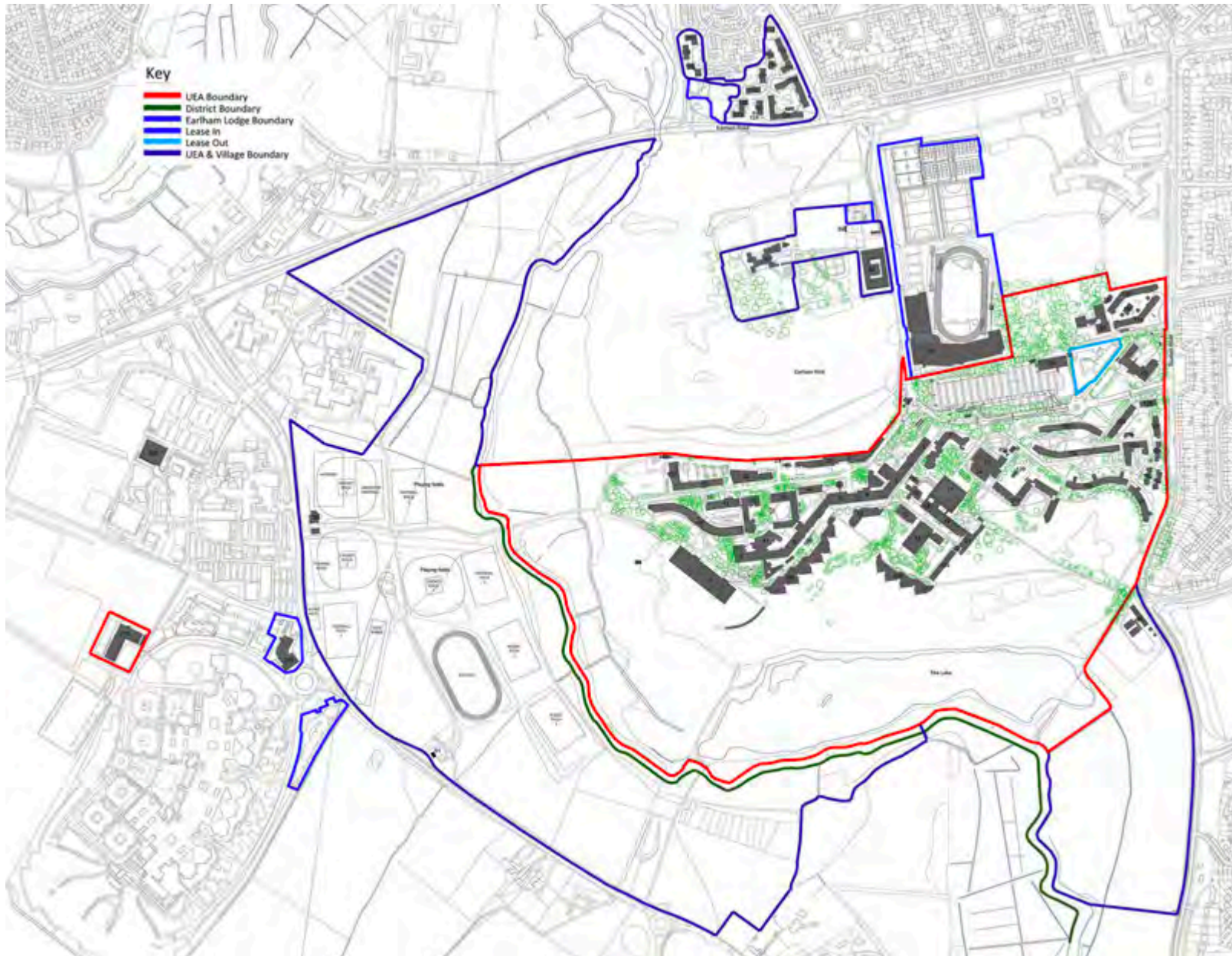
Key plan index using UEA codes

1	The Lodge	43	Medical Building
2	Vice-Chancellor's Office/ Visitors' Reception	44	Zuckerman Institute for Connective Environmental Research (ZICER)
3	Academic Wall: Arts I (west)	47	Biomedical Research Centre (BMRC)
3	Academic Wall: Arts II (east)	52	Thomas Paine Study Centre (TPSC)
4	Academic Wall: Chemical Sciences and Pharmacology, Biophysical Chemistry	53	Blackdale Annex (former primary school)
5	Academic Wall: Environmental Sciences	54	Energy Centre
6	Academic Wall: Biological Sciences	57	Julian Study Centre (JSC)
7	Sainsbury Centre for Visual Arts and Crescent Wing	58	Enterprise Centre (TEC)
8	Hubert Lamb Building	60	Science and Engineering Teaching Building
9	Lawrence Stenhouse Building	101	Orwell Close
10	The Queen's Building	102	Wolfson Close
11	Elizabeth Fry Building	103	Nelson Court
12	Computing Centre	104	Suffolk Walk
13	Lecture Theatres	105	Suffolk Terrace
14	Library	106	Norfolk Terrace
15	Multifaith Centre	107	Constable Terrace
16	Restaurants	109-123	University Village
17	Union House	125,126	Colman House
18, 19	Shops with offices above (street)	127	Browne House
21	Music Centre	128	Kett House
22	Careers Centre	129	Victory House
23	Congregation Hall	130	Paston House
24	Drama Studio	132	Britten House
25	Boiler House, Estates Building, Maintenance Building	133	Crome Court
33	SportsPark	134	Barton House
35	Sports Pavilion	135	Hickling House
36	DEV Farm	136	Central Building (Barton and Hickling)
39	Bike Repair	209	Edith Cavell Building (ECB)
40	Earlham Hall	214	Bob Champion Research and Education Building (BCRE)
		801	INTO@UEA
		808	Centrum Building (Research Park)



Site plan

The site plan shows UEA's overall land holding.
Compare with the proposal in Lasdun's Development Plan Draft II of September 1963 (*see* page 1-7).



Chronological plan: 1969

The buildings completed by 1969 were:

	Name	Date	Architect
3	Academic Wall: Arts I	1965-67	Denys Lasdun & Partners
4	Academic Wall: Chemical Sciences and Pharmacology	1964-66	Denys Lasdun & Partners
6	Academic Wall: Biological Sciences	1965-67	Denys Lasdun & Partners
12	Computing Centre, Phase 1	1967-68	Denys Lasdun & Partners
13	Lecture Theatres	1967-69	Denys Lasdun & Partners
14	Library Stage 1 (north)	1966-68	Denys Lasdun & Partners
22	Careers Centre (originally squash courts)	1964-67	Denys Lasdun & Partners
25.1	Boiler House	1965-66	Denys Lasdun & Partners
25.2	Estates Building	1965-66	Denys Lasdun & Partners
104	Suffolk Walk	1964-67	Denys Lasdun & Partners
105	Suffolk Terrace	1964-67	Denys Lasdun & Partners
106	Norfolk Terrace	1964-67	Denys Lasdun & Partners

NOTE: Current building names are used in this and the following chronological plans.



Chronological plan: 1974

The buildings completed between 1969 and 1974 were:

	Name	Date	Architect
2	Council House and Registry	1972-74	Feilden & Mawson
3	Academic Wall: Arts II	1968-70	Feilden & Mawson
4	Chemistry extension	1971-74	Feilden & Mawson
5	Academic Wall: Environmental Sciences	1971-74	Feilden & Mawson
14	Library Stage 2 (south)	1972-74	Denys Lasdun & Partners and Feilden & Mawson
15	Multifaith Centre	1970-71	Feilden & Mawson
16	Restaurants	1969-71	Feilden & Mawson
17	Union House	1972-73	Johns, Slater & Haward
18, 19	Shops with offices above (Street)	1970-72	Johns, Slater & Haward
21	Music Centre	1971-73	Arup Associates
23	Congregation Hall (old sports hall)	1970-71	Johns, Slater & Haward
28	Health Centre (former)	1972-73	Feilden & Mawson
39	Bike repair		
100	Waveney Terrace	1969-72	Norwich Partnership

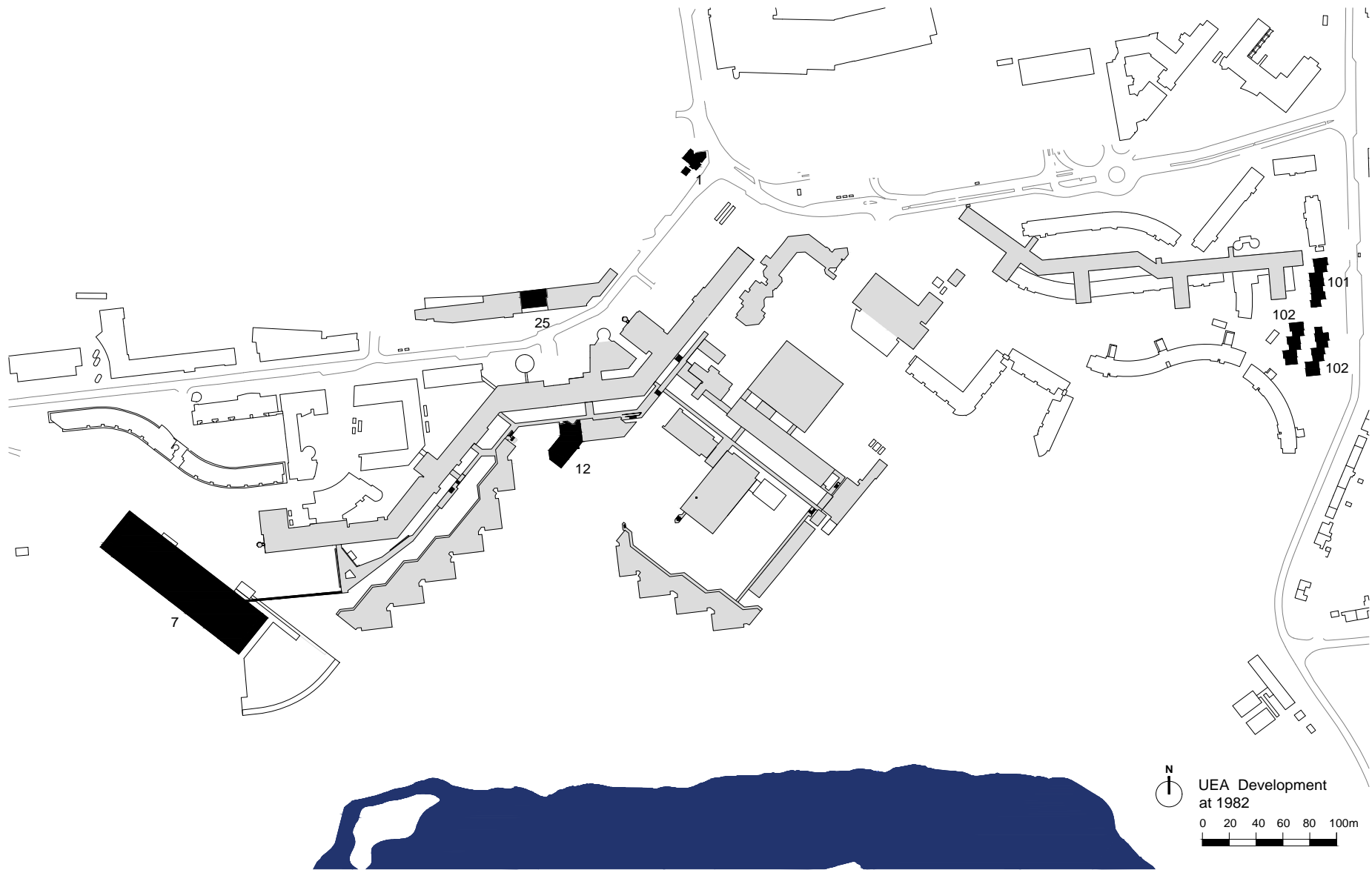


Chronological plan: 1982

The buildings completed between 1974 and 1982 were:

	Name	Date	Architect
1	Lodge	1976	Feilden & Mawson
7	Sainsbury Centre for Visual Arts	1975-78	Foster Associates
12	Computing Centre, Phase 2	1981-82	Feilden & Mawson
25	Maintenance Building	1976-77	Edward Skipper
101	Orwell Close	1978-79*	Anthony W Faulkner
102	Wolfson Close	1979-80*	Anthony W Faulkner

*design drawings dated 1973 (in UEA Archive)



Chronological Plan: 1995

The buildings completed between 1982 and 1995:

	Name	Date	Architect
7	Crescent Wing	1989-91	Foster Associates
8	Hubert Lamb Building	1984-85	Rick Mather Architects
9	Lawrence Stenhouse Building	1982-85	Rick Mather Architects
10	The Queen's Building	1992-94	John Miller & Partners
11	Elisabeth Fry Building	1993-95	John Miller & Partners
24	Drama Studio	1992-94	Rick Mather Architects
103	Nelson Court	1991-93	Rick Mather Architects
107	Constable Terrace	1992-93	Rick Mather Architects



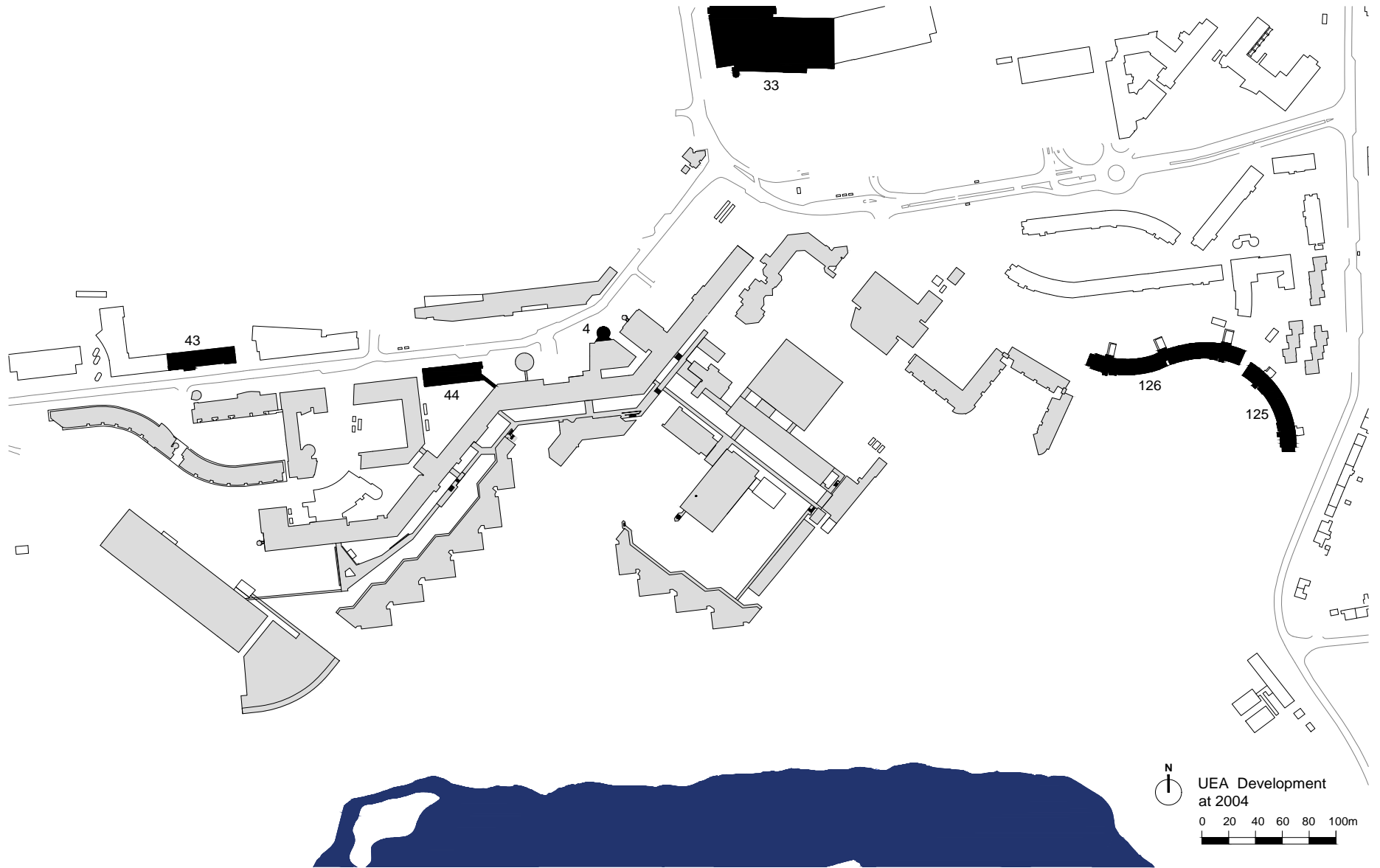
Chronological plan: 2004

The buildings completed between 1995 and 2004 were:

	Name	Date	Architect
4	Biophysical Chemistry	2001-02	RH Partnership
33	SportsPark	1998-99	RH Partnership
43	Medical Building, Phase 1	2002-04	Robert Matthew Johnson-Marshall (RMJM)
44	Zuckermann Building (ZICER)	2001-03	Robert Matthew Johnson-Marshall (RMJM)
125/126	Colman House	2003-04	LSI Architects

The buildings demolished between 1995 and 2004 were:

100	Waveney Terrace, built 1969-72	demolished 2002
-----	--------------------------------	-----------------

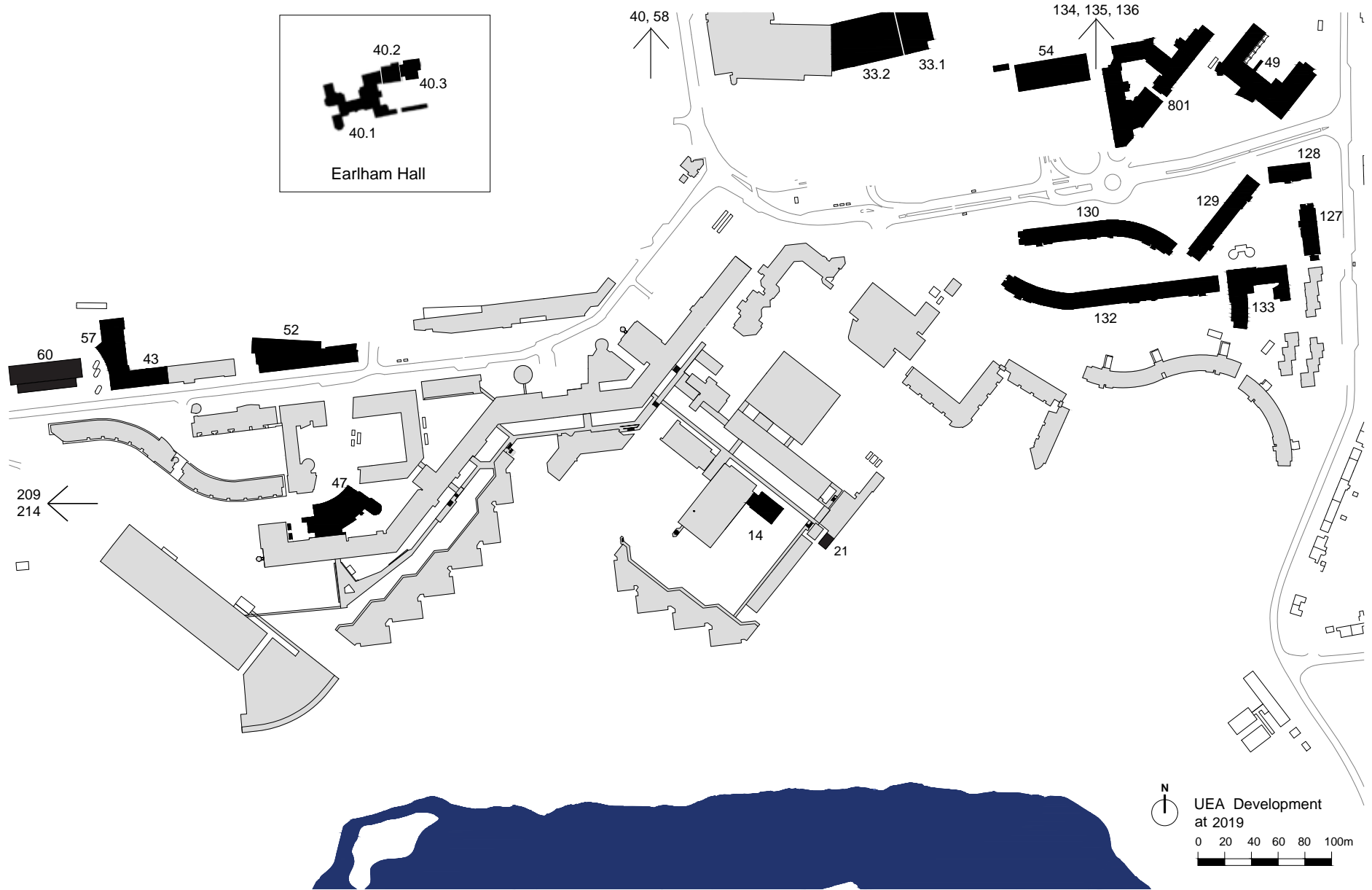


Chronological plan: 2019

The buildings completed between 2004 and 2019 were:

	Name	Date	Architect
14	Library Extension (Stage 3)	2004-06	Shepherd Epstein Hunter
21	Music extension	2009	UEA Estates Dept (G Soanes)
33.1	SportsPark Extension, Phase 1	2009	RH Partnership
33.2	SportsPark Extension, Phase 2	2011	RH Partnership
40.1	Earlham Hall refurbishment, Phase 1	2014	RH Partnership
40.2	Earlham Hall refurbishment, Phase 2	2016	LSI Architects
40.3	Earlham Hall refurbishment, Phase 3	2018	LSI Architects
43	Medical Building, Phase 2	2007	Robert Matthew Johnson-Marshall (RMJM)
47	Biomedical Research Centre	2007	RH Partnership
49	Health and Community Centre	2003	LSI Architects
52	Thomas Paine Study Centre	2009-10	RH Partnership
54	Energy Centre	2013	RH Partnership
57	Julian Study Centre	2014	Pick Everard
58*	Enterprise Centre	2015	Architype
60	Science and Engineering Teaching Building	2019	Fraser Brown MacKenna
127	Browne House	2004	LSI Architects
128	Kett House	2004	LSI Architects
129	Victory House	2004	LSI Architects
130	Paston House	2004	LSI Architects
132	Britten House	2004	LSI Architects
133	Crome Court	2014	LSI Architects
134*	Barton House	2016	LSI Architects
135*	Hickling House	2016	LSI Architects
136*	Central Building (Barton and Hickling)	2016	LSI Architects
209*	Edith Cavell Building	2009	Robert Matthew Johnson-Marshall (RMJM)
214*	Bob Champion Research and Education Building	2014	Hawkins\Brown
801	INTO @ UEA	2008	LSI Architects

* for locations of these buildings, *see* larger scale map on page 5-3



Listing

The listed buildings are toned. The main walkways are also listed at Grade II: they are colour-coded red.

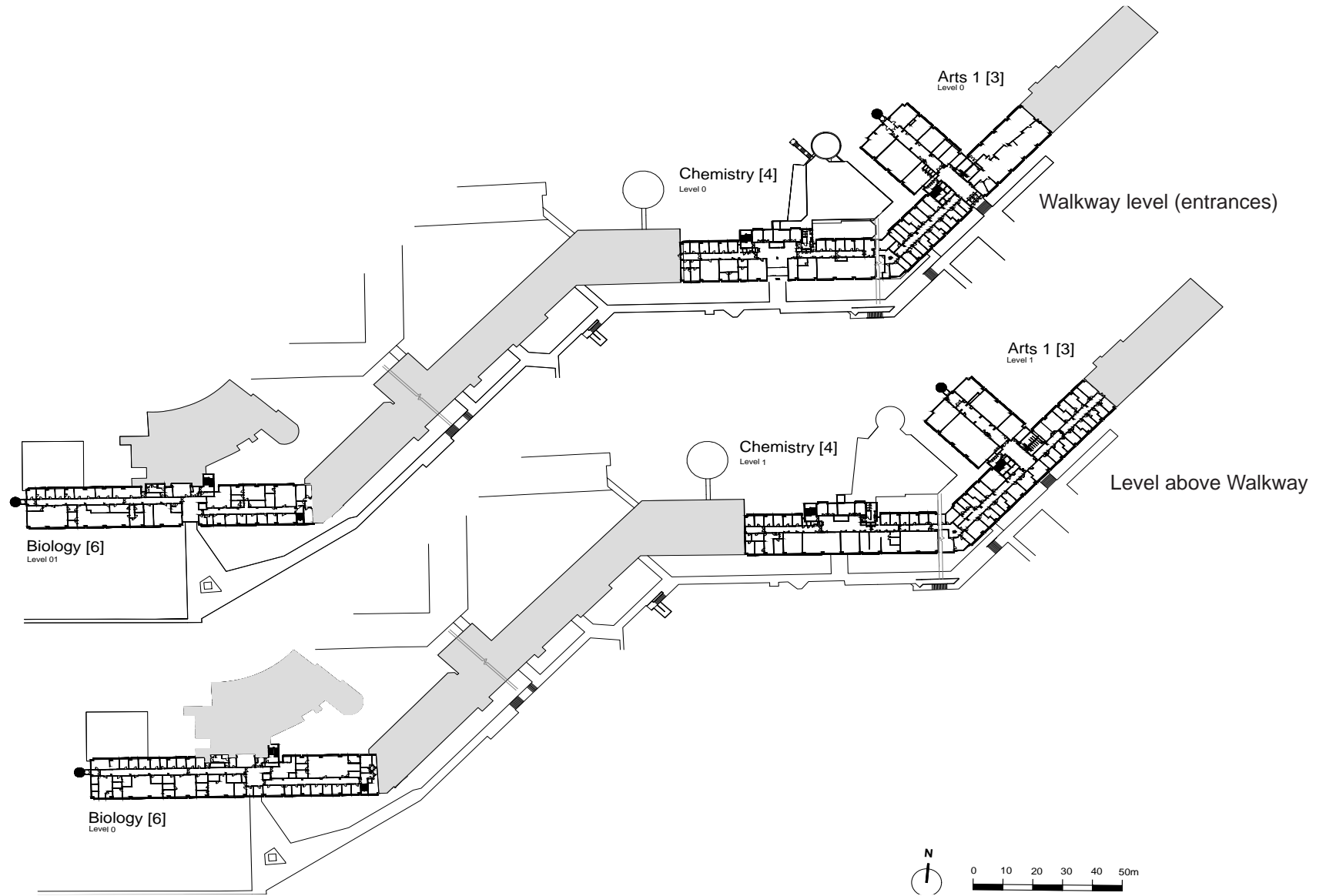


Significance

The buildings are colour-coded according to the assessment of significance in the Conservation Development Strategy. For some buildings, elevations are assessed individually, so the colour-coding changes.



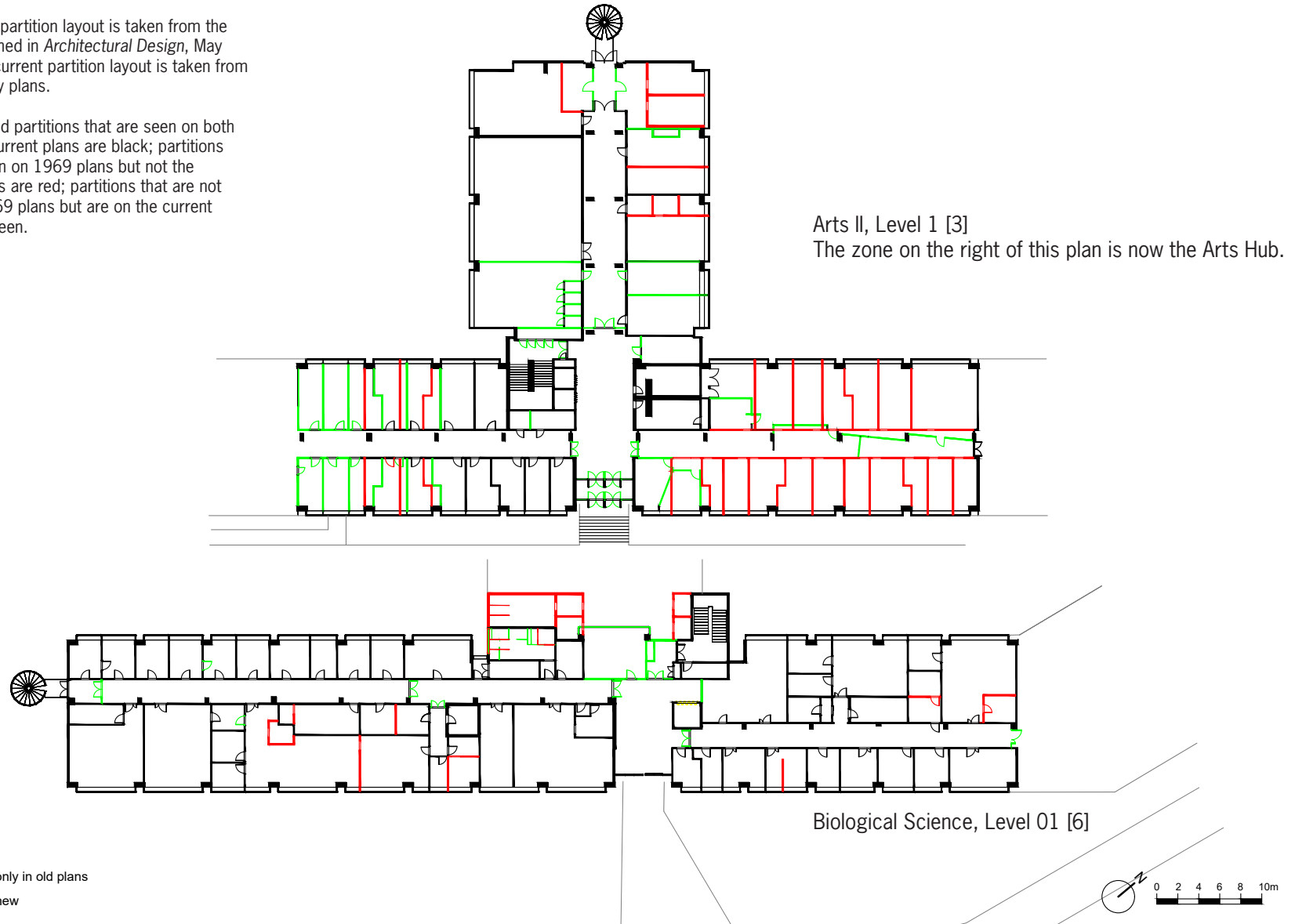
The Lasdun Academic Wall – Lasdun segments [3, 4, 6]



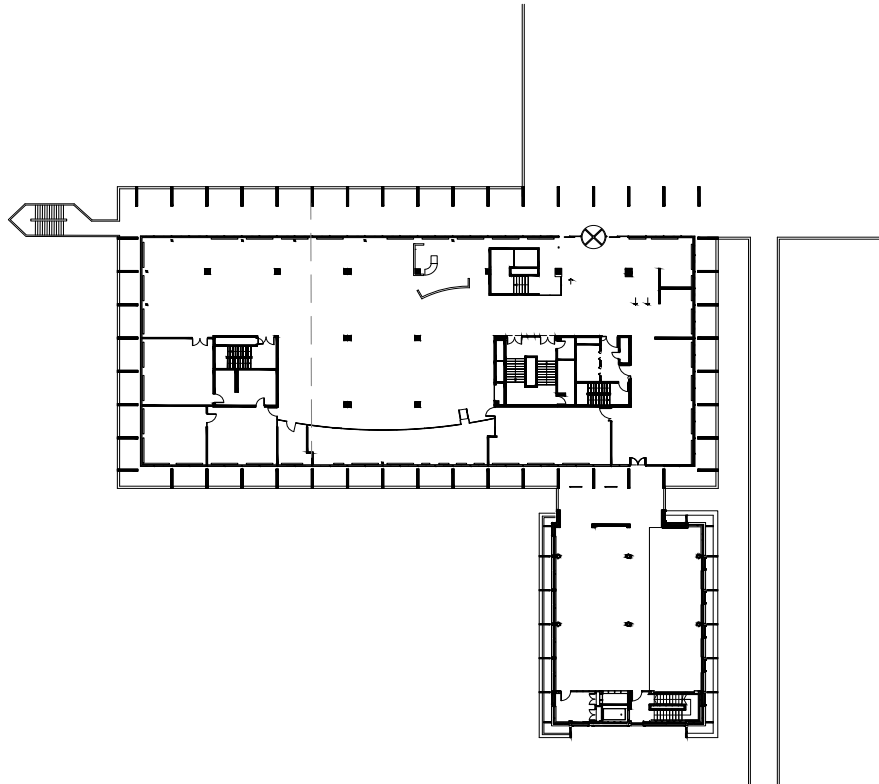
Academic Wall Comparison 1969 and 2018

The original partition layout is taken from the plans published in *Architectural Design*, May 1969. The current partition layout is taken from UEA's survey plans.

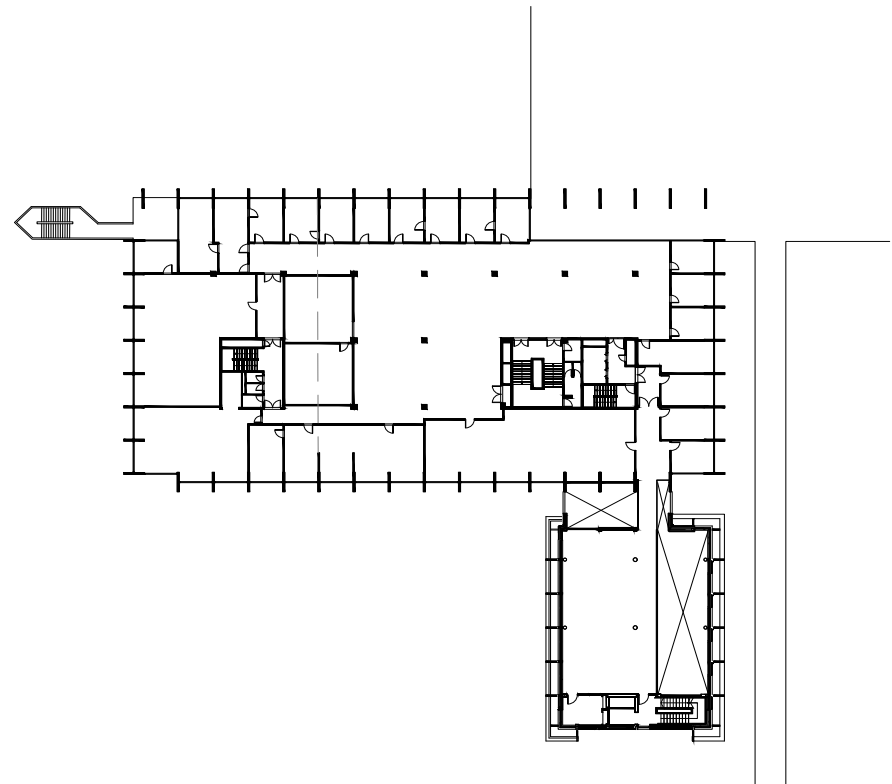
Structure and partitions that are seen on both 1969 and current plans are black; partitions that are seen on 1969 plans but not the current plans are red; partitions that are not seen on 1969 plans but are on the current plans are green.



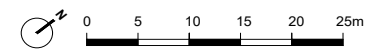
The Library [14]



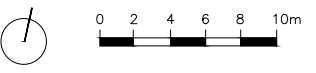
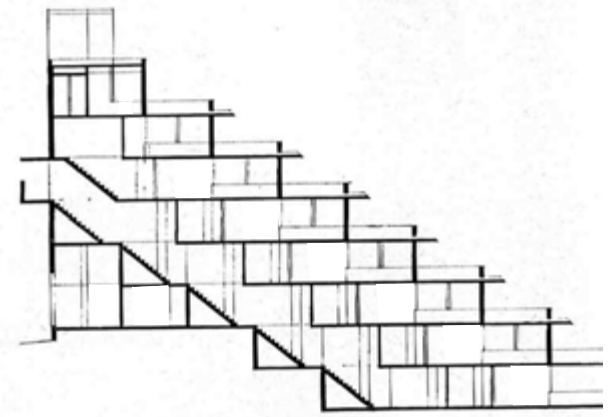
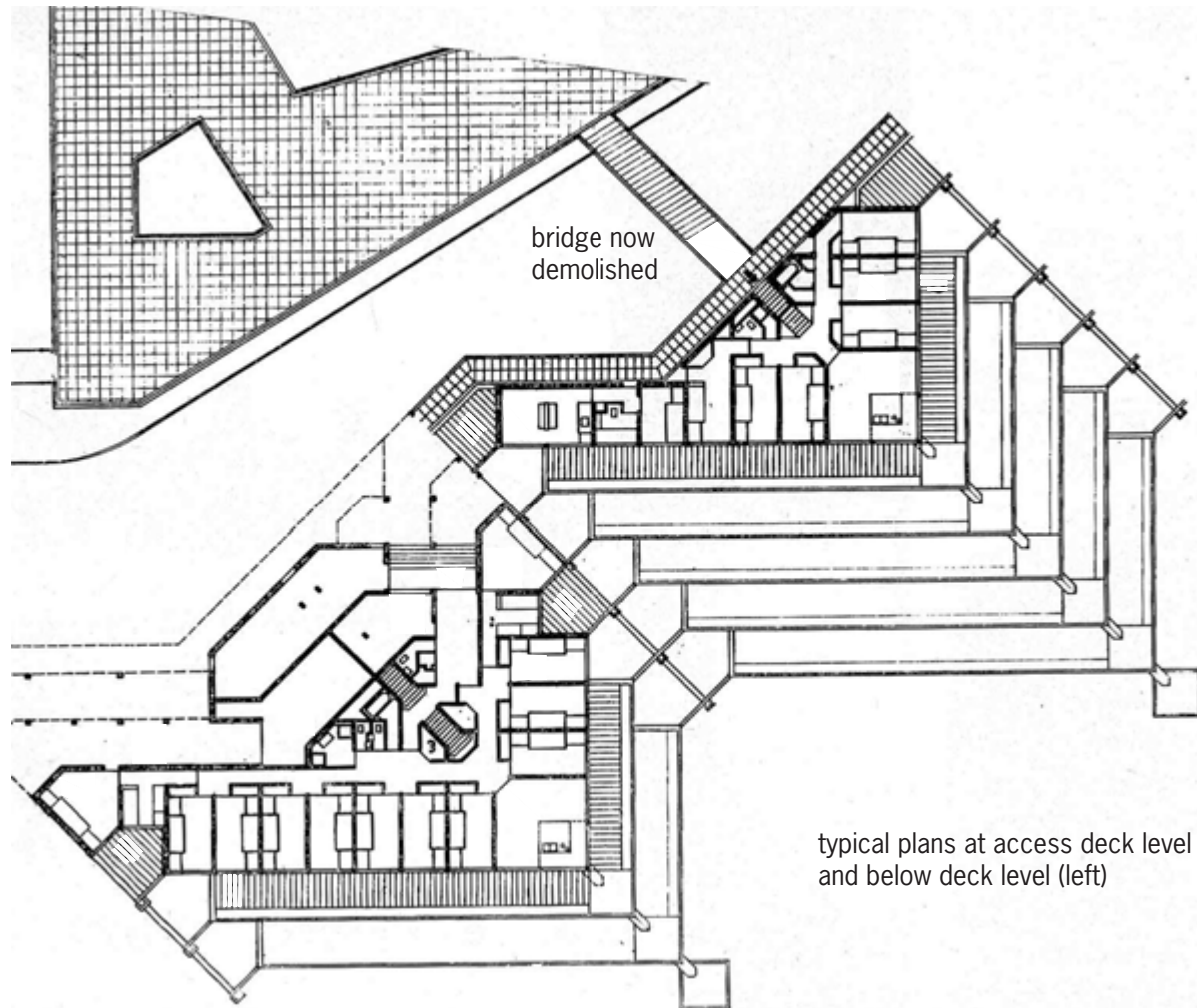
Walkway level (main entrance)



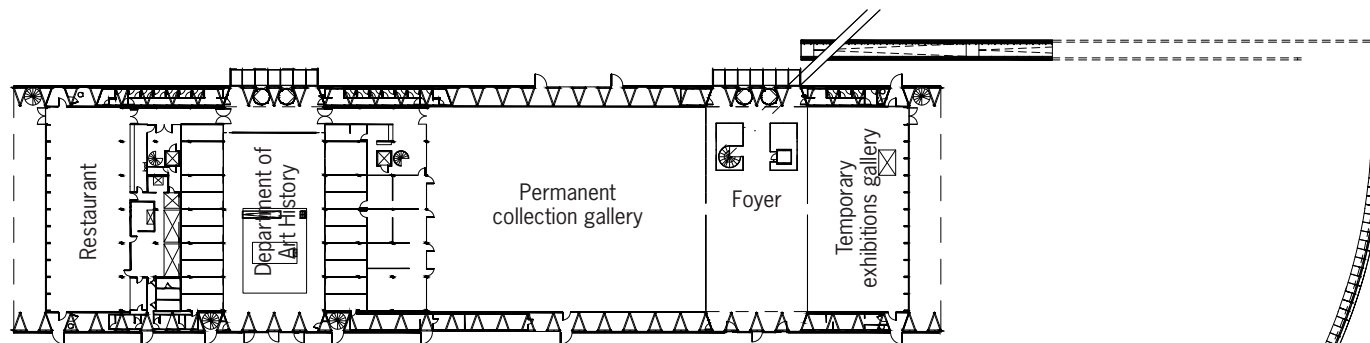
First floor above main entrance



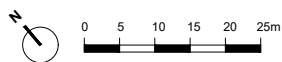
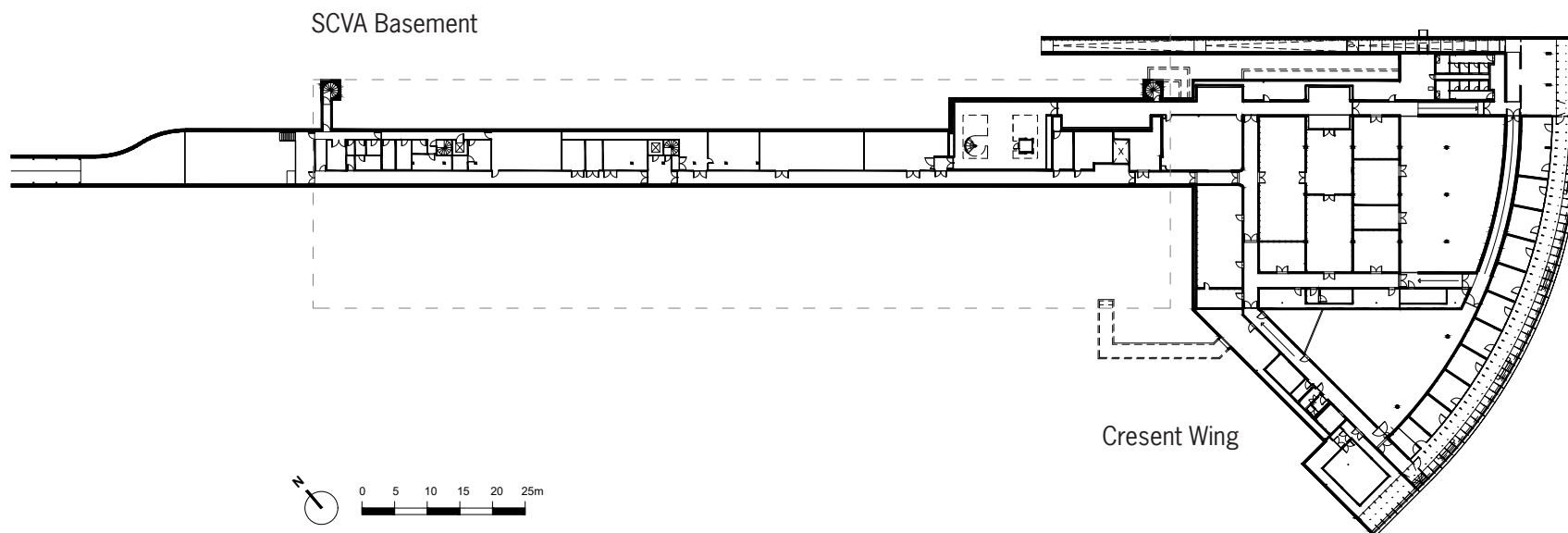
Norfolk Terrace (Ziggurats) [106]



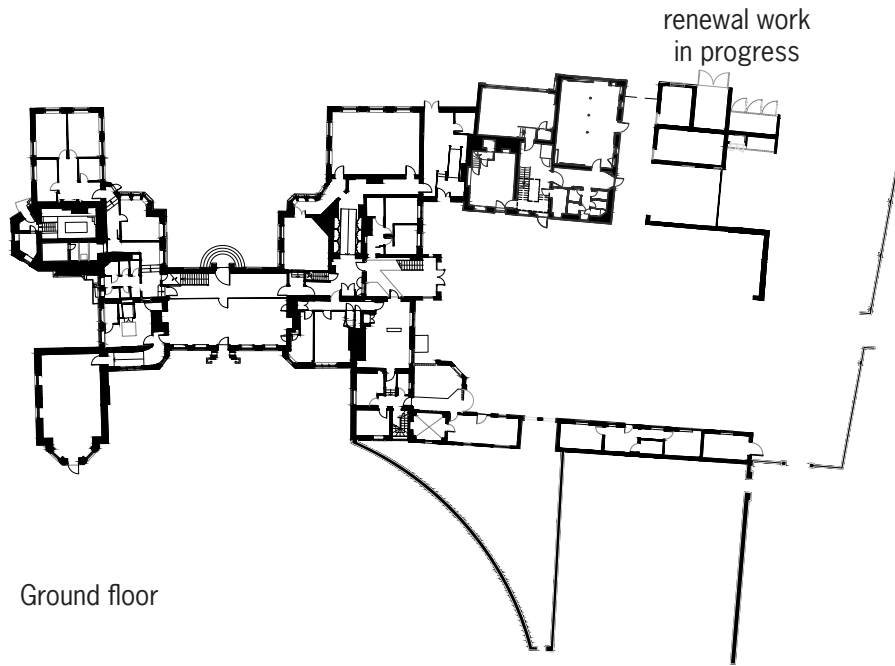
The Sainsbury Centre for Visual Arts and Crescent Wing [7]



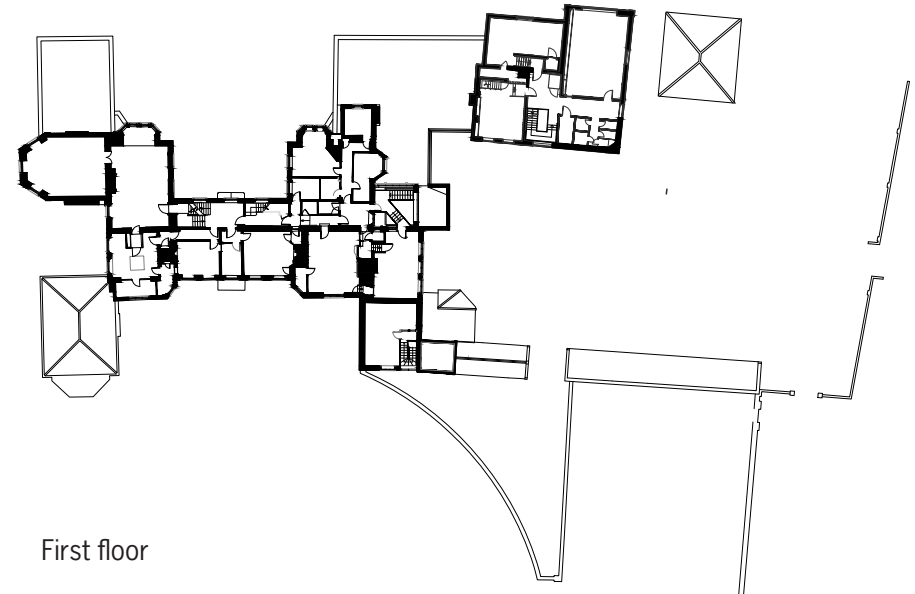
SCVA Ground floor



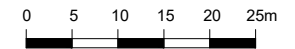
Earlham Hall [40]



Ground floor



First floor



SECTION 6

INDEX TO BUILDINGS

Academic Wall, 1-8, 1-11, 1-14 to 15, 1-40, 2-9, 2-11, 2-13, 3-25 to 44, 4-11

Barton House, 3-73

Bike Repair, 3-73

Biomedical Research Centre (BMRC), 1-28, 3-69

Biophysical Chemistry, 1-28

Blackdale Annex (former primary school), 3-73

Blackdale central building, 3-73

Bob Champion Research and Education Building (BCRE) , 3-76

Boiler House, Estates Building, Maintenance Building, 3-52

Britten House, 3-73

Broad, 1-21, 1-23, 1-38, 1-39, 3-80

Browne House, 3-73

Bus shelter, 3-73

Careers Centre, 2-10, 3-51

Centrum Building (Research Park) , 3-76

Chancellor's Drive, 1-27, 1-40 , 3-69, 3-83

Colman House, 1-28, 2-11, 3-73

Computing Centre, 1-8, 2-10, 3-49

Congregation Hall (old sports hall), 1-18, 1-49, 2-10, 3-67

Constable Terrace, 1-13, 1-28, 1-30, 3-69, 3-83

Council House, 1-18, 3-67
Crescent Wing, 1-23, 2-6, 3-65, 3-85, 4-18
Crome Court, 3-73
DEV Farm, 3-76
Development Plan (Lasdun), 1-6 to 8, 1-37, 1-41, 2-9
Drama Studio, 1-28, 3-67
Earlham Hall, 1-4, 1-8, 1-31 to 34, 1-42, 2-10, 3-77, 3-85, 4-19
Edith Cavell Building (ECB), 3-76
Elizabeth Fry Building, 1-28, 3-69
Energy Centre, 3-73
Enterprise Centre (TEC), 1-29, 1-30, 1-43, 2-17, 3-75
Estates Building, 3-52
Harbour, 1-12, 3-80
Health and Community Centre, 2-11, 3-73
Hickling House, 3-73
Hubert Lamb Building, 1-27, 1-29, 1-30, 3-69
INTO@UEA, 3-73
Julian Study Centre (JSC), 1-28, 3-69
Kett House, 3-73
Landscape, 1-12, 1-35 to 44, 2-15, 3-79 to 87
Lawrence Stenhouse Building, 1-27, 1-29, 3-69
Lecture Theatres, 1-8, 3-48
Library, 1-8, 1-15 to 16, 1-28, 2-9, 2-11, 3-44 to 47, 4-13
Lodge, 3-69
Masterplan , see Development Plan
Medical Building, 1-28 , 3-69
Multifaith Centre, 1-18, 2-11, 3-67

Music Centre, 1-18, 1-21, 2-10, 3-66
Nelson Court, 1-28, 1-30, 1-40, 2-11, 3-73
Norfolk Terrace, 1-8, 1-11, 1-13, 2-10, 3-14 to 24, 4-8
Orwell Close, 3-73
Paston House, 3-73
Queen's Building, 1-28, 1-30, 3-69
Registry, 1-18, 3-67
Registry Tower, 3-67, 3-83
Restaurants, 3-67
Sainsbury Centre, 1-11, 1-20 to 26, 1-39, 2-6, 2-9, 2-10, 3-53 to 64, 3-85, 4-15
Science and Engineering Teaching Building, 1-28, 3-69
Sculpture Park, 1-40, 3-87
Shops with offices above (Street), 1-18, 3-67
Sports Pavilion, 3-76
SportsPark, 1-28, 1-30, 3-75
Suffolk Terrace, 1-13, 2-10, 3-14 to 24, 4-6
Suffolk Walk, 2-10, 3-51
Teaching Wall, *see* Academic Wall
Thomas Paine Study Centre (TPSC), 1-28, 3-69
Union House, 1-18, 3-67, 3-83
University Village, 1-4, 1-8, 1-18, 1-28, 3-76
Victory House, 3-73
Walkways, 1-11, 4-11
Waveney Terrace, 1-28
Wolfson Close, 3-73
Ziggurats, 1-8, 1-11, 1-13 to 14, 1-40, 2-13, 3-14 to 24, 4-6, 4-8
Zuckerman Institute for Connective Environmental Research (ZICER), 1-28, 3-69

