Buildings as landscapes the analysis of corporate designed landscapes of the 1970s and 1980s

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Buildings as landscapes:

the analysis of corporate designed landscapes of the 1970s and 1980s

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List of Abbreviations:

CEGB	Central Electricity Generating Board
EH	English Heritage
HE	Historic England
ILA	Institute of Landscape Architects
JILA	Journal of the Institute of Landscape Architects
LCC	London County Council
LI	Landscape Institute
NHLE	National Heritage List for England
NHPP	National Heritage Protection Plan
OAPEC	Organisation of Arab Petroleum Exporting Countries
RIBA	Royal Institute of the British Architects
RTPI	Royal Town Planning Institute

Word count: 16,506.

Introduction

This dissertation uses a case-study approach to examine the design rationale for landscapes associated with corporate architecture of the 1970s and 1980s, and determines whether their design was influenced by government policies or the designers' contextual response to the site.

The three case studies chosen are included on Historic England's (HE) National Heritage List and are geographically separate, yet share similarities such as their integration into the landscape and sensitive design. The selected case studies are: Gateway House in Basingstoke (now known as Mountbatten House) (1974 – 1976), the former CEGB Headquarters in Bristol (currently referred to as The Pavilions) (1975 – 1978), and the RMC International Headquarters in Thorpe (known as Cemex House) (1988 – 1989) (Figure 1).

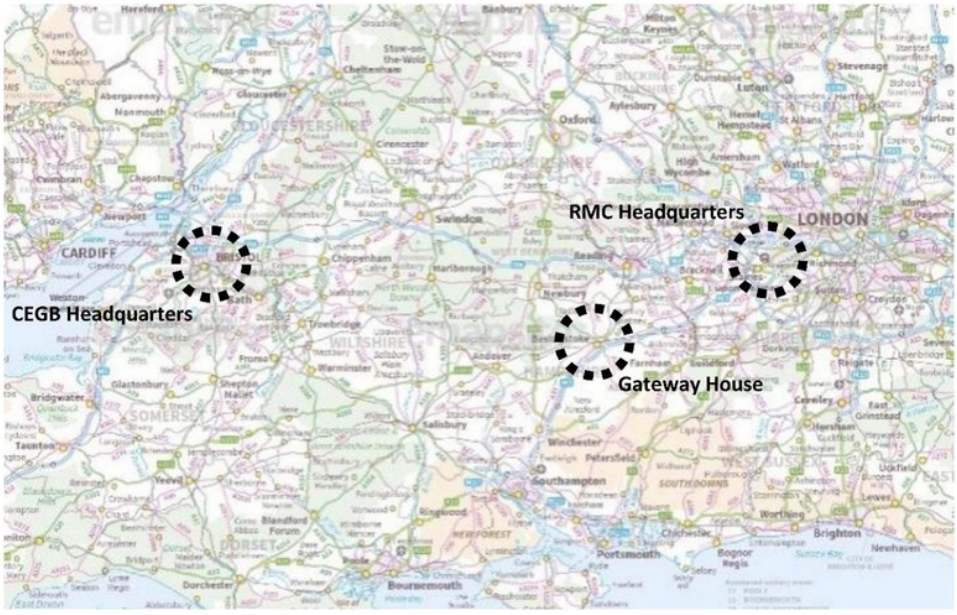

Figure 1: Case Studies – Site Location Plan.

Following the straitened economy of the immediate post – war years, the relaxation of government controls on development in the early 1950s enabled a proliferation of the design and building of commercial properties.[1] The post – war period saw new out of town corporate sites, aiming to attract employees with better working environment, and many set in landscaped grounds.[2] Eero Saarinen's General Motors Technical Centre in Michigan, in the United States (1950 – 1956) was the blueprint, quickly followed in the UK by companies such as Birds Eye with headquarters in Walton – on – Thames, Surrey (1960 – 1961); Heinz at Hayes Park, Uxbridge (1962 – 1965); and the W.D. and H.O. Wills Imperial Tobacco Headquarters in the Hartcliffe area, Bristol (1970 – 1975). Although soaring inflation rates and a global oil crisis led to a temporary property market slump in November 1973, many corporate buildings continued to be built, often by innovative designers responding to socio-economic and environmental factors.

The assumed dominant role of architects and engineers in the 1950s and 1960s was adapting to the increasing recognition of landscape architecture as a fully developed discipline. Some of these landscape architects were integral to the development of site masterplans or individual buildings, many of which are now recognised and included on Historic England's National Heritage List for England (NHLE). Progress to reach this stage of recognition has taken place over many years. The creation of a statutory list of significant buildings was a result of the war damage in World War II, with the first survey known as 'Salvage Lists', followed by the *Town and Country Planning Act* 1947.[3] The listing process, however, generally applied to buildings before 1840, and until the 1970s only the exemplar Victorian and Edwardian architecture was

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[1] For further detail see Historic England, *The Late 20th-Century Commercial Office: Introductions to Heritage Assets* (June 2016).
[2] John Byrom, 'The Modern Movement in Landscape Design: Precepts, Legacies and Challenges' 'Landscape of the Recent Past: Conserving the Twentieth Century Landscape Design Legacy' Proceedings of the DOCOMOMO ISC Urbanism + Landscape Conference (2011), <https://sites.eca.ed.ac.uk/docomomoiscul/files/2012/11/P3_full-proceedings_2.pdf> [accessed 01 September 2019], pp. 24-25.
[3] Historic England, 'About the List' <https://historicengland.org.uk/listing/the-list/about-the-list/> [accessed 01 August 2019].

eligible. The cultural and historical value of post – war architecture became finally recognised with the change in the legislation in 1987. The Department of the Environment *Circular 8/87* introduced a 'thirty – year rule', extending the listing to pre – 1957 architecture. This brought opportunities but also challenges when the post – war legacy, political and practical issues associated with modern heritage assets had to be re – examined.[4] Michael Manser, the president of the Royal Institute of British Architects (RIBA) at the time, disapproved stating: '…conservation has gone too far…'.[5] His view reflected the wider beliefs of Thatcher's Conservative government, which promoted regeneration through re – use of traditional or classical architecture. The 'thirty – year rule' did not extend over the 1960s and 1970s period, thus excluded Brutalist architecture, urban developments of New Towns,[6] and the 'energy conservation' architecture of the 1970s and 1980s.

The importance of garden and landscape conservation was not highlighted until the Garden History Society, now The Gardens Trust, was formed in 1965. However, it was 1983 before a 'Register of Historic Parks and Gardens of Special Historic Interest in England' was established.[7] Although the architecture of the post – war and late 20th century has received sufficient attention,[8] landscape architecture of that period still seems to be undervalued. The launch of the National Heritage Protection Plan (NHPP) on 23rd May 2011 appears to mark the beginning of further change. This coincided with the publication of the corporate plan by HE (then English

[4] Aidan White, 'The state and the controversial demands of cultural built heritage: modernism, dirty concrete, and postwar listing in England', *Environment and Planning B: Planning and Design*, Vol.34 (2007), p. 645.
[5] John Young, 'A notable dozen are added to the nation's listed buildings', *The Times* (15 October 1980), p. 4.
[6] Aidan White, 'The state and the controversial demands of cultural built heritage', p. 650.
[7] See, 'Registered Parks and Gardens', https://historicengland.org.uk/listing/what-is-designation/registered-parks-and-gardens/ [accessed 27 July 2019].
[8] See Elain Hardwood, *Space, Hope and Brutalism: English Architecture 1945 – 1975* (London, 2015) but also *The Twentieth Century Architects* series of books, which includes for example Arup Associates, Alison and Peter Smithson, and many others of that period.

Heritage), which most notably included 20th century heritage assets as one of its key areas,[9] and was informed by earlier work commenced in 2009, and an Activity Programme which specifically mentioned late 20th century heritage.[10] Perhaps it was the redevelopment of the Commonwealth Institute in London in 2016, and loss of the Grade II landscape designed in 1960 by Sylvia Crowe, that prompted The Gardens Trust to hold in June 2017 a conference 'Mid to late C20 Designed Landscapes: Overlooked, undervalued and at risk?'. The outcome was a research project between The Gardens Trust and Historic England, 'Compiling the record – the essential mid to late c20 landscapes'.[11] These developments confirm that late twentieth-century buildings and landscapes are now at the forefront of research and recognition.

Since 2011, heritage assets have been brought together in the NHLE maintained by HE, of which over 1,660 are gardens or landscapes.[12] Although the listing process entails research, the selected three case studies have not been looked at as a group, nor analysed against the planning context and environmental agenda of the 1970s and 1980s. This dissertation, therefore, focuses on three of the corporate sites on the Heritage List for England, examining in detail contemporary influences on their design rationale.

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[9] Department for Digital, Culture, Media & Sport, 'John Penrose praises National Heritage List for England' (24 May 2011) <https://www.gov.uk/government/news/john-penrose-praises-national-heritage-list-for-england> [accessed 09 July 2019].

[10] English Heritage, *The National Heritage Protection Plan 2011-2015: Progress Report May 2011 To September 2011 Activity Programme* (October 2011), p. 29 <https://historicengland.org.uk/images-books/publications/nhpp-progress-rep-maysep11/nhpp-progress-2011-activity-programme/> [accessed 09 July 2019].

[11] See 'Mid to Late C20 designed landscapes: Overlooked, undervalued and at risk?', <http://thegardenstrust.org/compiling-the-record/>; and 'Modern Gardens and Landscapes' <https://historicengland.org.uk/listing/apply-for-listing/listing-priorities/modern-gardens-landscapes/> [accessed 20 August 2019].

[12] Historic England, 'Listing Data Download – Frequently Asked Questions' (November 2018) <https://historicengland.org.uk/content/docs/listing/listing-data-download-faqs-pdf/> [accessed 01 August 2019] but see 'About The List' https://historicengland.org.uk/listing/the-list/about-the-list/ [accessed 01 August 2019] for slightly different accounts.

In particular the following research questions will be considered:

- To what extent was the corporate design controlled by the UK legislation?
- How far were environmental concerns translated into the design of the corporate sites and their integration in the landscape?
- Can North American influence on British corporate design be determined?

Methodology

The dissertation is based on examination of primary and secondary material concerned with architecture and landscape design of the 1970s and 1980s. This is supplemented by the contextual information drawn from the literature covering the post-war era (1950s and 1960s) and earlier periods to provide continuity. The dissertation examines three examples of corporate designs to enable comparison of influences over this significant period. The case studies are:[13]

- Mountbatten House (formerly Gateway House) in Basingstoke (Grade II registered garden) designed by Arup Associates and James Russell for Wiggins Teape (1974 – 1976) (Figure 2);
- The Pavilion (the former Central Electricity Generating Board (CEGB) Headquarters) in Bedminster, Bristol (Grade II registered garden), by Arup Associates with landscape by Peter Swann (1975 – 1978) (Figure 3); and
- Cemex House (formerly RMC International Headquarters) in Thorpe, Surrey (building listed Grade II*), designed by Edward Cullinan Architects with landscape design by Derek Lovejoy Partnership (1988 – 1989) (Figure 4).

The baseline source for each study is Historic England's description included on the NHLE. Primary sources for the three case studies are located in various archives including the

[13] The names of the buildings and sites are used interchangeably, depending on the context.

Borthwick Institute at the University of York, The National Archives, British Library, Museum of English Rural Life, contemporary architectural journals, and Arup's own archives.

This dissertation is divided into six chapters:

- Chapter 1 Architecture, landscape architecture, and planning in post – war Britain.
- Chapter 2 Response of the built environment in the late twentieth century.
- Chapter 3 Gateway House, Basingstoke.
- Chapter 4 CEGB Headquarters, Bedminster, Bristol.
- Chapter 5 RMC International Headquarters, Thorpe, Surrey.
- Chapter 6 Summary and Conclusions.

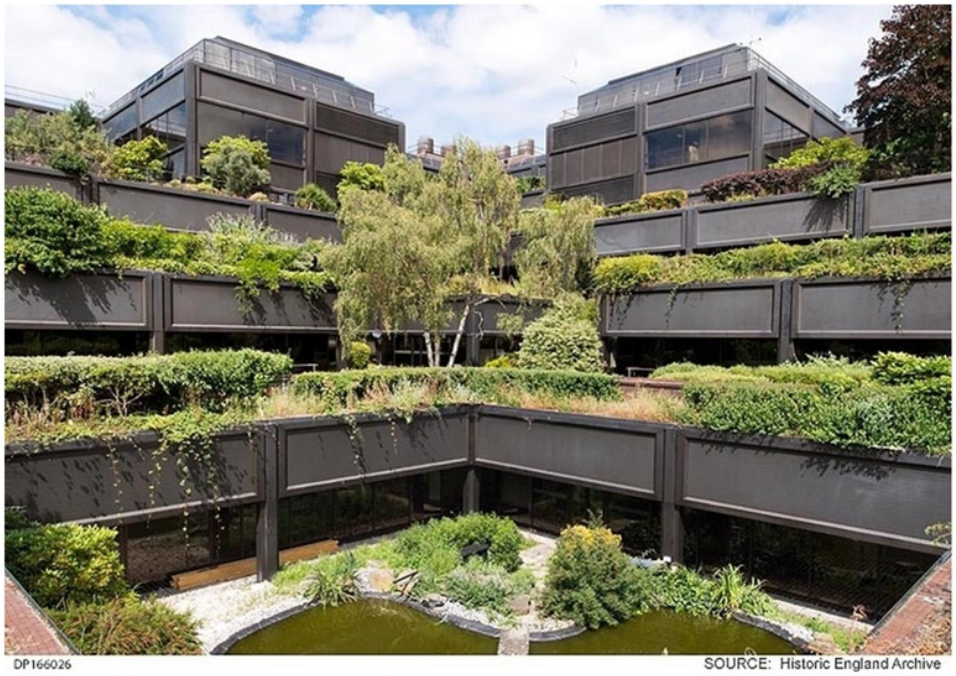

Figure 2: Mountbatten House in Basingstoke (2014).

Figure 3: CEGB Headquarters in Bedminster, Bristol (1979).

Figure 4: Cemex House in Egham, Surrey (1991).

Chapter 1: Architecture, landscape architecture, and planning in post – war Britain

Architecture in the wartime and post-war Britain

The damage of the air raids in the late 1940 and early 1941, prompted a wider debate about the reconstruction of post – war Britain, social reforms and slums clearance. The debate engaged newspapers of all political sides urging the government to take action.[14] This included a special issue of *Picture Post* on reconstruction work titled 'A Plan for Britain' and Harold Perkin described it as 'a professional blueprint for a professional society'.[15] Around the same time a number of conferences on the reconstruction of Britain were being held with the 1940 exhibition *Living in Cities* aimed at servicemen to show what the future post – war Britain might look like.[16] As Nicholas Bullock summarises, the discussion on post – war redevelopment intensified in 1940 and 1941, and there were nearly twenty groups concerned with the issue of physical rebuilding of damaged sites (Figure 5). One such group, the RIBA Reconstruction Committee, reflected the diversity across the professions and included both progressive architects such as Godfrey Samuel, Maxwell Fry, and Jane Drew, and the more conservative view of traditionalists, including Banister Fletcher and Giles Gilbert Scott.[17]

[14] Nicholas Bullock, *Building the Post-war World: Modern Architecture and Reconstruction in Britain* (London, 2002), pp. 8-9.
[15] Harold Perkin, *The Rise of Professional Society: England since 1880* (London, 2001), p. 414.
[16] Powers, *Britain Modern Architectures*, p. 74.
[17] Bullock, *Building the Post-war World*, pp. 11-12, 29, 40-42.

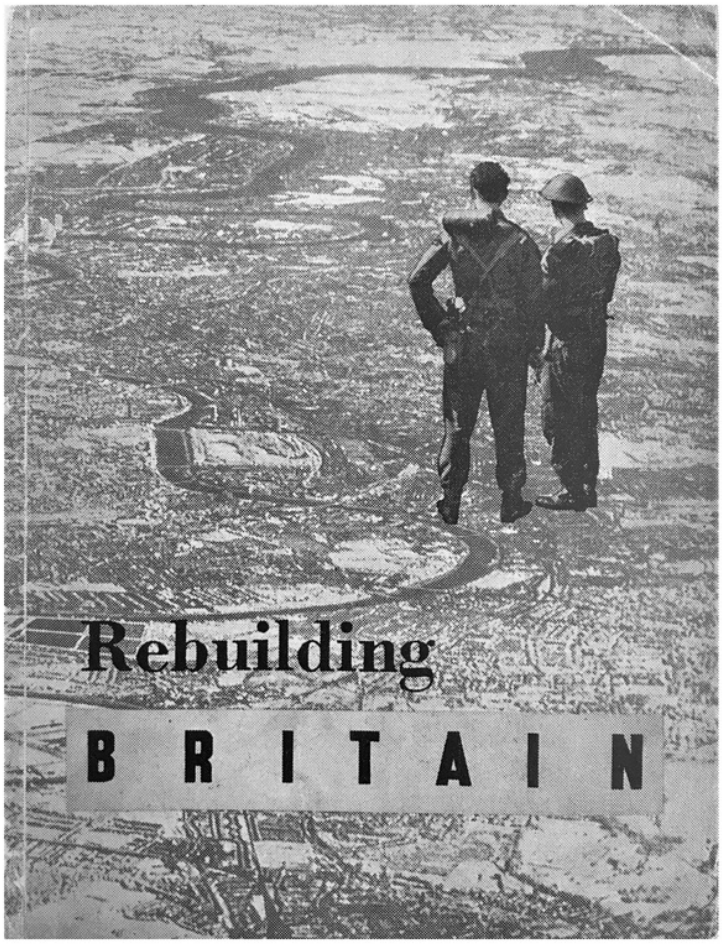

Figure 5: Cover to the catalogue of the 'Rebuilding Britain' exhibition (July 1943).

In the immediate post – war period the architectural debate expanded further fuelled by various journals and newspapers such as *The Architect's Journal*, *The Builder*, *Architectural Design*, and *Architectural Review*. Issues were no longer focused on the physical rebuilding, but instead included planning, housing and examples from abroad. In late 1940s, European and American architecture started featuring in various architectural journals introducing examples from abroad, such as the prospective development plans for Manhattan, a new area in New York (Figure 6).[18]

[18] Editorial Note, *The Architect's Journal,* Vol. 105 No.2712 (16 January 1947), p. 47.

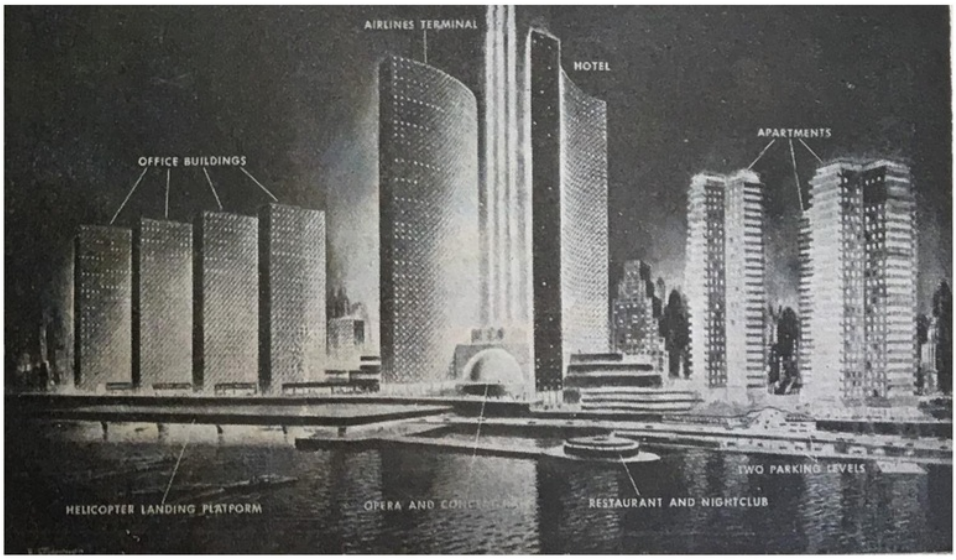

Figure 6: Proposals from William Zeckendort, a real-estate operator, for Manhattan in New York (c. 1947).

The withdrawal of the American Lend and Lease programme in September 1945, and then the termination of the Marshall Plan in 1947, slowed down the British Labour government's efforts in post – war reconstruction and welfare reforms.[19] Nevertheless the optimistic nature of the time culminated in the Festival of Britain in 1951:

> There was a terrific feeling of optimism. (…). It was an event for a new dawn, for modern terms, with modern technology. That was the real reason and it marked a brighter socialism. There was a real sense that anything was possible, and that British technology was good inventions such as radar, television and the jet engine.[20]

[19] See Harwood, *Space, Hope and Brutalism*, p. 335; and Powers, *Britain Modern Architectures*, p. 127. For details on the Lend and Lease Programme and the Marshall Plan see Office of the Historian, 'Lend-Lease and Military Aid to the Allies in the Early Years of World War II, < https://history.state.gov/milestones/1937-1945/lend-lease> and Office of the Historian, 'Marshall Plan, 1948' <https://history.state.gov/milestones/1945-1952/marshall-plan>)[accessed 01 September 2019].
[20] H.T. Cadbury-Brown, 'A Good Time-and-a-half was had by All', *Twentieth Century Architecture*, No. 5, Festival of Britain (2001), p. 60.

Unfortunately, the returning Conservative government of Winston Churchill instructed an immediate demolition of the majority of the Festival of Britain buildings.[21] The 1950s were marked by an increasing uptake in work by architects no longer focused on the utilitarian tasks of repairing war damage or rebuilding school and factory facilities. The new workstream was propelled by the New Towns Corporations and design competitions, for example the reconstruction of Coventry Cathedral announced in January 1951. Housing estates such as the London County Council (LCC) Ackroydon Estate in Wimbledon (1950 – 1953), and Alton East Estate in Roehampton (1951 – 1954), aimed to address the housing crisis and architecture was moving towards contextual design reflecting regional differences and traditions. This is best explained by Nikolaus Pevsner who described Alton East as an example of Picturesque planning, with elements of humanism and variety, and '…architecture at ease'.[22]

Although food rationing continued until 1953, the 1950s and 1960s were years of prosperity, 'baby boom' and increasing development. The increasing energy demand coupled with severe winters of the early 1950s and 1960s required the Central Electricity Generating Board to build new power stations.. Simultaneously, new energy generation technologies were being developed to minimise the reliance on coal and Middle Eastern oil,[23] with the construction of nuclear power stations accelerating in the 1960s.

The impact of this new infrastructure in the 1950s and 1960s quickly became apparent and the need to reconcile the development with the natural environment was recognised by the leading landscape practitioners at the time, including Sylvia Crowe:

> Before the war landscape design was confined almost entirely to the creation of gardens and parks (…) Gradually this is changing: the pressure of population, transport

[21] Powers, *Britain Modern Architectures*, p. 86.
[22] Bullock, *Building the post-war world*, pp.76-92. Also, Nikolaus Pevsner, 'Roehampton', *Architectural Review,* Vol. CXXVI (July 1959), p. 35.
[23] Harwood, *Space, Hope and Brutalism*, p. 341.

> and economics is upsetting the balance of great areas of landscape, and it is evident that positive design is needed to restore them to a state of balance. A balance which will include changed land uses, new structures, and usually a higher density of human use.[24]

Her work, along with Jellicoe, Colvin and Kenneth Booth, included large infrastructure projects such as highways and power stations but also new towns. Crowe's early work announced the advent of a new discipline of landscape planning within the wider remit of landscape architects, emphasised in her books published in the 1950s and 1960s.[25] This new approach continued into the 1970s evolving into specific evaluation tools and as Derek Lovejoy argued, in 1973, development and due regard to the natural environment had to be considered cohesive and necessary from a land use and nature conservation point of view.[26]

The Labour government's National Plan, published in 1965, aimed to strengthen the economy whilst controlling inflation and bank lending. A series of events such as the Aberfan catastrophe of 1966, the devaluation of the pound announced in November 1967[27] and the gas explosion and partial collapse of the 22 – storey Ronan Point in Canning Town, East London, in 1968, had put a shadow over the prosperous society.[28] Further events such as the spill of crude oil from the supertanker *SS Torrey Canyon* off the Cornish coast added a new layer to the public debate, the environmental concern about pollution.[29] There was also a growing

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[24] Sylvia Crowe, 'Buckingham Talk' unpublished. MERL Archives, reference number: AR CRO SP4/2.
[25] See *Tomorrow's Landscape* (London, 1963), *The Landscape of Roads* (London, 1960), and *The Pattern of Landscape* (Chichester, 1988).
[26] Derek Lovejoy (ed), 'The Needs and Objectives of Landscape Planning', *Land use and landscape planning* (Aylesbury, 1973), p. 4.
[27] National Archives, 'Pound devalued' <http://www.nationalarchives.gov.uk/education/resources/sixties-britain/pound-devalued/> [accessed 04 August 2019].
[28] National Archives, 'The National Plan', <http://www.nationalarchives.gov.uk/education/resources/sixties-britain/national-plan/> [accessed 04 August 2019].
[29] For details see Bethan Bell and Mario Cacciottolo 'Torrey Canyon oil spill: The day the sea turned black' (17 March 2017) <https://www.bbc.co.uk/news/uk-england-39223308> [accessed 04 August 2019].

disparity in the latter part of the 1960s and into the early 1970s between architecture as a profession and public's expectations. Modernism was no longer seen as a provider for better living but rather a symbol of a technocratic welfare state.[30]

Landscape architecture in the wartime and post-war Britain

In anticipation of the inevitable challenges the Institute of Landscape Architects attempted to break from its previous association with gentry estates and private gardens.[31] In November 1942, the Vice President of the Institute, Lady Allen of Hurtwood stressed the forthcoming social changes of post – war Britain. Allen saw landscape architecture as 'a new national service' recognising 'the social value of our profession in a democratic age' and stressing that it has 'been too closely identified with designing and making private gardens and estates'.[32] Colvin in her Presidential Address in 1951, outlined the varied work of landscape architects listing New Town Corporations, County Planning Departments, and mineral extraction works as examples of the current employment for many members.[33] As argued by Powers, Lord Reith's influence as Chairman of the New Towns Committee (1945-1946) enabled many landscape architects to work on large – scale residential schemes across the country.[34]

There were, however, growing concerns about the impact on landscape of this large – scale infrastructure with critics pointing out that urban sprawl, mineral extraction works, and roads damage the countryside. The special issue of *The Architectural Review, '*Outrage' from 1955 by Ian Nairn presented a prospect of overdeveloped countryside (Figure 7). The response was wide and included *The Architects' Journal,* which was then echoed in mainstream newspapers

[30] Harwood, *Space, Hope and Brutalism*, p. 564.
[31] The precursor to the Institute, the British Association of Garden Architects was established in 1928 and changed its name to the Institute of Landscape Architects in 1929.
[32] Lady Allen of Hurtwood, 'A review of policy', *Wartime Journal of the Institute of Landscape Architects*, No.3 (April 1943), p. 5.
[33] Brenda Colvin, 'Presidential Address', *Journal of the Institute of Landscape Architects*, No.22 (November 1951), p. 3.
[34] Alan Powers, 'Landscape in Britain' in Marc Treib (ed.), *The Architecture of landscape, 1940-1960* (Pennsylvania, 2002), p. 63.

such *The Times, Daily Herald, Daily Mail* and *Daily Mirror*.[35] To contrast this, the work and writings of Brenda Colvin and Sylvia Crowe aimed to address the very issue of the increasing pressure of development on the natural environment. As Eric de Maré stated when referring to Crowe's *Tomorrow's Landscape* (1956); it was a 'practical guide to the proper adjustment of our landscape', [36] and an answer to Nairn's 'prophecy of doom'.[37]

Figure 7: Gordon Cullen's design for the cover of Ian Nairn's 'Outrage' (1955).

[35] Anon., 'Astragal Notes & Topics', *The Architects' Journal*, Vol.122 No.3149 (7 July 1955), p. 273.
[36] Eric de Maré, 'Notes on books. *To-morrow's landscape* by Sylvia Crowe', *Journal of the Royal Society of Arts*, Vol. 105 No. 4993 (21 December 1956), p. 121.
[37] Ian Nairn (ed.), 'Outrage', *The Architectural Review,* Vol.117 No.702 (June 1955), p. 365.

Development control in post – war Britain

The increasing development pressure upon the countryside was reflected in the works of the Council for the Protection of Rural England (CPRE) and John Gordon Dower in the 1930s.[38] The new development plans and planning permission system introduced by the 1947 Town and Country Planning Act aimed to provide flexibility and control.[39] According to Cullingworth, they became too prescriptive and the increasing social and economic changes brought new unforeseen development pressures.[40] The criticism expressed in 1965 by the Planning Advisory Group exemplifies this: 'The plans have thus acquired the appearance of certainty and stability which is misleading … and it is impossible to forecast every land requirement over many years ahead'.[41] As William Solesbury argues, the approach to urban planning of the 1960s fell into disrepute, referring to the false economic optimism of the decade, negative effects on communities and social cohesion, and failure of the political system. The issue was not limited to Britain with similar concerns on urban planning expressed in North America, albeit Jane Jacob's opinion on American cities was regarded as a personal view on the aesthetic association of urbanism.[42]

The 1945 Dower Report was pivotal in recognising the increase in recreational and development pressure, and the government responded with the Town and Country Planning Act 1947, and the National Parks and Access to the Countryside Act 1949. Although C.R.V. Tandy argues that the introduced control '… was as a somewhat watered-down version…' as much of the land was in private ownership and difficult to control by the government, it nevertheless provided statutory protection of certain unspoiled areas of the countryside.[43]

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[38] Bullock, *Building the post-war world*, p. 7
[39] John Barry Cullingworth, *Town and Country Planning in Britain* (London, 1982), pp. 56-57.
[40] Cullingworth, *Town and Country Planning*, pp. 58-59.
[41] Planning Advisory Group, *The Future of Development Plans* (HMSO, 1965), p. 5.
[42] William Solesbury, 'Programmes into policies', *Built Environment Quarterly,* Vol.1, No.3 (December 1975), p. 190.
[43] C.R.V. Tandy, 'Country Parks' *Landscape Design,* No.103 (August 1973), p. 14.

Numerous articles on the protection of national parks appeared in the *Journal of the Institute of Landscape Architects* (*JILA)*,[44] and continued in the 1970s referring to '…the onslaught upon what should be the sanctity of our National Parks'.[45] The *JILA* also covered the issue of environmental policies,[46] and although this suggests that the Institute was actively engaged in the protection of the countryside, there was clearly a conflict between its conservationist members and those employed in industry; for example those working for the CEGB.

The 1960s were marked by 'The Countryside in 1970' series of conferences, held in 1963, 1965, and 1970.[47] These were concerned with nature conservation and public access to the countryside,[48] and as Patterson put it '…pinpointed the great dichotomy between interests of economy and the life of the landscape...';[49] the issue was becoming increasingly political.[50] Although the 'Plant a Tree in '73' campaign initiated by Sydney Chapman MP in 1973, was considered successful, [51] it was criticised by Lovejoy for the lack of government response to environmental damage caused by farmers.[52] Despite this, two years on and the legacy had remained strong with Bodfan Gruffydd's concept of biological corridors for Greater London receiving a positive response from some of London's boroughs. [53] The wider debate on ecology and landscape continued with Crowe addressing the issue again in October 1970,[54] and

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[44] For example, Clough William-Ellis, 'Landscape design in national parks', *Journal of the Institute of Landscape Architects,* No.17 (March 1950), pp. 3-8.
[45] Gareth Singleton, 'Industry and the National Parks', *Landscape Design,* No.112 (November 1975), pp. 18-21. Also, Gareth Singleton and Diana Houghton, 'Industry and the National Parks', *Landscape Design,* No.110 (May 1975), pp. 20-27.
[46] Anon., 'An outline of the law relating to landscape in Great Britain', *Journal of the Institute of Landscape* Architects, No.22 (November 1951), pp. 12 – 14, and No.24 (July 1952), pp. 2 – 8.
[47] Tandy, 'Country Parks', p. 14.
[48] Anon., 'Conference on '"The Countryside in 1970"', *Journal of the Royal Society of Arts,* Vol.111 No.5088 (November 1963), p. 915.
[49] Gordon Patterson, 'Landscape and Industry', *Landscape Design,* No.93 (February 1971), p. 16.
[50] UK Parliament, 'European Conservation Year 1970', *Commons Sitting of 10 March 1969,* Series 5 Vol.779, cc1127-38.
[51] UK Parliament, 'Tree Planting Year', *Commons Sitting of 20 December 1973,* Series 5 Vol.866, cc1593-4.
[52] Derek Lovejoy, 'The State of the Environment', *Landscape* Design, No.101 (February 1973), p. 14.
[53] J. ST. B. Gruffydd, 'The Importance of Trees', *Journal of the Royal Society of Arts*, Vol.122, No.5209 (December 1973), pp. 15-30.
[54] Sylvia Crowe, 'Planning in the Countryside', *Landscape Design,* No. 93, (February 1971), p. 14.

Westmacott and Worthington carrying out in 1972 a first-ever survey of the British agricultural landscape on behalf of the Countryside Commission.[55] As Westmacott and Worthington suggest there was a widely acknowledged conflict between nature conservation and the government's programme of agricultural intensification encouraged by the 1975 White Paper *Food From Our Own Resources*.[56]

[55] Countryside Commission, Westmacott Richard, Tom Worthington, *New Agricultural Landscapes* (Cheltenham, 1974).
[56] Countryside Commission, Westmacott Richard., Worthington Tom, *Agricultural Landscapes: 33 years of Change* (Cheltenham, 2006), p. 8.

Chapter 2: Response of the built environment in the late twentieth century

Built Environment in the 1970s and 1980s

The government work kept landscape architects occupied throughout the post – war period and early 1970s but the effects on the natural environment were a clear concern for the profession. At the same time the Institute was promoting the role of landscape architects in infrastructure projects and the ethical battle was deepening. The 'Today's Challenge Tomorrow's Landscape?' conference in September 1974 aimed to address this very subject,[57] and as John Workman had expressed it: 'There have been many conferences and many good ideas but curiously little putting into practice of apparently accepted principles….'[58] The issue became contentious during the 'Energy and the Landscape Conference' in 1975 with the suggestion that the Institute of Landscape Architects should discourage members from projects where detrimental effects on landscape were evident. Unsurprisingly, a more amicable approach was expressed by Derek Lovejoy.[59] Lovejoy's involvement in the mid – 1960s on the CEGB West Burton Power Stations, one of his better-known energy infrastructure projects, suggests that his approach was more commercial rather than ideological (Figure 8).[60]

[57] '"Today's Challenge Tomorrow's Landscape?" Conference Programme, Papers & List of Delegates', MERL Archives P2860 Box 1/36.
[58] John Workman, 'Landscape management in the countryside', *Landscape Design,* No.107 (August 1974), p. 11.
[59] Tony Walker, 'Conference 1975: Energy and the Landscape', *Landscape Design*, No.112 (November 1975), p. 32.
[60] Due to the innovative approach to mitigation planting that extended to a radius of 3 miles from the power station. See Derek Lovejoy and Associates, 'West Burton Power Station', *Journal of the Institute of the Landscape Architects*, No.70 (May 1965), pp. 12 – 14.

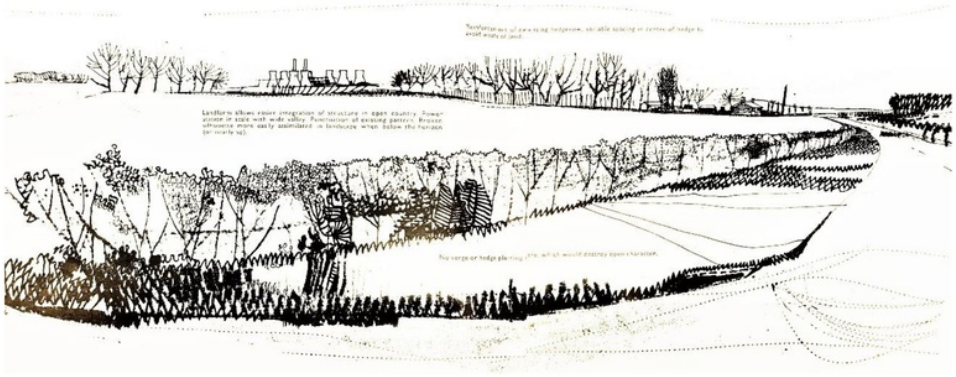

Figure 8: Planting proposals at the West Burton Power Stations by Lovejoy (c.1965).

The Cabinet Papers from the 1970s emphasise the conflict between fossil fuels and climate change, the economic impact of the miners strikes, and the three-day working week. The embargo on oil exports imposed on western European countries by the Organisation of Arab Petroleum Exporting Countries (OAPEC) and the energy crisis following the 1973 Yom Kippur War exacerbated the problems.[61] 1975 was labelled as the year of conservation; energy conservation rather than nature conservation.[62]

All these aspects led in the 1970s to the development of architecture that was designed around energy conservation and respectful to the natural environment. This was a reactionist movement against this paradigm of Modernism, which was preoccupied with geometry and failing to analyse the context. This is exemplified by Andrew Saint comments on the Heinz UK headquarters (1962-5), and designed by North American company Skidmore, Owings and Merrill: '…bland in manner so as to signal discipline, dignity and wealth'. During this time the road infrastructure provided connectivity with more rural parts of the countryside and development was no longer restricted by proximity to resources, be it natural or human. Large

[61] The National Archives, 'The Cabinet Papers: The energy crisis' (undated) online-entry, <http://www.nationalarchives.gov.uk/cabinetpapers/themes/energy-crisis.htm#Organisation%20of%20Arab%20Petroleum%20Exporting%20Countries%20(OAPEC)> [accessed 09 July 2019].
[62] Anon., 'Central Electricity Generating Board South West', *South Western Power*, No.57 (March 1972), p. 1.

corporations saw advantage in being located outside of urban centres, seeking to attract employees by providing a better working environment and a range of on-site facilities, more than just a place of work. The so-called 'Brown ban', introduced in November 1964 provided further incentive for companies to seek development opportunities outside of London and other large urban areas of the South East and parts of the Midlands.[63] This new approach, having its roots in the early 20th century North American spatial planning, was introduced to the UK by American corporations such as Hoover and Firestone. Some of these corporate developments survive to this day, for example the Bracken House designed by Albert Richardson (1953 – 1954), the Cummins in Darlington (1962 – 1966) and the former Piklington's headquarters at St Helens designed by Fry, Drew & Partners (1959 – 1964).

The integration of architecture, landscape, and engineering solutions exemplified 'total design', a pre-war concept implemented in the immediate post-war years in Britain by many architects, such as Eric Lyons for Span, and continued later by individuals such as Ove Arup.[64] As Alejandro Larena argues, the tradition of cooperation between built environment professionals was not new,[65] but it is clear that the advances in technology accelerated the integration. Buildings were expected to be respectful to its landscape settings and the urbanisation of the countryside was controlled, to some extent, by planning legislation such as the Green Belt policy, statutory landscape and nature conservation designations. Clients and professionals sought a healthier working environment and contextual design, landscape setting, and energy conservation became the key design consideration for architects and landscape architects in the 1970s and 1980s. The North American blueprint of corporate high-

[63] Historic England, *The Late 20th-Century Commercial Office*, p. 7.
[64] See, for example, Ivor Cunningham, 'Span–The Total Environment', in Barbara Simms (ed.), *London's Garden Suburbs. Community Landscape and the Urban Ideal* (London: London Historic Parks and Gardens Trust, 2001), p. 54. Proceedings of a conference held 4/5 October 2000 at the Scientific Societies Lecture Theatre, London W1; and Ove Arup, 'Theory for Total Design', *Built Environment*, Vol.4 No.3 (March 1975), p. 122.
[65] Alejandro Barnabeu, Larena, 'Origin of the Collaboration between Engineers and Architects in Great Britain in the Thirties', *Proceedings of the Second International Congress on Construction History* (Exeter, 2006), pp. 357- 377.

rise buildings, and its British scaled down typology, with 'deep plan' and small claustrophobic offices, air conditioning, along with the German socio-democratic *bürolandschaft* of the early 1960s, came and went (Figure 9).

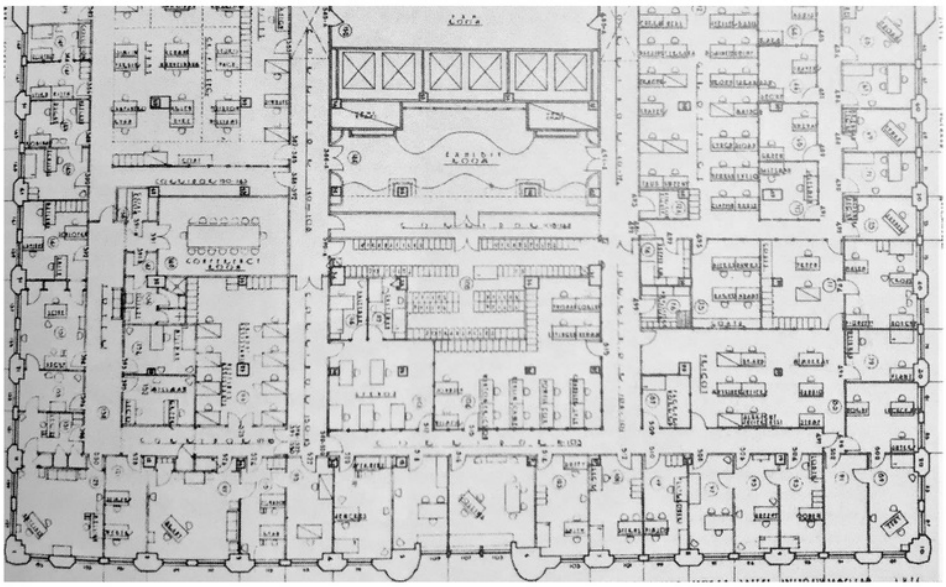

Figure 9: Example of a 'deep plan' office space in the Empire State Building, New York City (1940).

Tall office buildings became less financially attractive and clients were increasingly seeking adaptive and flexible working space. The new emerging typology of large footprint architecture provided them with opportunities to expand their facilities, increase social cohesion and productivity across employees.[66] A number of architects employed such an approach with Arup Associated, Edward Cullinan and Norman Foster & Partners being some of the most recognisable practices. Cullinan's work at Minster Lovell (1968) is an early example of contextual design with the architecture acknowledging its Cotswold settings, whilst responding to the client's needs with circulation and internal arrangement of spaces.

The American influence on British architecture continued from the 1920s with the aforementioned W.D. and H.O. Wills headquarters designed by the Chicago-based

[66] Historic England, *The Late 20th-Century Commercial Office*, p. 8.

architectural practice of Skidmore, Owings & Merrill (opened in 1974). The building included a restaurant overlooking a water reservoir and is surrounded by landscaping by Kenneth Booth which aimed to partially screen the large-scale building (Figure 10). A similar approach to minimising the mass and scale of architecture was employed by Scott Brownrigg & Turner in their design for a recreation centre in Horsham (opened in 1975). The lowering of the ground floor and use of blue-coloured asbestos-cement cladding were used to help the building '…blend well with the park surrounding'.[67] Foster's IBM UK Ltd facilities in Ealing (1977-80), initially planned in 1974, exemplifies the British Hi-Tech movement and also includes common catering facilities focusing on social cohesion '…to promote greater democracy and equality in the workplace'.[68]

Figure 10: W. D. and H. O. Wills Head Office (1971 design).

[67] Anon., 'Looking around the globe', *Architect & Builder*, Vol.30 No.2 (February 1980), p. 11.
[68] Historic England, *Former IBM distribution centre* <https://historicengland.org.uk/listing/the-list/list-entry/1411678> [accessed 21 August 2019].

Chapter 3: Gateway House, Basingstoke

Mountbatten House (formerly Gateway House) is a Grade II listed building designed by Arup Associates for Wiggins Teape,[69] with its landscaping by James Russell registered as Grade II. It is located on the eastern outskirts of Basingstoke, developed in the 1970s as a speculative office area. Churchill Way encloses it to the south and the A339 curtails the settlement edge separating it from the open countryside to the east and south east (Figure 11). Gateway House, built between 1974 and 1976, was awarded the Civic Trust Award Commendation (1978), Business & Industry Award (1978), the RIBA Award Southern Region (1979), and the *Financial Times* Architecture at Work award in 1983. Historic England states that Mountbatten House 'is a particularly interesting and innovative late – 1970s example of a commercial office landscape comprising of a series of roof gardens with perimeter landscaping' and the landscaping forms an integral part of the architecture.[70] Although HE claim the design is well documented, primary resources are limited. The RIBA Archives do not contain any information and access to Arup's own archives has not been made available.

The article from 1977 is complimentary about the design but not the location: 'The detailing is elegant, the structure clear, the landscaping superb; only the quality of the site is in question'.[71] According to Cullingworth 'the early 1970s witnessed a veritable price explosion' and the government was under a considerable pressure to halt speculative hoarding with its White Paper published in 1974.[72] The property boom drove land values sufficiently high for corporations such as Wiggins Teape to considered selling their office premises near St Paul's Cathedral after a 200 years presence, and move outside of London. It is not clear whether

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[69] Historic England, <https://historicengland.org.uk/listing/the-list/list-entry/1421570> [accessed 10 September 2019].
[70] Historic England, <https://historicengland.org.uk/listing/the-list/list-entry/1422221> [accessed 10 September 2019].
[71] Anon., 'Building Study: Gateway House, Basingstoke', *The Architects' Journal,* Vol.166 No.34 (24 August 1977), p. 343.
[72] Cullingworth, *Town and Country Planning in Britain*, pp. 185 – 187.

Wiggins Teape had any prior intertest in this location and Historic England's entry suggests that the choice was dictated by convenience alone.[73]

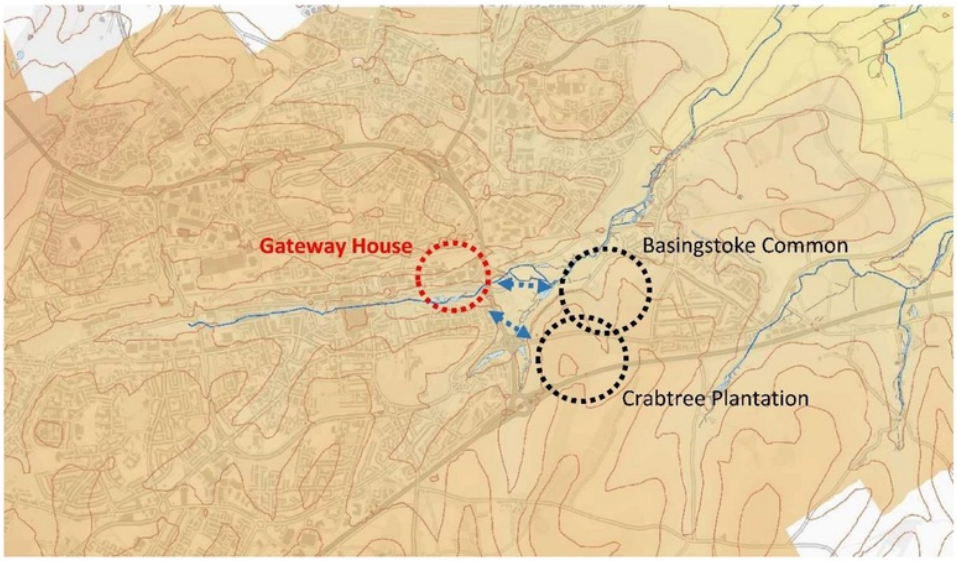

Figure 11: Gateway House – Site Location Plan and Key Features.

According to Geraint Franklin and his colleagues, Patrick Abercrombie's Greater London Plan of 1944 assumed that London's population would 'overspill' into expanding towns, including Basingstoke. In 1960 London County Council's plan for Hook New Town was cancelled and the expansion of Basingstoke, previously judged to be to remote, became a reality. In 1968 – 1971 the M3 linked Camberley, Farnborough and Basingstoke, enabling quick access and proliferation of new housing schemes and industries.[74] The location allowed views towards the surrounding elevated countryside separated by the valley of the River Loddon (Figure 12). Although such location brought some disadvantages '… of no longer being in the market place',[75] according to Harwood, out-of-town sites allowed companies to co–locate all of office

[73] Historic England, <https://historicengland.org.uk/listing/the-list/list-entry/1421570> [accessed 10 September 2019].
[74] Geraint Franklin, Elain Harwood, Simon Taylor, Matthew Whitfield, *England's Schools 1962– 88: A thematic study*. Historic England Research Report Series no. 33-2012 (London, 2012), p. 267.
[75] John Winter, 'Appraisal', *The Architectural Journal*, Vol.166 No.34 (24 August 1977), p. 346.

departments and facilities in one location. Canteens and clubs aimed to enhance social cohesion and 'made them centres of suburban social life'.

Figure 12: Gateway House seen from Crabtree Plantation (2019).

The model for greenfield office headquarters emerged in the United States out of wartime research facilities, such as General Motors by Eero Saarinen (1944), which according to Harwood 'owed much to Mies van der Rohe but more to Skidmore, Owings & Merrill'. This approach was followed in post-war Britain with Farmer & Dark design for the Loewy Engineering technical laboratories (1955 – 1956) and factory (1961 – 1962), in Poole, Dorset reflecting the company's North American connection. The architect for Heinz's European HQ, Gordon Bunshaft, collaborated previously with Skidmore and H.J. Heinz junior in the United States,[76] and the H. O. Wills Headquarters in Bristol continued the trend with social and welfare facilities enabling the out-of-town offices to prosper.

[76] Harwood, *Space Hope and Brutalism*, pp. 358 – 359.

The Hodder & Stoughton Publisher's office in Sevenoaks, Kent, by TRIAD architects is another example contemporary with Arup's design at Gateway House. There are similarities between the two schemes with the site at Sevenoaks purchased by the client in 1972, after moving from a London city–centre location. The site was chosen for its proximity to the proposed M25/M26 interchange and London rail services. The layout of the building was dictated by the landform of the site with planning restrictions on height and massing respecting the adjacent Green Belt. The control provided by planning policies was evidently exercised by the local council. At the same time the architects took advantage of the North Downs landscape by locating offices on the upper floors.[77] In comparison the role of planning policies in the design of Gateway House was unlikely to be significant, being located within the emerging business park. It is most likely that a certain level of design concession was given to the Arup, but the investigated primary and secondary sources did not clarify this assertion.

Technological advances allowed the use of large panes of tinted heat-absorbing glass, first used in the early 1950s, one example being Mies van der Rohe's Seagram Building, referred to by John Winter as 'a touchstone of perfection'.[78] Arup Associates' glazed link between two listed buildings at Truman Ltd Brewery offices, Brick Lane, London (1973 – 1976) is another example, which coincided with its work on Gateway House that also features large areas of similar tinted glazing (Figure 13 and Figure 14).

[77] Anon., 'Building study: Hodder & Stoughton warehouse and offices', *The Architects' Journal,* Vol.166 No.31 (3 August 1977), p. 205.
[78] Winter, 'Appraisal', p. 351.

Figure 13: IBM headquarters in Cosham (undated photograph)

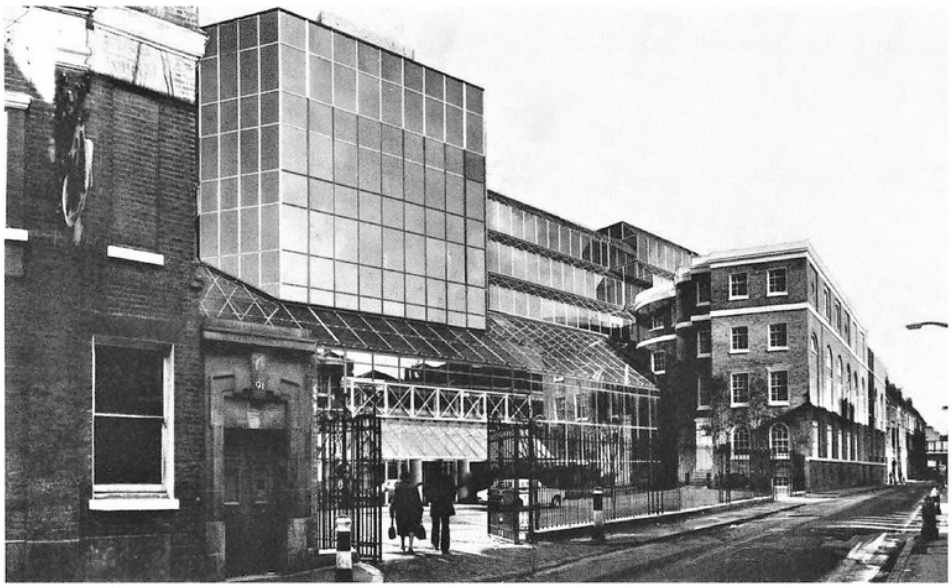

Figure 14: Truman Ltd Brewery offices, Brick Lane, London (c. 1977)

An article from 1977 states that the client asked for an efficient and cost-effective building for up to 1000 staff and car park for approximately 400 cars, which occupies approximately 30% of the total building area. The requirement for flexible internal sub-division and separate tenancies influenced the layout with 'various office depth and outlook, and an articulation within the open office' resulting in a repetitive standardised unit.[79] According to Colin Davies, corporate design of the early 1970s was concerned with the configuration of 'official' activities such as group size, communication, and working environment set against the 'underlife' of office buildings, the social life. The internal arrangement of spaces had a clear and direct relationship with Arup's structural grid for Gateway House. Light and circulation space, privacy and social spaces were provided, but these elements are not contextual and can exist in any location. Davies argues that the office was 'designed primarily for the physical and psychological comfort of the people it houses',[80] but there are elements of the building that suggest its design was reflective of the natural landscape around it. In Winter's 'Appraisal', he stipulates: 'To the south, half the view is of typical English semis, and the other half, to the south-east, is of unspoilt countryside. It is the maximisation of views in this direction that is a major determinant of the design.'[81] This had a major implication on the internal layout limiting the depth of the office space with the intention 'to make such a view available to most of the inhabitants of the building without thrusting it monotonously upon them'.[82]

Arup's Journal from 1979 confirms the design intention, highlighting that the sloping terrain and views of the open countryside were the key advantages. Churchill Way created a physical constraint to future development and Arup recognised this as an opportunity: 'Since no further building can take place to the south, it was unnecessary to build a very tall building in order to

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[79] Anon., 'Building Study: Gateway House, Basingstoke' *The Architects' Journal,* Vol.166 No.34 (24 August 1977), pp. 344 – 345; and Winter, 'Appraisal', p. 358.
[80] Colin Davies, 'Arup Approaches', *The Architectural Review,* (May 1987), p. 49.
[81] Winter, 'Appraisal', p. 346.
[82] Anon., 'Building Study', p. 345.

be sure of clear views. Such a tall building would have seriously obstructed the views from those to be built higher up the slope to the north.'[83] The changes in levels were further exploited with a car park built into the natural slope.[84]

Historic England stipulates that the design was also influenced by Herman Hertzberg's office for the Centraal Beheer Office complex, Appeldorn. The complex, completed in 1972 was visited by the architect, Peter Foggo and his team.[85] The grid, modular units, and stepped back outline seem familiar when compared with Gateway House. The use of structural grid is very much reflective of Khan's approach in his American projects and the August 1976 issue of the *The Architects' Journal* alludes to the influence of the North American architecture. Winter's article also suggests that the idea of the green roofs was influenced by the North American examples at Roche and Dinkeloo's Oakland Museum in California (1961 – 1968) and the Weyerhaeuser Headquarters, near Tacoma, Washington by SOM (1968 – 1971). Winter states, when referring to SOM's design: 'The completion (…) marked the arrival of the stepped section / planted roof building into the world of corporate headquarters.' [86] Although Arup's website and their own journal are silent on this issue it is easy to see similarities between these buildings (Figure 15, Figure 16, and Figure 17).

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[83] Peter Hoggett (ed.), 'Gateway House', *The Arup Journal,* Vol.14 (September 1979), p. 2.
[84] Arup Associates, 'Gateway House 1' (undated on-line case study) <http://web.archive.org/web/20130704081408/http://www.arupassociates.com/en/projects/gateway-house-1/> [accessed 09 September 2019].
[85] Historic England, <https://historicengland.org.uk/listing/the-list/list-entry/1421570> [accessed 10 September 2019].
[86] Winter, 'Appraisal', p. 347.

Figure 15: Oakland Museum Aerial View (undated photograph).

Figure 16: Terraces at Oakland Museum in California (undated photograph).

Figure 17: Terraces at Gateway House (undated photograph).

Historic England states that Nicholas Hare, the lead architect, met with James Russell in 1963 at the then recently re-opened BIBA roof garden at Kensington, designed by Ralph Hancock.[87] This perhaps explains the origin of the roof gardens at Gateway House. Hancock's roof garden was constructed 1936 – 1938 on top of Derry and Toms store and resembled his earlier work at Garden of the Nations (1933 – 1935). These were laid out on the eleventh floor of the RCA building, Rockefeller Centre in New York and were described as 'skyline horticulture'.[88] Russell

[87] BIBA store opened in September 1963.
[88] Rockefeller Centre, *Gardens of the Nations* (undated booklet), p. 2, <http://www.ralphhancock.com/gardenofthenations> [accessed 15 September 2019].

was apparently briefed to make planting diverse and romantic rather than formal.[89] It is questionable whether Hancock's design provided any inspiration but the variety of plant species, over 500 of them, must have resonated with Russell's horticultural background (Figure 18).[90] Earlier roof gardens existed at Selfridges and Baker's store in Kensington but are now long gone (Figure 19).

The development of petroleum-based damp proofing in the early 20th century allowed architects to incorporate roof gardens in their design and, as highlighted by John Mayson Whalley, developers in Britain were under pressure from planning authorities to lessen '…the environmental impact of new developments…'. Whalley argues that the majority of the examples were North American referencing the influence of Frank Lloyd Wright and urban plazas associated with podium level development and high-rise buildings, such as the Kaiser Centre and First National Plaza, both in Chicago; and the Standard Oil Building, San Francisco.[91] In the late 1960s and 1970s in Britain, however, a number of similar projects were constructed suggesting that the idea of a roof garden was not a novel one. The Halifax Building Society Headquarters were commissioned in 1968 with the roof gardens designed by Derek Lovejoy and Partners. The headquarters for the Scottish Widows Fund and Life Assurance Society were contemporary to Gateway House and its roof gardens, to Crowe's design and completed in 1975, best illustrate the design sensitivity and contextual approach (Figure 20). The re-development of Arundel Great Court (1972 – 1976) by Frederick Gibberd is another example of a contemporary roof top garden.

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[89] Anon., 'Six roof landscapes', *Landscape Design,* No.122 (May 1978), p. 23.
[90] Anon., 'The Roof Gardens at Derry & Toms', online article (undated) <http://www.ralphhancock.com/theroofgardensatderry%26toms> [accessed 15 September 2019].
[91] John Mayson Whalley, 'The landscape of the roof', *Landscape Design,* No.122 (May 1978), p. 8.

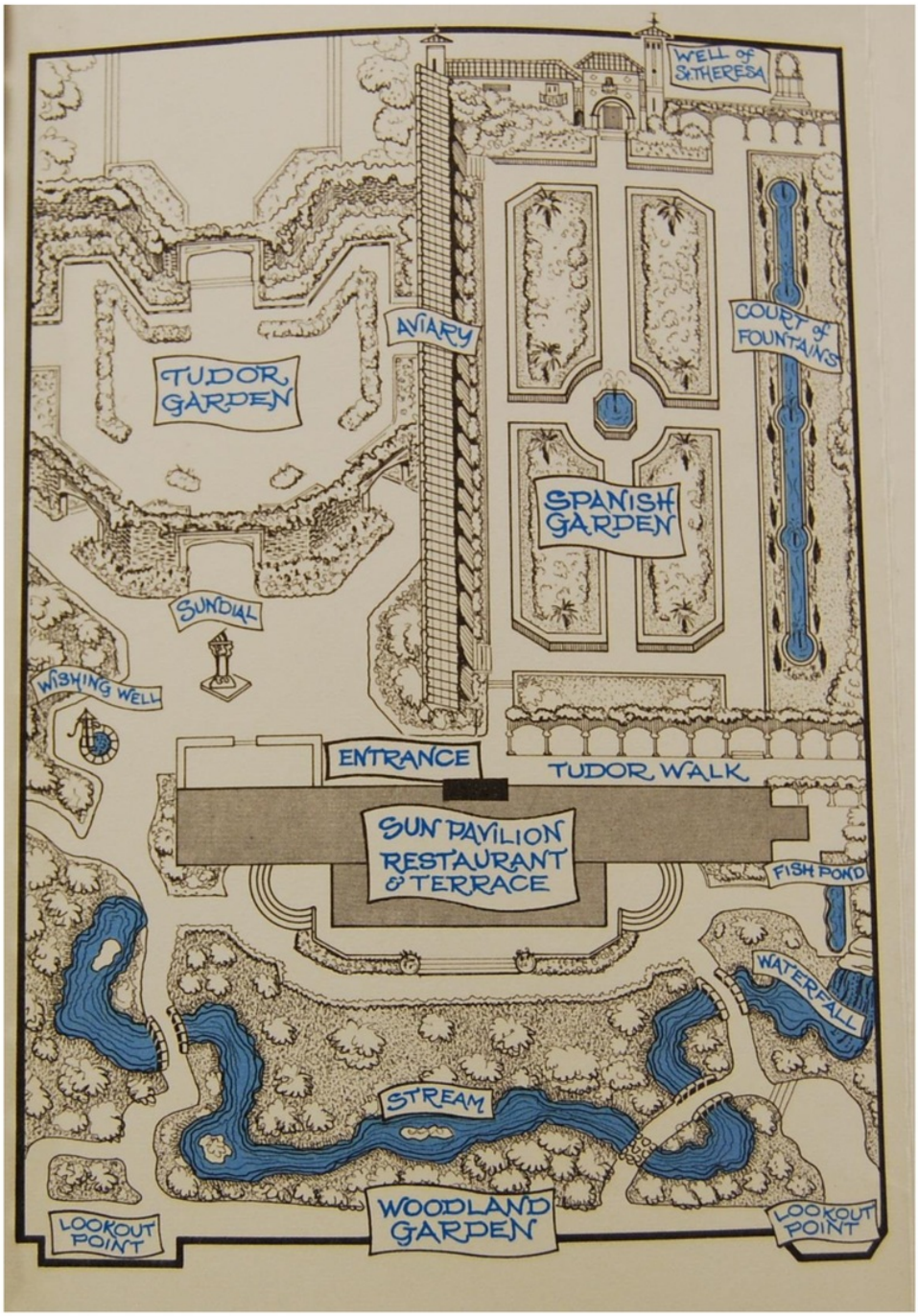

Figure 18: Hancock's design for the Roof Gardens at Derry & Toms (c. 1950s).

Figure 19: Selfridges, roof garden (c. 1915).

Figure 20: Crowe's roof garden (c.1978)

Russell's legacy was recognised in various articles on green roofs including the 1991 February issue of *Building Design*.[92] The link between architecture and landscape architecture is blurred and the moniker, 'The Hanging Gardens of Basingstoke', best describes the design and evokes the sensation of seeing this 1970s office building in situ (Figure 21). The article from 1977 and *The Arup Journal* (1979) emphasise the advantages of the outdoor terraces and their amenity value: '…it is sometimes desirable actually to go outside from your office, and that the knowledge that it is possible to do so banishes any feeling of being "cooped up"'.[93]

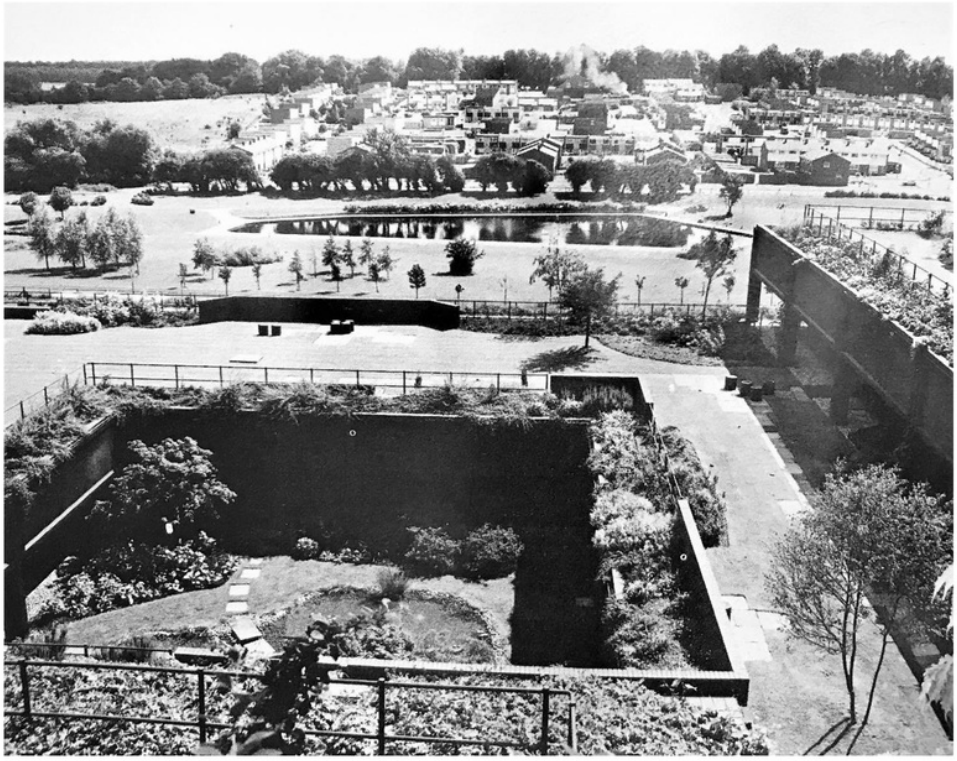

Figure 21: Gateway House, view to the south (c.1977).

[92] Mentioned in the context of the RMC Headquarters by Nick Jones, Tony Sawyer, 'Let's have more roof gardens', *Building Design* supplement (February 1991), pp. xviii – xix.
[93] Hoggett (ed.), 'Gateway House', pp. 3 – 4.

As Winter puts it: 'The building was designed during the blackest moments of the energy crunch.'[94] According to Arup various technical solutions, including natural ventilation, were explored during the design stage prompted by the wider debate on future fuel supplies; but were discounted as unreliable.[95] The use of tinted glazing and 1.5m overhang to south facing windows, coupled with the insulation to the building provided by planting on the green roofs was evidently part of Arup's 'total concept' and approach to energy efficiency (Figure 22).

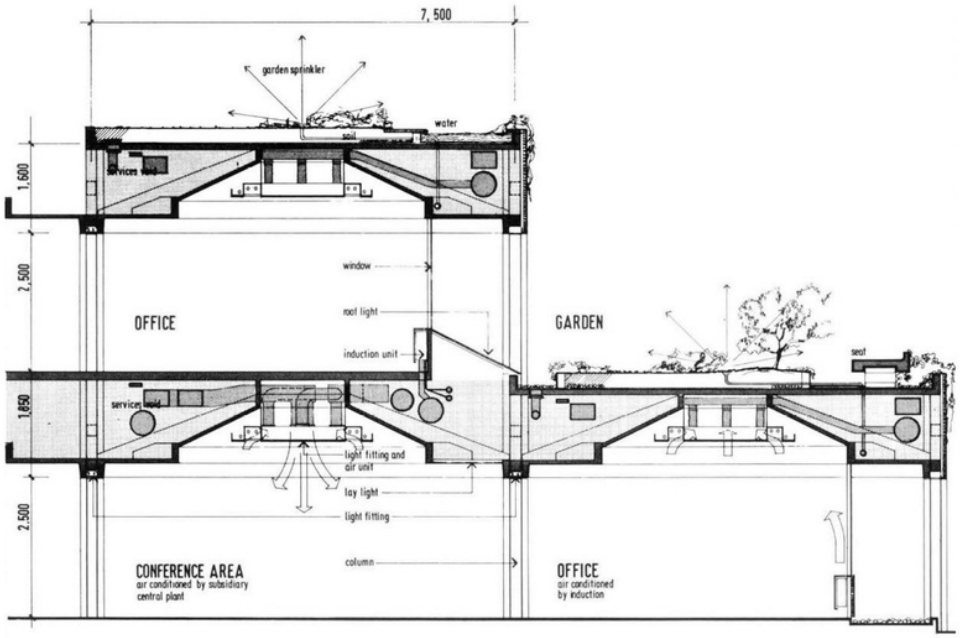

Figure 22: Gateway House, cross section showing services.

[94] Winter, 'Appraisal', p. 354.
[95] Hoggett, pp. 8 – 9.

With regard to Russell's planting, plants appear to have been selected based on their natural growing conditions to suit the location on the exposed terraces. The most informative is *Landscape Design* journal (May 1978), which lists species according to Russell's design intent. The sheltered courtyard was planted with delicate and tender plants such as azaleas and ferns and the most used and largest terrace included a lawn with *Carpinus betulus* 'Columnaris', and other trees, and fragrant shrubs. The upper terraces were designed as themed gardens, the Wisteria Terrace and the Vine Terrace, with narrow *Chamaecyparis lawsoniana* and climbers spilling over the elevation on the fourth level with level five characterised by the gold and silver coloured gardens. The yellow leaf species of maple, acacia, and hops contrasted with silver wild pear, buddleia and native willow, and other. The top roof garden comprises three themed small gardens: a herb garden with apple trees; a winter garden with winter flowering mahonias, helleborus and viburnums; and a Japanese garden containing dwarf pines and azaleas.[96]

Gateway House continues to be occupied, successfully serving new companies, and is currently subject to a planning application for refurbishment by Squarestone Growth.

[96] Anon., 'Six roof landscapes', p. 23.

Chapter 4: CEGB Headquarters, Bedminster, Bristol.

The CEGB Headquarters are located along Bridgwater Road at Bedminster Down, in south Bristol. The site cover approximately 7.5 hectares and topographically sits on a ridge overlooking the valley of the Ashton Brook, extending towards Bristol city centre (Figure 23 and Figure 24). Historic England explains that in 1972 the CEGB South Western Region Board decided to consolidate its staff into one location. The Board wanted a state-of-the-art building to accommodate 1200 staff and 700 parking spaces with office work space, laboratories and amenity areas.[97]

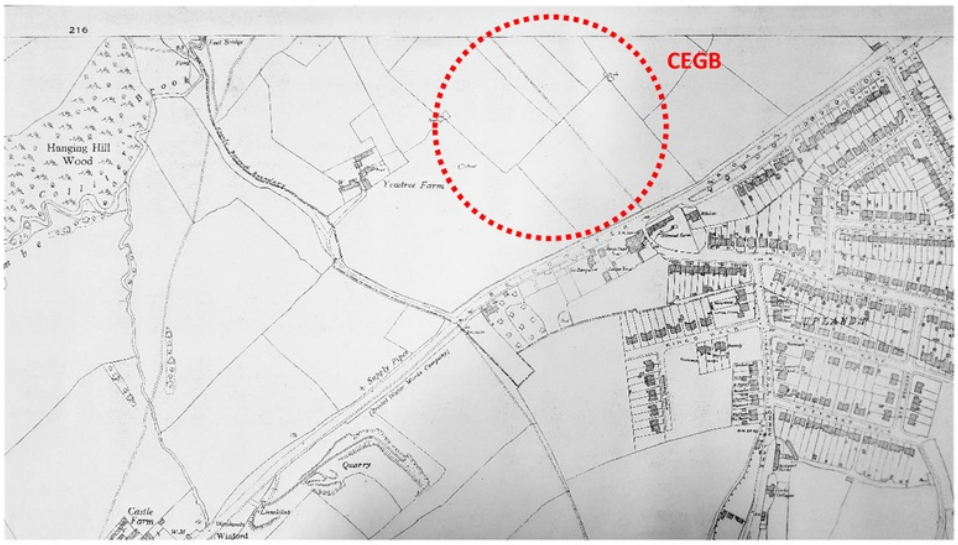

Figure 23: CEGB Headquarters – Site Location Plan, OS Map 318, 1:25,000 (1949).

[97] Tony Aldous, *C20 Bristol's Twentieth-Century Buildings* (Bristol, 2000), p. 67.

Figure 24: CEGB Headquarters, aerial view of the site (1984).

Under Section 37 of the Electricity Act 1957 the CEGB had an obligation to have due regard to the effects of its energy infrastructure upon the natural environment.[98] This responsibility included sensitive site findings and design that would limit adverse effects on visual amenity.[99] The implementation of this duty was secured by the diverse professional background of the Board with William Holford advising on design issues.[100] According to Glyn England,[101] the Board recognised that a similar sensitivity was required for siting its new regional headquarters. During this time the energy crisis and debate on future energy generation were

[98] Jonathan Clarke, *'High Merit': existing English post-war coal and oil-fired power stations in context* (2016), p. 13, <https://research.historicengland.org.uk/PrintReport.aspx?i=15846> [accessed 18th August 2019].
[99] Glyn England and Rex Savidge, 'Preface', *Landscape in the Making* (May 1982), unpaginated, back of front cover.
[100] Rob Cochrane, *The CEGB Story* (London 1990), p. 16.
[101] Director General of the South West Region until late 1973 and Chairman of the CEGB from 1977 to 1982.

at the centre of the CEGB agenda,[102] and the Board wanted the new regional headquarters to be an exemplar project. At the same time the attitude towards office environment as a working space was changing with designers moving away from the American blueprint of deep office plans and a high level of compartmentalisation.[103] The reliance on artificial light and air conditioning lost its popularity in the 1970s due to the concerns about energy usage, impact on environment, and national deficit in energy.

The Board decided that energy efficiency was to be one of the drivers and Holford recommended Arup Architects due to their previous expertise.[104] Although the details of their appointment are unknown, in the early 1970s Arup was already known and well respected in the industry. Their portfolio included corporate projects in the UK: the Blackpool Police Headquarters and Law Courts, the IBM computer plant and offices in Havant, and new offices for the *Oxford Mail* and *Times Ltd*. Furthermore, Arup's architectural and engineering team were involved in the design of Horizon Factory for cigarette manufacturing, Nottingham. The scheme opened in 1972 and Arup's design was focused on energy conservation, very much what was required for the CEGB project.[105]

Arup Architects designed a series of pavilions arranged on three levels, with the lower floor partially hidden in the natural slope of Bedminster Downs (Figure 25 and Figure 26). The full planning permission for the building was granted in June 1975,[106] with the pre-construction archaeology survey starting the same year.[107] The building 'was hailed as a landmark in sustainable low-energy design' and received the Business & Industry Award in 1979 with the

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[102] Douglas Pask, '1975 – energy conservation year', *South Western Power* (January 1975), pp. 1 – 2; and Anon, 'Winning the coal battle', *South Western Power* (Match 1972), p. 1.
[103] Discussed in Francis Duffy, 'Office buildings and organisational change', in Anthony King (ed) *Buildings and Society* (London 1980), pp. 255 – 280.
[104] British Library, *An Oral History of the Electricity Supply Industry in the UK* (2012), Glyn England interviewed by Steven Guilbert and Thomas Lean, Part 8, C1495/03, recording 35:50 – 40:40.
[105] George Kasabov, 'Solution to energy conservation in buildings', *RIBA Journal,* Vol.83 No.2 (February 1976), pp. 50 and 57.
[106] Peter Swann, 'Current work in the South-West: CEGB Regional Headquarters at Bedminster Down, Bristol', *Landscape Design,* No. 132 (February 1980), p. 7.
[107] Anon., 'Traces of Romans found at Bedminster', *South Western Power* (September 1975), p. 2.

Panel commenting: 'The project is also significant in providing economies by fuel conservation and maximum use of natural light and radiation, and also the use of re-cycled materials such as fuel ash'.[108] In 1980 it was recognised by the Civic Trust Award (the RIBA Regional Award for the South West) and received a Commendation in the *Financial Times* Awards (Industrial Architecture Category).[109]

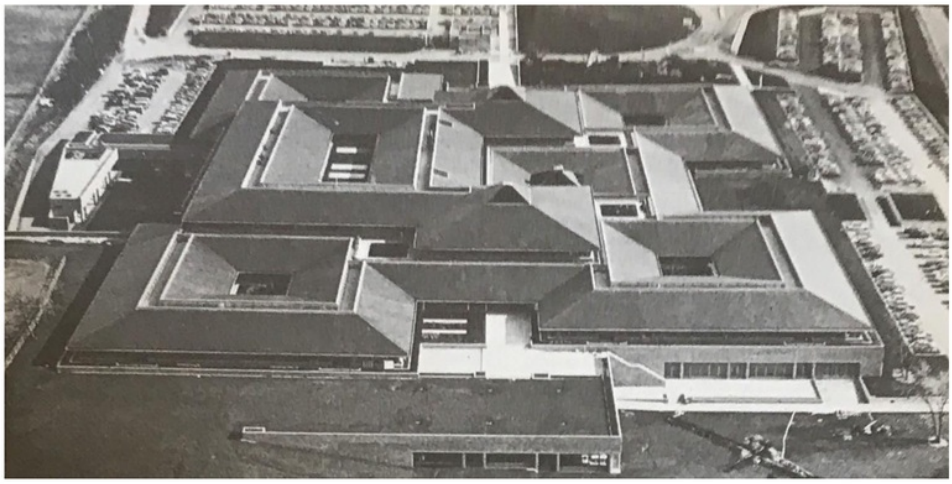

Figure 25: CEGB Headquarters, aerial photograph of the building (c. 1979).

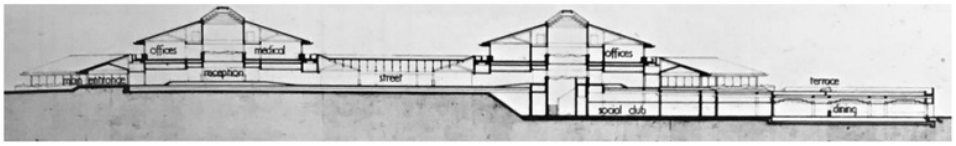

Figure 26: CEGB Headquarters, cross-section through the building.

[108] Anon., 'Bedminster Down wins top award', *South Western Power* (February 1980), p. 1.
[109] Kenneth Powell, *Arup Associates* (Swindon, 2018), p. 103.

The architecture of the CEGB Headquarters has been subject to a number of articles in various magazines, with one of the earliest being the February issue of the *RIBA Journal* in 1976. The article coincided with the RIBA exhibition 'Solution to energy conservation in buildings', which focused on exemplar 'energy conservation' architecture. As mentioned before, the energy crisis of the early 1970s and economic instability prompted the UK government to take steps to reduce energy consumption. The article provides a useful insight into the architecture of that period suggesting that most of the discussion on energy conservation was '… theoretical or utopian'.[110] The article also acknowledges that in the early 1970s clients and designers had little incentive to consider energy conservation with the government determined to keep the price of energy low.

Contrary to Historic England's description, the Landscape Institute's *Register of Practices 1975* lists Peter Swann as part of the Swann & Windsor practice.[111] The January issue of *The Architectural Review* from 1976 confirms this.[112] A newspaper article from the late 1980 reaffirms that 'The development was (…) landscaped by Swann and Windsor'.[113] The building was quickly recognised for its design innovation, with various articles between 1979 and 1980 focusing on the energy efficiency, natural ventilation, and thermal mass of the building. These architectural journals also highlighted the innovative use of internal spaces with separate pavilions and the internal main 'street' forming the spine for the building.[114] The main street was designed to provide social cohesion linking various working and social areas, coffee stations, restaurants and social club, along with the library for the staff,[115] and in-house bank services (Figure 27).[116]

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[110] Kasabov, 'Solution to energy conservation in buildings', p. 47.
[111] MERL SR LI AD9/3/1.
[112] Anon., 'Offices', *The Architectural Review,* Vol.CLIX No.947 (January 1976), p. 34.
[113] Anon., 'Accolade of the highest office', *Evening Post* (20th September 1980).
[114] Martin Spring, 'Generating new architecture', *Building*, Vol.CCXXXVII No.10 (20 July 1979), pp. 34 - 40.
[115] Anon., 'Offices', p. 34.
[116] Arup Associates, Arup Associates (London, 1990), p. 27.

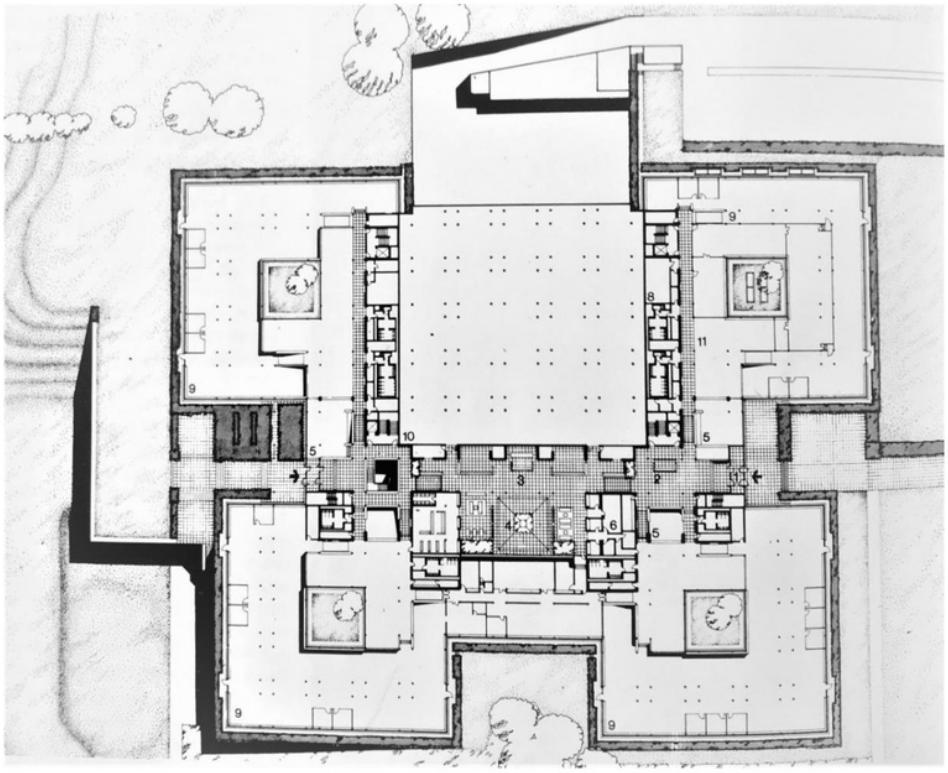

Figure 27: The former CEGB Headquarters, ground floor plan (1979).

According to Historic England's entry, the landscaping is a relatively intact early example of a corporate landscape design focused on low-cost and low-maintenance.[117] As expressed by Martin Spring, the building embodies the government's 'Save it' campaign of energy conservation.[118] It is appropriate to assert that the landscape design plays a significant role in the architecture of the CEGB Headquarters. However, there is a level of uncertainty with regard to Arup's design for external areas and Swann & Windsor's influence over the external layout. Arup Associates' own publication focuses on the energy efficiency and building design, failing to provide any description of the landscape design.[119] Clarity is provided by Peter Swann's article from February 1981, which refers to Peter Swann and Associates as a

[117] Historic England, <https://historicengland.org.uk/listing/the-list/list-entry/1419382> [accessed 30April 2019].
[118] Spring, 'Generating new architecture', p. 39.
[119] Arup Associates, Arup Associates, p. 27.

landscape consultant, notably missing a reference to the original appointed team that included John Windsor. The article also describes the plant species utilised internally in the courtyards, and around the building, and the need for a low maintenance planting scheme. Native trees and understorey shrubs were planted around the car park, partly to replace the elms affected by the Dutch Elm Disease and increase the screening provided by the bunds. Species included ash, Norway and field maples, along with quickthorn, holly, and dogwood. Trees within the car park included more ornamental silver maple, broad-leaved cockspur thorn and rowan, supplemented by various species of *Cotoneaster*, *Hypericum*, cherry laurel, etc. Swann goes on to say that the treatment of the building's perimeter with built-in planters enabled the architecture to transition into the adjacent car parking areas whilst screening it. The ground formation around the car parking 'combined with mature planting, is designed to place all parking in dead ground both as seen from outside the site and from the building itself'.[120] The internal courtyard planting and outside terraces introduce a soft element into the otherwise regimented and strongly geometric architecture whilst ensuring that each office area benefits from views either over the countryside or internal landscape courtyards.

The layout of the CEGB HQ is strongly geometric and the external space seems subordinate to the internal 'main street' and office pavilions. This hints at an imposed architectural approach rather than one advocated by landscape architects recommending 'curves and perhaps oblique access lines' for vehicular and pedestrian movement.[121] The internal planting aimed 'to strengthen the link between the building and its surrounding landscape', and was based on hydroponic cultivation chosen due to the lightweight properties of the growing medium and ease of maintenance. The species used included *Rhoicissus* 'Jubilee', *Scindapsus aureus*, *Ficus*

[120] Swann, 'Current work in the South-West', pp. 7 – 9.
[121] L. Milner White, 'The landscape of industry: factories', *Journal of the Institute of Landscape Architects*, No.57 (February 1962), p. 6

pumila, *Philodendron scandans*, *Aglaonema*, *Dracena deremensis*, *Schefflera actinophylla* and other, now relatively common house plants.[122]

Although much of the information on the CEGB Headquarters in architectural journals seems to be repeated, the most informative is the reference to the consultations carried out by the Tavistock Institute of Human Relations. Historic England's entry states: 'In order to sharpen the brief the CEGB commissioned a series of papers from the architect Barry Poyner of the Tavistock Institute which established the three main principles for the design'[123] Various investigated primary sources confirm that the three primary design objectives were: to minimise the visual impact on the surrounding landscape; to provide an attractive working environment; and the requirement for the building to '…be the major modifier of the external climate…'.[124] One of the articles from 1979, however, is more explicit on the Institute's involvement limiting it to interviews on staff needs, organisational structure, and the physical layout of the accommodation, thus excluding any reference to the issues of visual amenity.[125] Further research on Poyner identified that his work focused on the office environment, safety and design but not landscape architecture or natural environment.[126] His article from 1970 deals with *bürolandschaft* thus confirming the hypothesis that his work on the CEGB headquarters was limited to the internal office environment and not visual impact as is alluded in Historic England's entry and various articles.[127] The aforementioned article in *Building* from 1979 is extremely valuable as it clarifies the confusion with regards to the input from the Tavistock Institute, created by imprecise articles in newspapers and journals.

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[122] Swann, 'Current work in the South-West', pp. 7 – 9.
[123] Historic England, <https://historicengland.org.uk/listing/the-list/list-entry/1419382> [accessed 30April 2019].
[124] Martin Spring, 'CEGB Offices, Bristol', *Architect & Builder*, No.10, Vol.30 (October 1980), p. 3.
[125] Spring, 'Generating new architecture', p. 36.
[126] The on-line catalogue of the Tavistock Institute lists a number of Poyner's books and articles.
[127] Barry Poyner, 'Research and Bürolandschaft', *The Architectural Review,* No. 884, Vol.CXLVIII (October 1970), pp. 247 – 248.

Spring's article stresses the topography of the local area and views out across the countryside, the village of Long Ashton, Clifton and Bristol city centre. The interaction between the countryside and the employees was ensured by large areas of glazing with dining areas separate from the working area and projecting out to afford extensive views across the valley. It indicates that design studies had been conducted from the surrounding viewpoints, which '…suggested that a low profile building with an irregular silhouette would provide the most sympathetic solution in terms of the site and its surrounding landscape'.[128] Spring's specific reference to 'design studies' suggest that these were concerned with architecture, its profile and mass. He also states that the excavated soil was used for ground levelling and landscaping to '…conceal surface car parking from within the building and off site'.[129] The lead architect, Don Ferguson, recalled in his article from 1992, that the topography was a major constraint and influence on the design: 'That building became a visual extension of the hill itself with large roof pitches and rural materials to distinguish it from its urban neighbours across the valley in Bristol' (Figure 28).[130]

Figure 28: Views from Long Ashton (c. 1979).

[128] Spring, 'CEGB Offices, Bristol', p. 7.
[129] Ibid., p. 8.
[130] Mike Bonner, Don Ferguson, 'Legal & General, Kingswood: Architecture in landscape', *The Arup Journal*, Vol.27 No.4 (Winter 1992 – 93), p. 5.

The use of ground modelling was previously used on a number of CEGB projects, namely power stations, and indeed referred to in Historic England's entry. As outlined by David Thirkettle, the technique was used to conceal views and control the outline of the built form. Crowe in her presentation given in 1960 also highlighted how the use of ground modelling around power stations can respond to the natural landscape 'Instead of allowing the levelled and rectangular industrial pattern to thrust outwards, the organic pattern is thrust inwards'.[131] The complexity of the issue is emphasised by Jellicoe's contrasting approach at the Oldbury Nuclear Power Station where the spoil was used to create rectilinear field patterns reflecting the level topography.[132] Crowe's language also reflects the Modernist approach when describing Sir Basil Spence's Trawsfynydd Nuclear Power Station: '…dark and rough in texture and will rise almost as a growth from the rocks'. [133] Interestingly the issue of colour in the landscape has been recognised by a number of practitioners and there is a clear link between the advances in landscape surveys and work of the CEGB. Landscape architects were employed by the CEGB at a number of energy generation schemes and their contribution has been acknowledged in various articles.[134]

The recent report prepared by Historic England is an invaluable resource on the cooperation between architects and landscape architects, and how it guided the siting and choice of a colour palette for the buildings.[135] At Trawsfynydd Nuclear Power Station grey pigment was added to concrete '…to match the rock…'[136] and this is synonymous with Alan Clark's cooling towers where the addition of red pigment aims to reflect the geology and red soils of

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[131] Sylvia Crowe, 'Power and the Landscape', *Journal of the Institute of Landscape Architects*, No.52 (November 1960) p. 4.
[132] David Thirkettle, 'Ground Modelling', *Journal of the Institute of Landscape Architects*, No.53 (February 1961), p. 14.
[133] Crowe, 'Power and the Landscape', p. 4.
[134] For example: Brenda Colvin, Derek Lovejoy, Sylvia Crowe, 'Landscape work for the CEGB', *Journal of the Institute of Landscape Architects*, No.66 (May 1964) pp. 12 – 14; also England and Savidge, *Landscape in the Making*, p. 6.
[135] Clarke, *'High Merit'*, pp. 14-23.
[136] Crowe, 'Power and the Landscape', p. 6.

Shropshire.[137] Crowe in her article from 1964 continues the debate referring to the 'natural grey' as the most suitable for electricity transmission towers.[138] Interestingly, the concrete blockwork for the CEGB Headquarters contained pulverised ash with added pigment and texture indicating Arup's response to the natural building material found in the locale, namely the sandstone. Similarly, the natural slate roof tiles helped blend the building with its surrounding and make it appear more recessive in the views.

Evidently the scale, mass, and architectural form of the CEGB Headquarters was not incidental and as mentioned before was informed by Arup's design studies. These, however, were dealing with a site that had already been selected by the CEGB. According to Glyn England, the CEGB was initially considering three or four sites around Bristol. Although there is lack of information on their locations what is certain is that they must have been discounted on the grounds of visual amenity.[139] Unfortunately, the investigated documents primary sources did not reveal any landscape surveys.[140]

Notwithstanding this, landscape surveys had been used by the industry to deal with power stations and other infrastructure since the post-war period. These differed drastically from the early survey techniques of the 1940s, which focused on domestic projects rather than landscape planning.[141] Crowe's *Landscape Report* No. 2 *for the Wylfa Nuclear Power Station* from 1962, exemplifies what must have been a standard practise at the time.[142] Her analysis included sketches from various locations and the use of ground modelling, and it seems that these two aspects of work were commonly used by landscape architects in large scale projects

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[137] Clarke, *'High Merit'*, pp. 16-17.
[138] Colvin, Lovejoy, Crowe, 'Landscape work for the CEGB', p. 14.
[139] British Library, *An Oral History of the Electricity Supply Industry in the UK* (2012), Glyn England interviewed by Steven Guilbert and Thomas Lean, Part 8, C1495/03, recording 36:55 – 38:40.
[140] This included the CEGB own *South Western Power* and *South West Power* journals for the South West region, published between 1967 to 1977 and 1977 to 1982 respectively, and available at the British Library.
[141] Brian Hackett, 'Landscape Survey. Methods of Preparation and Presentation', *Journal of the Institute of Landscape Architects*, No.13 (April 1948), pp. 12 – 15.
[142] Sylvia Crowe, *Landscape Report* No. 2 *for the Wylfa Nuclear Power Station* (from 1962); MERL, AR CRO PF/A/14.

(Figure 29 and Figure 30). Frederick Gibberd's work on the potash mine in Boulby, Yorkshire included a similar approach of mapping, sketches from identified viewpoints, and cross sections.[143] The issue of large-scale buildings in landscape was not new. As Claire Glasspoole puts it: 'New buildings in the landscape must relate to the surroundings and the neighbouring structures if they are not to intrude.'[144] The issue of car parking was even more difficult to reconcile with Milner White highlighting the increasing amount of car parking required for out-of-town factories and unrelieved mass of cars intruding into the landscape, whilst acknowledging that a simple hedgerow vegetation can provide successful screening.[145]

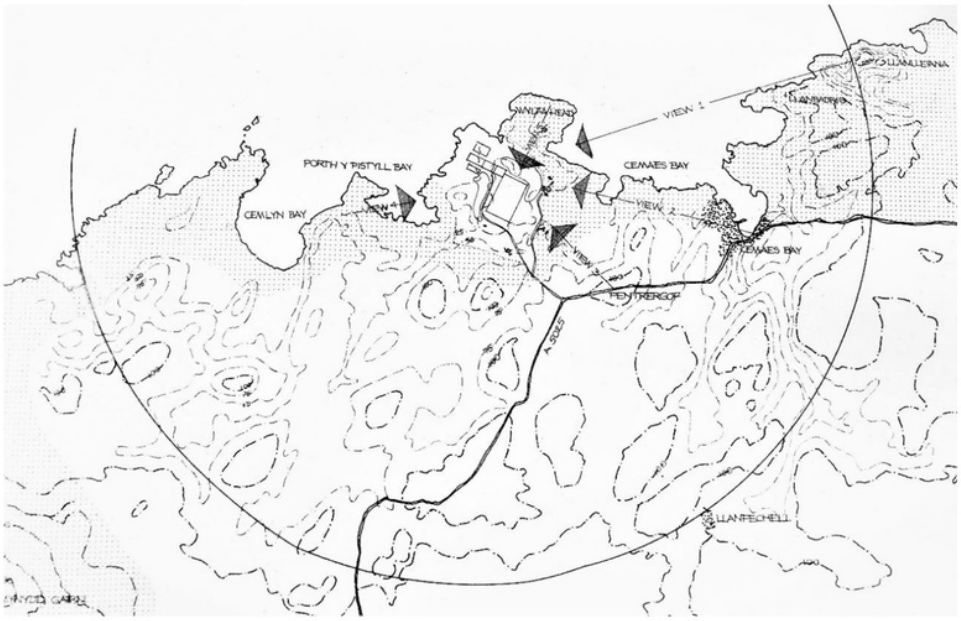

Figure 29: Sylvia Crowe's map for Wylfa Nuclear Power Station (1962).

[143] Frederick Gibberd, 'Power and potash', *The Architectural Review,* No.930, Vol.CLVI (August 1974), pp. 97 – 100.
[144] Claire Glasspoole 'The future of the Shetland landscape' *Landscape Design,* No.112 (November 1975), p. 28.
[145] White, 'The landscape of industry', p. 6.

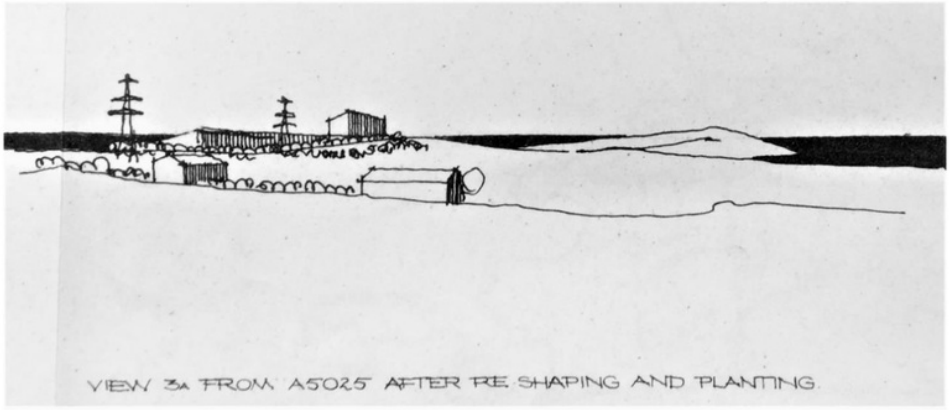

Figure 30: Sylvia Crowe's sketch view for Wylfa Nuclear Power Station (1962).

The CEGB has been described as a mentor of landscape architecture albeit very little research appears to have been published to explore this statement. It is clear that this role was indirectly imposed by the government through a new Clause in the 1952 Act of Parliament requiring the then Central Electricity Authority 'to have due regard to the preservation of scenery and amenities'.[146] Understandably, there was an inherent conflict between electricity generation at the lowest price possible and preservation of amenity.[147] Landscape architects had been employed by the then Central Electricity Authority and later CEGB in addition to their own in-house landscape consultant to devise schemes. The influence of government policies was crucial in providing a level of control with an arbitrary system allowing the then Ministry of Planning and the Ministry of Power to 'call-in' the application and determine its outcome.

[146] The 1952 Act related to the construction of hydro-electric schemes at Dolgarrog and Maentworg in north Wales. R. Colwyn Foulkes, 'Landscape Work in Wales', *Journal of the Institute of Landscape Architects*, No.47 (August 1959), p. 8.

[147] This largely relates to the primary objective of securing a suitable site in close proximity to natural resources, which often fell within coastal zones or open countryside. For example: Michael Shepheard 'The landscape of power stations', *Journal of the Institute of Landscape Architects*, No.62 (May 1963) pp. 4 – 7; also England and Savidge, *Landscape in the Making*, p. 6.

Colwyn Foulkes explicitly states that in practice all relevant parties were encouraged to reach an agreement in advance and 'In other words, the amenity Clause was working'.[148]

The assertion that planning policies guided the development of the CEGB Headquarters becomes more plausible when reviewing the planning history search carried out for the site.[149] According to Bristol City Council a planning application for the CEGB Headquarters was granted approval on 28th of August 1969.[150] Arup's own report states that the scheme was approved in 1968 and then renewed for another five years on the 10th April 1973. It was apparently located within the so called 'white land', as identified on the Bristol Town Map. This suggests that it was not subject to any specific planning policies, although that did not preclude the Council from imposing planning restricts.[151] Springer confirms that the external appearance of the building was subject to a planning condition '…that the new building should make minimal visual impact on the landscape'.[152] This brief note is significant in ascertaining that the external appearance of the building and the associated landscaping was directly driven by the requirements of the planning team at Bristol City Council. This conclusion is further supported by Swann's article stating that the planning approval, granted in 1973, stipulated a number of conditions. This included a 100m offset from the A38, of which a maximum of 25% could be developed as hard surface, retention of hedgerows and trees, and consideration to be given to views from Long Ashton across the valley (Figure 31). The aforementioned Arup's report confirms the details provided by Swann.[153]

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[148] R. Colwyn Foulkes, 'Landscape Work in Wales', *Journal of the Institute of Landscape Architects*, No.47 (August 1959), p. 8.
[149] Information received by email from the Local Land Charges Manager, Bristol City Council's reference PSC012862/TP.
[150] Planning application number 68/03223/P_U 'New office building as headquarters for Central Electricity Generating Board South Western Region'. The reference number suggests that the application was submitted in 1968.
[151] Arup Associates, *CEGB Scheme Design* (unpublished report, provided by the current occupier of the CEGB Headquarters), unpaginated, p. 6.
[152] Spring, 'Generating new architecture', p. 36.
[153] Arup Associates, *CEGB Scheme Design*, p. 6.

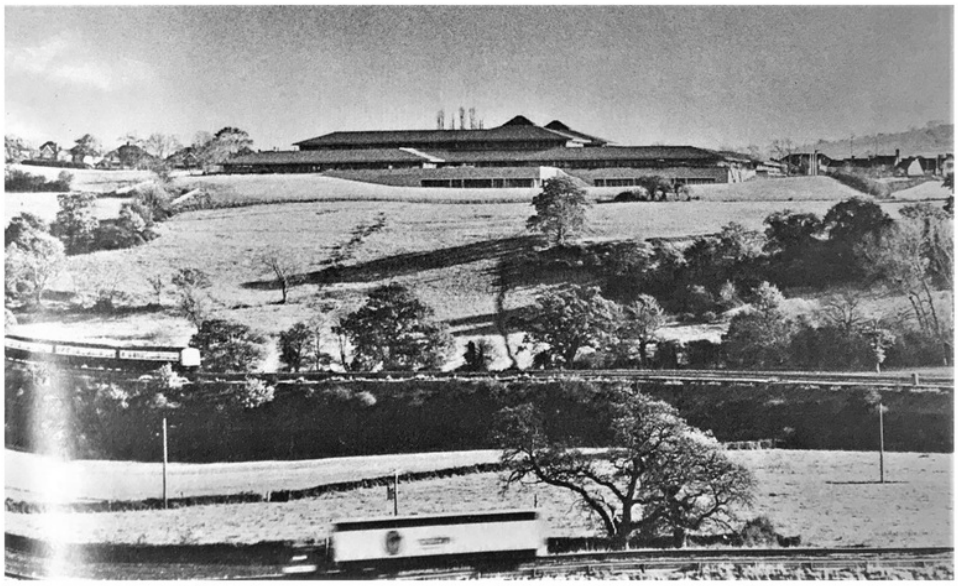

Figure 31: Views from Long Ashton (c. 1981).

The landscape study, although likely to have been prepared, has not been traced and neither Historic England nor the Tavistock institute hold any records that would clarify this issue. Various journals, however, suggest that some form of viewpoint analysis had been carried out. Swann's article mentions the village of Long Ashton and Dundry Hill with other primary sources including photographs of the headquarters building with Clifton Suspension Bridge in the background. It is possible to assert that views from these tree locations had guided the design (Figure 20, Figure 21, Figure 22, and Figure 23). The approach from the south is also mentioned by Swann and it is plausible to assume that the aforementioned 100m buffer zone, between the building line and the A38, was devised to retain the rural sense of arrival (Figure 24).

The building has proved successful and responsive to the changing needs of the client, and indeed current occupiers. It has survived the demise of the CEGB, and as Tony Aldous has put it: 'If this is a dinosaur, it has proved remarkably adaptable.'[154]

[154] Aldous, *C20 Bristol's Twentieth-Century Buildings*, p. 67.

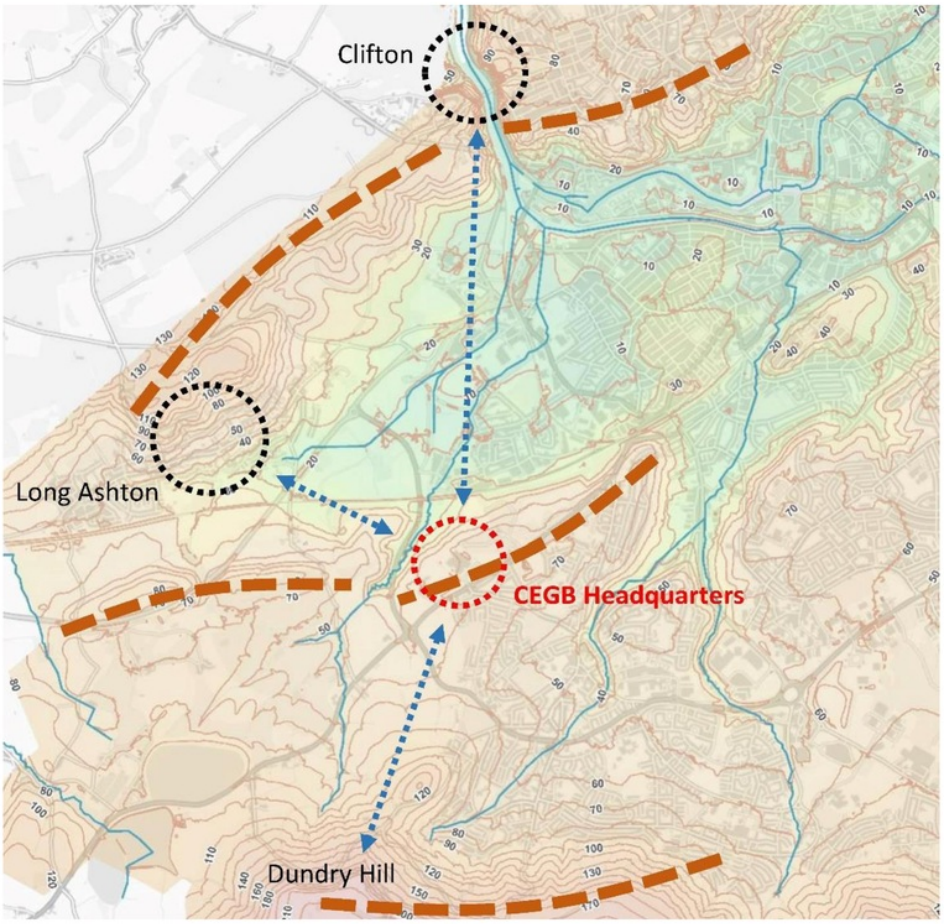

Figure 32: CEGB Headquarters, Site Location and Key Landscape Features.

Figure 33: CEGB Headquarters, View from Long Ashton.

Figure 34: CEGB Headquarters, View from Dundry Hill.

Figure 35: CEGB Headquarters, View from Clifton Suspension Bridge.

Figure 36: CEGB Headquarters, Ground modelling along the A38.

Chapter 5: Cemex House, former RMC Headquarters, Thorpe, Surrey.

The former RMC Group International Headquarters (RMC Headquarters) is located on the eastern outskirts of the village of Thorpe, in Surrey, near the junction of the M25 with the M3. It is accessed off Coldharbour Lane, which links indirectly with Staines – upon – Thames to the north, near London Heathrow Airport. The site covers approximately 7.4 hectares with the surrounding area best described as the low- lying valley landscape of the River Thames. A number of lakes and reservoirs follow the course of the river giving evidence of the past gravel extraction activities in this area. The elevated and wooded St Anne's Hill is located to the south and forms a landscape feature contrasting with the relatively level landscape around (Figure 37). The RMC Headquarters comprise a number of buildings including Eastley End House (a Georgian building listed in September 1985 as Grade II),[155] Meadlake House (early Victorian, former stable block to Eastley End House), the Grange, and associated Annexe (both Arts & Crafts buildings), set within a modest plot with parkland trees. Manor Lake, one of the former gravel pits worked by RMC Group Ltd, adjoins the site to the south. The buildings are interconnected visually and functionally by a purpose – built office building, largely single storey, designed from 1986 and built in 1988 – 1989 to the design of Edward Cullinan Architects (Figure 38 and Figure 39).[156] One of the earliest articles on the RMC Headquarters from 1986 describes it: 'Between the houses the landscape is formal but asymmetrical and responsive to the houses' separate characters. Outside of this sphere the landscape is treated as informal parkland'.[157]

[155] Historic England, <https://historicengland.org.uk/listing/the-list/list-entry/1028928> [accessed 31 August 2019].
[156] Historic England, <https://historicengland.org.uk/listing/the-list/listentry/1420102> [accessed 30 April 2019].
[157] Anon., 'Edward Cullinan Architects', *The Architectural Review* Vol. CLXXIX No. 1067 (January 1986), p. 42.

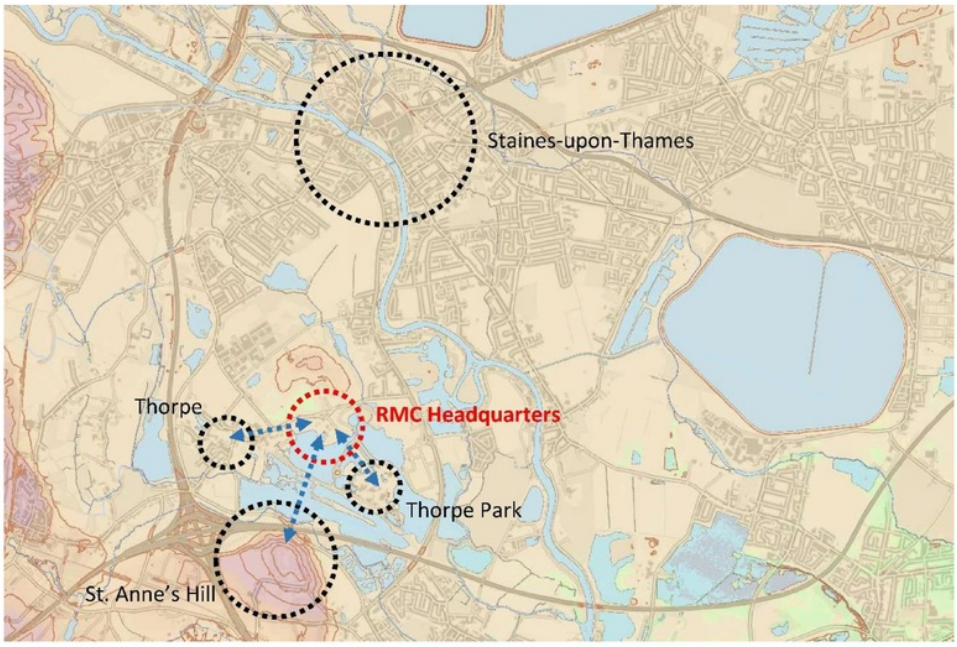

Figure 37: RMC Headquarters – Site Location Plan with Key Features.

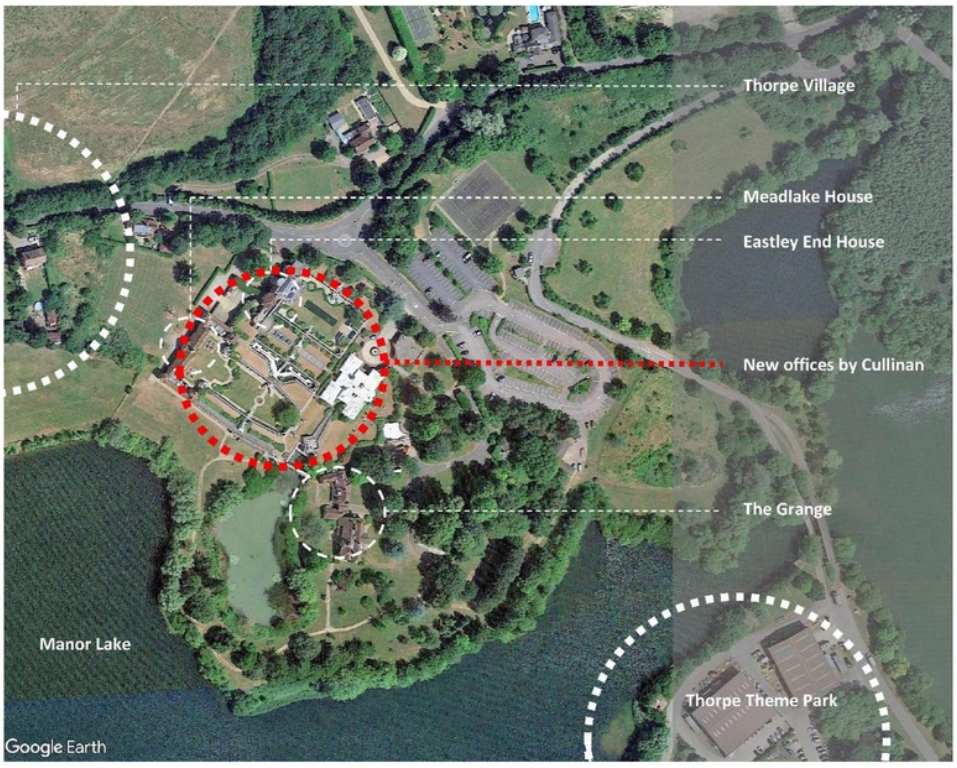

Figure 38: Key buildings associated with RMC Headquarters.

Figure 39: Model of the RMC Headquarters (c. 1986).

Robin Nicholson suggested the client's brief was not detailed,[158] but it included the provision of offices for 200 staff, recreational and social spaces such as squash rooms, gym, and swimming pool; restaurants, laboratories, and meeting rooms, and accommodation for residential courses. According to the Twentieth Century Society, RMC Group's brief ruled out air conditioning on the basis of environmental concerns.[159] Although there is no further detail on what these concerns were, this likely reflected the environmental movement of the 1970s.

As part of the proposals RMC Group required the existing buildings to be restored and refurbished internally, and any insensitive late – 20th century additions removed. The design was quickly recognised for its exemplary use of natural ventilation, control of the internal

[158] In conversation with Robin Nicholson, Partner at Cullinan Studio, involved in the listing process (meeting on 17th July 2019).
[159] Anon., 'Grade II* Cemex House to get new lease of life' (on-line article 18 January 2018), <https://c20society.org.uk/news/grade-ii-cemex-house-to-get-new-lease-of-life/> [accessed 01 September 2019].

climate through the thermal mass of the slab, and sensitive landscape design.[160] The judges of the RIBA 1990 National Award for Architecture described the RMC Headquarters: 'The problem today is to give modern architecture a human face without restoring to meaningless clichés, and in this building the architects have succeeded in doing just this'.[161] The scheme has won a number of other awards including the Civic Trust Award (1990), the Steetley Special Award 'for the development most in keeping with its surroundings' (1990), *Financial Times* Architecture at Work Award (1991), Green Building of the Year Commendation (1992),[162] the RIBA South East Region, Concrete Society Award, *Sunday Times* / RFAC Building of the Year (runner up), the Runnymede Design Award, and Landscape Institute Award 1993 in the Design category.[163]

One of the aims of this dissertation is to determine to what extent planning policies guided the design of RMC Headquarters, therefore it is worth analysing the location of the scheme. Although the investigated journals did not provide a direct answer there are a number of considerations worth exploring. The proximity to the motorway network was certainly a factor with the M25 fully completed in 1986 and the M3 opened in 1971. Proximity to Heathrow Airport must have been a decisive factor allowing executives from various regional offices and overseas subsidiaries for easy access to the RMC International Headquarters. The fact that RMC Group had already owned the land and was historically present since 1930s in this part of Surrey was certainly a strong factor. The area was worked by RMC Group throughout the 1970s with the surrounding gravel pits and The Grange acquired in 1968 as part of the acquisition of Hall and Ham River aggregate supplier. In 1969 The Grange was repurposed as a technical and training centre thus suggesting that the company already planned to expand or

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[160] Kenneth Powell, *Edward Cullinan Architects* (London, 1995), p. 160.
[161] Anon., Jury Report 'RMC International Headquarters', *RIBA Journal* (January 1991), p. 41.
[162] Richard Hawkes, 'Buried Treasure', *Concrete Quarterly* (Summer 1991), p. 24.
[163] Cullinan Studio, on-line case study 'RMC International HQ' (undated), <http://cullinanstudio.com/project/rmc-international-hq> [accessed 01 September 2019].

at least develop a training centre in this location. This assertion is plausible considering that RMC Group had previously owned a ten-storey corporate office in Staines, commissioned in 1972, approximately 3km from Thorpe. The building was sold in mid-1970s due to financial pressures caused by the economic recession. The recession continued into 1980, with the Chairman's Statement warning about the deepening recession.[164] Following this the early to mid-1980s were the most prosperous with the company profiting from lucrative road building programmes in the UK and this perhaps explains the reason for the new offices.[165]

It is difficult to discuss the siting and Cullinan's design without first acknowledging the key constraints associated with the site. Its western part lies within the Thorpe Village Conservation Area which includes Eastley End House and Meadlake House, and is close to Thorpe's historic core and St Mary's Church (12th century). The Conservation Area was already in place when Cullinan became involved,[166] with St. Mary's Church listed as a Grade II* building in November 1986.[167] Furthermore, much of the site was, and still is, within the Metropolitan Green Belt. Evidently the associated planning policies imposed a stringent development control with the issues covering effects upon heritage assets but more importantly the sacrosanct openness of the Green Belt.[168] The location of the scheme within the Green Belt proved to be the most problematic point with the planning application and Cullinan's design rejected by Runnymede Borough Council in February 1986.[169] The most informative is the Council's Reason for Refusal focused on the conflict with the Green Belt policies: 'The

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[164] Unpublished report, The RMC Group, 'Chairman's Statement', *Reports & Accounts 1980* (Feltham, 1981), p. 5.
[165] Mary F., Sworsky 'RMC Group PLC', in Adele Hast (ed.), *International Directory of Company Histories* Vol. III (London, 1991), pp. 739 - 740.
[166] Designated in 1970 and extended in 1984. See: Runnymede Borough Council, 'Thorpe Conservation Area' (undated on-line article), https://www.runnymede.gov.uk/article/15536/Thorpe-Conservation-Area [accessed 01 September 2019].
[167] Historic England, <https://historicengland.org.uk/listing/the-list/list-entry/1189962> [accessed 01 September 2019].
[168] For more on the current Gren Belt policy refer to the *National Planning Policy Framework* (June 2019).
[169] Planning application no. RU.85/0877. Planning history of the site kindly provided by Runnymede Borough Council by email (10th July 2019).

development is contrary to Policy 3 of the Surrey Structure Plan and Policy GB3 of the Deposit Draft of the Borough Local Plan…'.[170]

Green Belt as a policy control

The idea of the Green Belt around London emerged in 1935 with the then Greater London Regional Planning Committee seeking 'to provide a reserve supply of public open spaces and of recreational areas and to establish a green belt or girdle of open space'.[171] The Green Belt (London and Home Counties) Act 1938 formed the legislative framework enabling local planning authorities 'to make provision for the preservation from industrial or building development of areas of land in and around the administrative county of London'.[172] According to Cullingworth, the population of Greater London increased by approximately 750,000 through migration from various deprived areas of northern England and southern Wales with a considerable increase in employment in the South East in comparison to the North East of England. The economic decline prompted the government to set up the Barlow Commission, and the Barlow Report was published in January 1940.[173] The idea of Green Belt developed further with Sir Abercrombie's Great London Plan following the recommendations of the Barlow Report and treating the green belt as 'the final barrier—a fortified urban fence—into which the town should not be allowed to extend' (Figure 40).[174] The government's *Planning*

[170] Letter dated 07th February 1986, Runnymede Borough Council, microfiche RU.85/0877 1/14.
[171] Office of the Deputy Prime Minister, Planning Policy Guidance Note 2: Green Belts < http://www.dcp-online.co.uk/dcpcontent/odpm/Planning%20Policy%20Guidance/P.P.G.02/01.htm> [accessed 07 September 2019].
[172] UK Parliament, *The Green Belt (London and Home Counties) Act 1938*, Chapter XCIII, p. A1, <https://api.parliament.uk/historic-hansard/acts/green-belt-london-and-home-counties-act-1938> [accessed 21 September 2019].
[173] Cullingworth, *Town and Country Planning*, pp. 7 – 12.
[174] UK Parliament, *Green Belts*, HC Deb Vol. 649, cc 1506, Mr. Geoffrey Rippon. (22 November 1961) <https://api.parliament.uk/historic-hansard/commons/1961/nov/22/green-belts> [accessed 04 September 2019].

Circular 42/55, published in 1955, re – affirmed the Green Belt as a nationwide policy with the *Planning Practice Guidance 2* introducing a concept of 'openness' (Figure 41).[175]

Figure 40: Peter Shepheard's visualisation of Green Belt in Abercrombie's Plan (1944).

[175] For an overview see The Building Centre, 'Beyond the Green Belt: Past, The last 80 years' (undated on-line article) < https://www.buildingcentre.co.uk/beyond-the-green-belt-past-the-last-80-years> [accessed 04 September 2019].

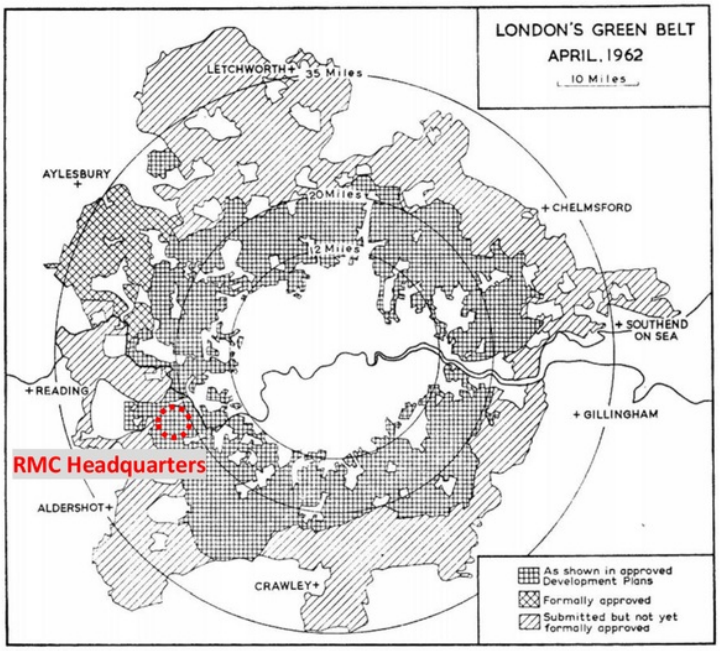

Figure 41: London's Green Belt (April 1962).

According to Mary F. Sworsky, by the end of the 1960s RMC Group was under increasing pressure from the environmental lobby and that 'RMC would have to start restoring excavation areas even though it would be time-consuming and expensive'.[176] This was not an isolated incident and by the early 1970s there were a number of similar restoration projects in the country. These projects, driven by planning policies, aimed to 'heal' the damaged landscape caused by large scale operators such as RMC Group and the National Coal Board. The Druridge Bay Country Park in Northumberland emerged initially in 1966 as an aspirational idea, developed into a planning bulletin in 1968. The opencast workings were flooded and landscape architects at Land Use Consultants devised a scheme of a country park focused around a large artificial lake with facilities, jetty and beach centre, provided by the National Coal Board Opencast Executive (Figure 42 and Figure 43).[177] The recreational amenity was no

[176] Sworsky, 'RMC Group PLC', p. 739.
[177] Anon., 'Current Work 1: Druridge Bay Country Park, Northumberland', *Landscape Design* No. 103 (August 1973), pp. 26 – 27.

doubt important as was the case with other country parks in the country but there is a clear link between land restoration and planning policies, and landscape planning. As Crowe outlined in her talk in early 1974: 'Landscape planning must include art' and she went on to say: 'We must extend the thought of a beautiful landscape to everywhere that can be viewed from it'.[178] The concept of recreational use of the countryside first emerged at 'The Countryside in 1970' conference held in 1965, followed up by the *Leisure in the Countryside* White Paper, ratified in the Countryside Act 1968. According to Tandy, 93 country parks had been approved by mid-1973.[179] It is difficult to establish to what extend planning policies controlled the restoration of the area around Thorpe, as detail information has not been identified. The investigated primary sources, namely articles on reservoirs published in *Landscape Design* journals, however, help to shed some light on this issue. The landscaping scheme around the Errwood Reservoir in the Goyt Valley, Derbyshire was required as a condition of the planning consent issued in 1960 by the then Peak Park Planning Board.[180] The same issue of the journal included a lengthy article by Colvin on the landscaping of reservoirs highlight the opportunities associated with such projects.[181]

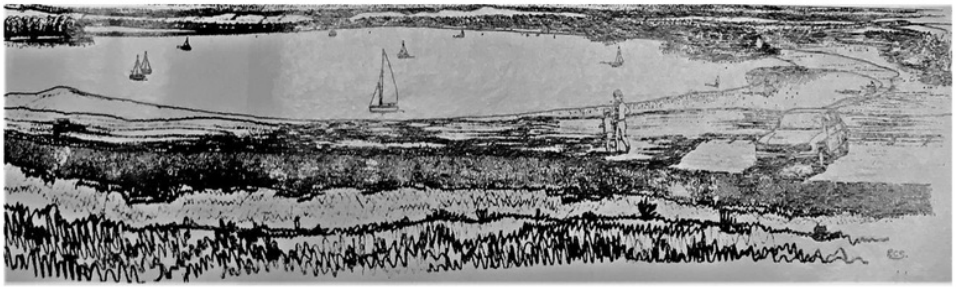

Figure 42: Artist's impression of the Druridge Bay Country Park.

[178] W. Gillespie, 'Landscape Planning – A Dialogue', *Landscape Design* No. 107 (August 1974), p. 9.
[179] Tandy, 'Country Parks', p. 14.
[180] Anon., 'Current Work: Errwood Reservoir, Goyt Valley, Derbyshire', *Landscape Design* No. 95 (August 1971), p. 27.
[181] Brenda Colvin, 'The Landscape of Reservoirs', *Landscape Design* No. 95 (August 1971), pp. 23 – 26.

Figure 43: Artist's impression of the Druridge Bay Country Park.

The approach to land restoration had translated into RMC Group's new internal policy with one of the extracted gravel pits transformed into a successful and profitable safari and water park.[182] Thorpe Park opened in 1979 and was based on the template of theme parks in the United States.[183] Although the environmental pressure was a strong factor, according to Cullinan, RMC Group 'was enabled to extract gigantic quantities of gravel on condition that they made something cultural…beside a lake which had a Mississippi paddle steamer going up and down…which took people to see a historic flock of sheep…which was all part of the deal with the local authority to allow them to…extract all this gravel'.[184] This confirms that the restoration works and indeed Thorpe Park were the result of imposed planning conditions. Graeme Shankland in his discussion with Crowe in 1974 presented a similar example of

[182] Unpublished report, The RMC Group, 'Chairman's Statement', *Reports & Accounts 1980* (Feltham, 1981), p. 6.
[183] Sworsky 'RMC Group PLC', p. 739.
[184] British Library, Cullinan, Edward (9 of 15) National Life Story Collection: Architects' Lives, Shelf mark C467/93, 45:05 – 45:10 and 45:50 – 46:04.

recreational activities within the Metropolitan Green Belt.[185] Evidently these recreational facilities were judged to be compatible with the purposes of the Green Belt, its amenity and openness, whilst the re-development and construction of new headquarter offices were not.

It is worth noting that Edward Cullinan Architects were not the first choice and Cullinan was invited for an interview on the recommendation from Sir William Whitfield.[186] The Royal Fine Art Commission recommended against the initial design for the RMC Headquarters, but the investigated primary and secondary sources did not clarify the authorship or date. Cullinan described it as a neo-Georgian 2-storey buildings with internal courtyards, extending from the existing Eastley End House and Meadlake House, alluding that the impact on the listed Eastley End House was the key issue: 'if you repeat that style 10 times you lost your Georgian house because the situation has been so changed'. As recalled by Cullinan his design emerged organically during the interview 'it is the only time I've done this, but I drew for them the whole of the scheme there and then'.[187] By mid 1980s the practice was well-established with a number of high – profile commissions for private clients and corporate architecture, including the striking ziggurat halls of residence at the University of East Anglia in Norwich, whilst working for Denys Lasdun (1962), the Minster Lovell Conference Centre (1969), five regional headquarters for Olivetti (1971 – 1972), the Uplands Conference Centre (1982 – 1986),[188] with the latter part of the 1980s marked by a number of health and school schemes.

As Elain Harwood outlines, the conservationist movement in architecture started in the late 1960s and crystallised in the early 1970s.[189] The renewed interest in traditional architecture

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[185] W. Gillespie, 'Landscape Planning – A Dialogue' Landscape Design No. 107 (August 1974), p. 10.
[186] Historic England, <https://historicengland.org.uk/listing/the-list/list-entry/1420102> [accessed 08 April 2019].
[187] British Library, Cullinan, Edward (9 of 15) National Life Story Collection: Architects' Lives, Shelf mark C467/93, 48:11- 48:26.
[188] Listed as Grade II in June 2014. Historic England, Uplands Conference Centre, List Entry Number: 1417919 <https://historicengland.org.uk/listing/the-list/list-entry/1417919> [accessed 04 September 2019].
[189] Harwood, *Space, Hope and Brutalism*, pp. 565-567.

stimulated a vernacular and contextual approach. Edward Cullinan's design for the Minster Lovell Conference Centre (1968) is an early example of such contextual design strongly influenced by the style of the Cotswolds, his 'coming to terms with history' (Figure 44). As described by Powell: 'it remains an icon of the art of combining old and new'.[190]

Figure 44: Minster Lovell Conference Centre (undated photograph).

Based on the investigated secondary sources it is possible to assert that Cullinan's design for RMC Headquarters exemplifies his high landscape sensitivity and is a culmination of his previous work. In this context, his earlier experience gained between 1966 and 1968, when designing the Law House in the sensitive landscape of the South Downs,[191] was significant for his work at Cemex House. The house was set into a slope with the green roof merging

[190] Powell, *Edward Cullinan Architects*, p. 17.
[191] Designated in 1966 as an Area of Outstanding Natural Beauty, National Park since 2011.

physically and visually with the grassland of the Downs (Figure 45).[192] Cullinan's fixation with green roofs continued into the 1980s and he proposed 'An L shaped grass topped terrace over further rooms has on it a belvedere overlooking the lake' in the unbuilt scheme for Worcester College, Oxford (1980). Therefore, it is no surprise that he used the same design device to conceal the new headquarters at Thorpe. Although topographically much of the area is low lying the elevated St Anne's Hill was a constraint, described by Cullinan as 'a local beauty spot, which looked down onto the site'.[193] Views from the hilltop towards the site must have been quite significant at the time of Cullinan's involvement, although currently the tree vegetation screens most of the view (Figure 46).[194]

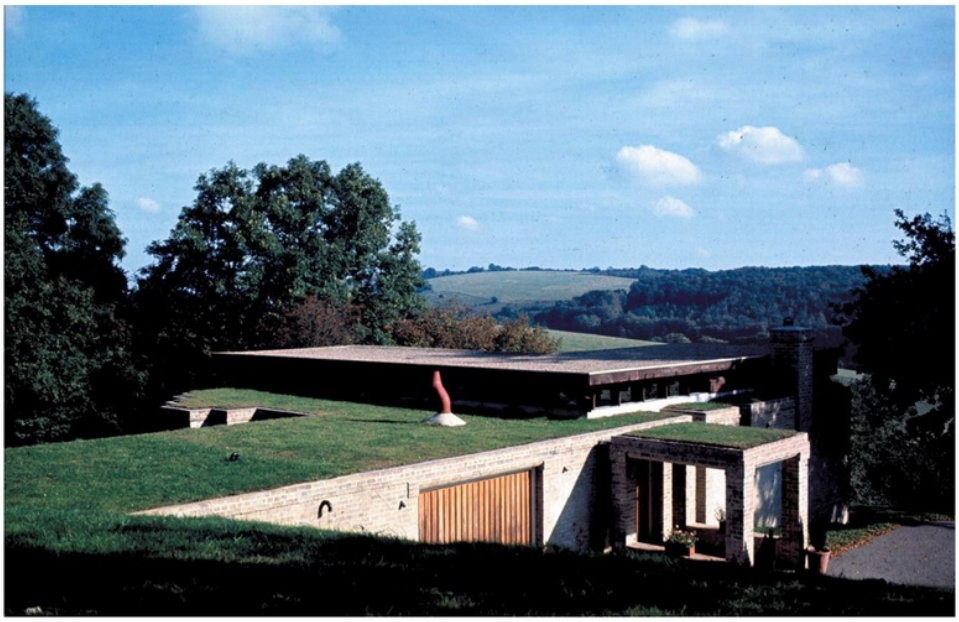

Figure 45: Private house on the South Downs – green roof (undated photograph).

[192] Cullinan Studio, *House on the South Downs* (undated on-line case study) <http://cullinanstudio.com/project/house-on-the-south-downs> [accessed 03 September 2019].
[193] British Library, Cullinan, Edward (9 of 15) National Life Story Collection: Architects' Lives, Shelf mark C467/93, 46:35 – 46:37.
[194] St. Anne's Hill and The Dingle were included on Historic England's Register as a Grade II historic park and garden in May 2001. See Historic England, List Entry Number: 1001527, <https://historicengland.org.uk/listing/the-list/list-entry/1001527> [accessed 01 September 2019].

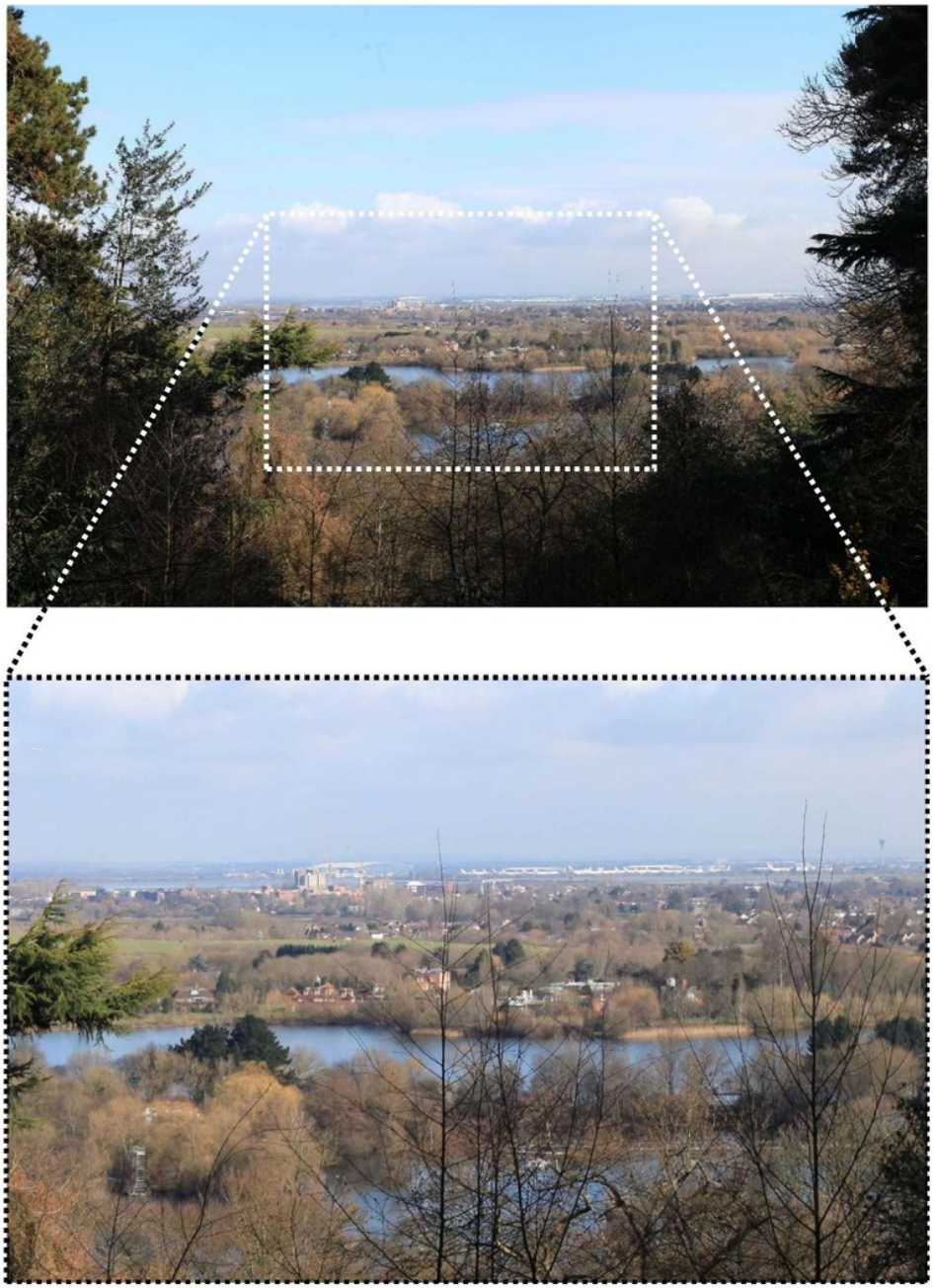

Figure 46: View from St Anne's Hill towards Cemex House.

Despite the conflict with planning policies RMC Group pursued the scheme and appealed against the Council's refusal. The investigated Planning Inquiry documents, held by Runnymede Borough Council, confirm a number of previously posed assertions. The location of the site was important with the need for proximity to Heathrow and Gatwick airports, and motorways. The substandard quality of the previously occupied offices at Feltham, the review of its long-term lease due in 1986, coupled with the expansion of company, led RMC Group to invest in their existing facilities at Thorpe. The setting was also considered as reflective of the prestige of the company.[195] The Inquiry documents are also extremely informative in the discussion on how planning policies guided the development. The Council's Conservation Officer, at the time, commented: 'The removal of some of the more recent extensions and the construction of the improved setting could greatly enhance the listed building'. The benefits of Cullinan's scheme had also been recognised by the Royal Fine Art Commission: '…its skilled use of single-storey elements which respect unyieldingly the existing buildings and landscape features make it an acceptable development in the Green Belt'.

It is also important to acknowledge the designer's response that transpired at the Planning Inquiry. Planning inquiries as a tool of government control have been in use since early 1970s with landscape architects engaged as expert witnesses on various schemes, for example the Meifod Valley Telescope proposed by Manchester University and approved in 1973.[196] Cullinan's design for the green roof was undoubtedly the most significant and successful design device an architect could have employed at such a sensitive site. The discreet design and limited visual effects were the key to overcome the Council's objections and this is best illustrated by Inquiry documents prepared by Derek Lovejoy Landscape Architects. The landscape planning approach, developed in the 1950s and 1960s by Crowe and others whilst working on power stations and mineral extraction sites, became the mainstream approach in

[195] Case Officer's Report, Runnymede Borough Council, microfiche RU.85/0877 1/14.
[196] Capability, 'Comment', *Landscape Design* No. 101 (February 1973), p. 4.

the 1970s and 1980s.[197] The visual assessment, including photographs and sketches of the proposals, carried out by the landscape architects was no doubt instrumental in convincing the Inspector of the limited visual effects (Figure 47, Figure 48, and Figure 49).[198] This is best summarised in the Inspector's Decision, who agreed that 'the proposed development would not harm the appearance of the green belt…' but the special circumstances, the contextual and sensitive design '… is so exceptional in this case that it outweighs both the presumption against the development in the green belt and the restraint on office development'.[199]

Figure 47: Derek Lovejoy Landscape Architects. Sketch across Manor Lake for the Planning Inquiry (1986), Extract.

[197] Discussed in Chapter 1 - 2 and Chapter 4 of this Dissertation.
[198] Due to changes in land ownership most of those locations are not publicly accessible.
[199] Runnymede Borough Council, microfiche RU.85/0877 1/14.

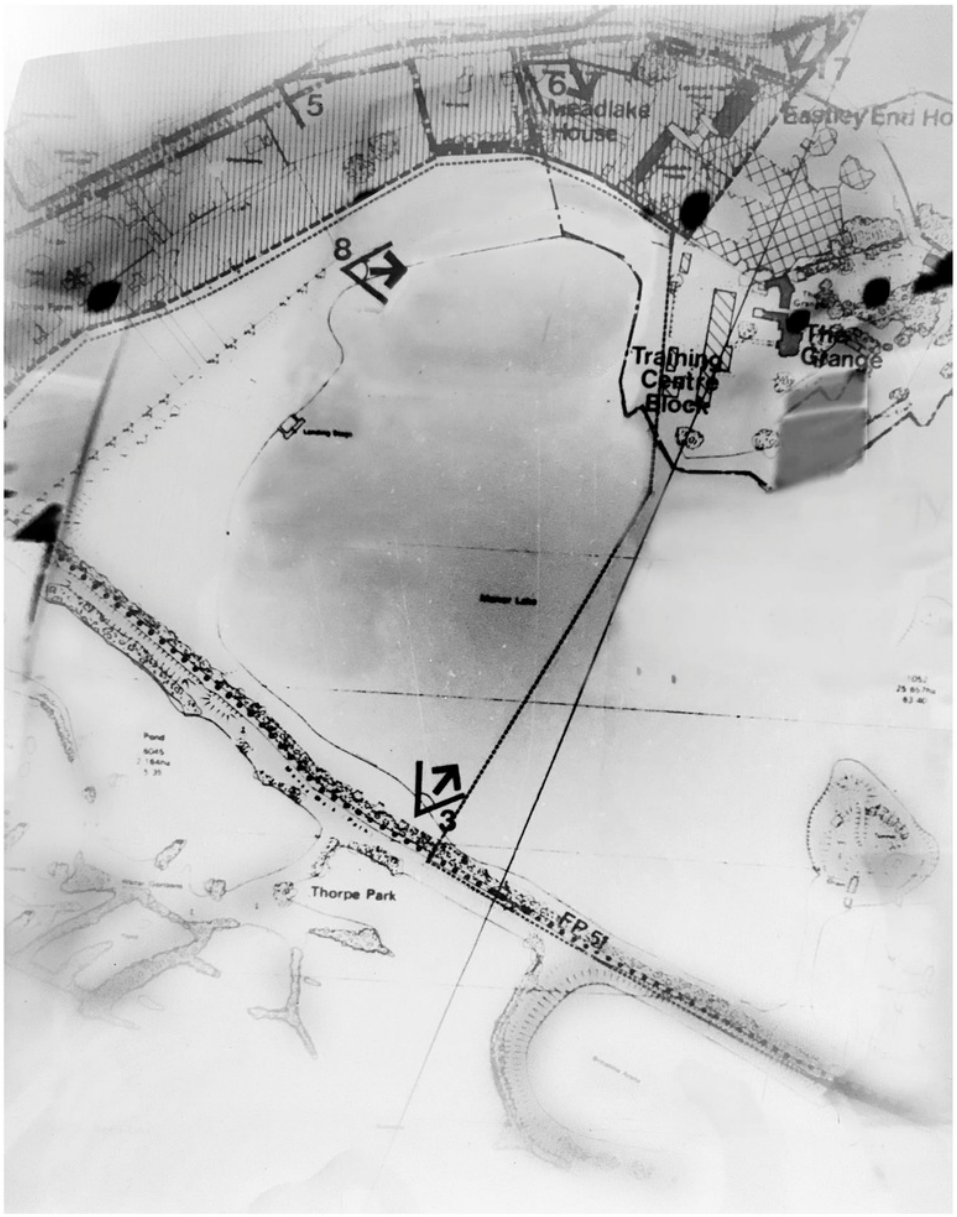

Figure 48: Derek Lovejoy Landscape Architects. Viewpoint Locations for the Planning Inquiry (1986) Extract.

Figure 49: View across Manor Lake.

It transpires that Cullinan's previous experience was a major driver for the design of the RMC Headquarters. The white steel columns of the new office reflect his design for Fleet School (1983), which he completed 3 years before the RMC Group commission (Figure 50 and Figure 51). There is an undeniable similarity in the architectural language of large fenestration and dominant horizontal disposition. This rigour has the elements of, what Marc Treib described as 'white modernism', yet the use of planting material and splash of incidental colour adds variety and gives way to a more contextual design and response to the receiving landscape.[200] This is very much reflective of Cullinan's earlier experience in the United Stated and the architecture of Frank Lloyd Wright in particular, which Powell described as 'the idea of interpenetrating space supported and embellished by detail: a development out of the Arts and Crafts, through a real understanding of Japanese design, on to the surface of the great American prairie'.[201]

[200] Marc Treib (ed), *The Architecture of Landscape, 1940-1960* (Philadelphia, Pennsylvania, 2002), p.58.
[201] Powell, *Edward Cullinan Architects*, p. 146

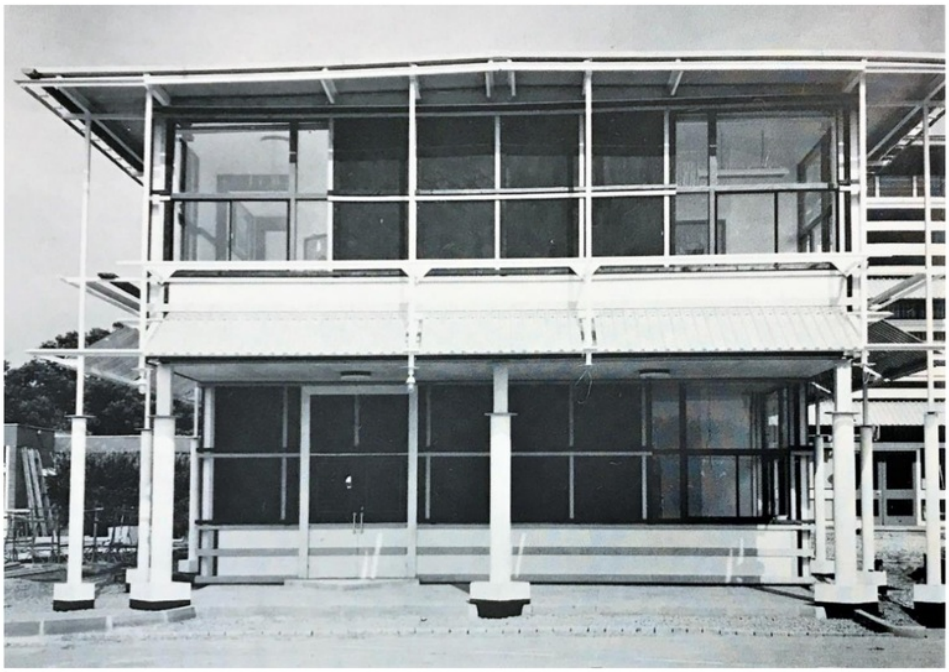

Figure 50: Fleet School (c. 1983).

Figure 51: Courtyards at Cemex House (undated photograph).

Cullinan's approach to the treatment of the existing buildings and introduction of new low – profile premises was reflective of his sensitive attitude to historic buildings and landscape context. As recalled by Kevin Underwood, member of the design team, the irrigation system for the roof gardens was split into zones future proofing the design and allowing controlled response to changes in the climatic condition.[202] The Georgian architecture, 'aspirational' n Cullinan's words,[203] was retained for the executives with the new office enabling social cohesion and recreation. As stated by Powell 'Cullinan's social imperative tells him that good architecture is for everyone, not just the rich'.[204] Although Peter Davey hints on the Arts & Crafts influence,[205] regardless of the actual inspiration the design is energy efficient and contextual. The whimsical treatment of vents and reference to Philip Webb's Joldwyns makes it even more intriguing (Figure 52).

Figure 52: Cullinan's design for air vents.

[202] Kevin Underwood, 'Integrating a roof garden', *Landscape Design* No. 203 (September, 1991), p. 12.
[203] British Library, Cullinan, Edward (9 of 15) National Life Story Collection: Architects' Lives, Shelf mark C467/93, 31:56.
[204] Powell, *Edward Cullinan Architects*, p. 48.
[205] Peter Davey, 'September 1990: Musique Concrete by Edward Cullinan Architects, The Architectural Review' (on-line article 08 April 2014), <https://www.architectural-review.com/essays/september-1990-musique-concrete-by-edward-cullinan-architects/8661201.article> [accessed 04 September 2019].

Figure 53: Landscape masterplan by Pegasus Group (2018).

In his article from 1987 Richard Weston poses a question whether the design would have been different if it wasn't for the Green Belt policy, and answers it: 'Cullinan is adamant that its approach would have been the same, being essentially a response to the buildings and the site…'.[206]

The building is currently awaiting refurbishment with a new, largely single-storey, pavilion with green roofs designed by Ayre Chamberlain Gaunt (Figure 53).

[206] Richard Weston, 'Cullinans in the countryside', *The Architect's Journal* Vol. 185 No. 20 (20 May 1987), p. 42.

Chapter 6. Summary

The 1960 and 1970s were marked by the increased awareness of environmental issues associated with ecology, climate change and development pressures. The Green Belt was already a well-established spatial policy, but the countryside was still under threat. Landscape and visual sensitivities were becoming increasingly recognised by planning authorities and the energy crisis of the early 1970s stimulated designers to address socio-economic and environmental issues. The 'energy conservation' corporate architecture of the 1970s and 1980s exemplifies this trend.

Three examples, all included on the NHLE, were chosen to examine these two decades: Mountbatten House, Basingstoke; the former CEGB Headquarters in Bristol; and CEMEX House, Thorpe. The aim was to answer the following questions:

- To what extent was the corporate design controlled by the UK legislation?
- How far were environmental concerns translated into the design of the corporate sites and their integration in the landscape?
- Can North American influence on British corporate design be determined?

The analysed three examples span the two decades and bear similarities in the way architects and landscape architects approach the design. They also illustrate the influence of corporate clients, through the design briefs, who were driven by their operational and business objectives. In all three cases the sensitivity to the receiving landscape is evident with the form and scale of the buildings strongly influenced by the surrounding environment but also responding to it, and turning constraints into opportunities. Gateway House benefited from the out-of-town location and attractive views of the countryside, yet it was relatively unconstrained and there is no evidence that planning policies played a significant role in its design. It is most likely that Arup were given a certain level of design concession and their

design intent was focused on the integration of the building with the planting scheme devised by James Russell.

Views in and out formed part of the design intent for all three sites, but the protection of visual amenity is most evident in the case of the CEGB Headquarters and CEMEX House. The planning policies played a significant role in controlling their 'visual envelope'. Earth bunds and use of external tree and shrub planting, designed by the Swann & Windsor Associates aimed to absorb the CEGB Headquarters into the landscape. The buildings' low profile reflected the topography of Bedminster Down thus reducing its visibility from the surrounding sensitive locations and were Arup's response to the planning conditions.

In the case of CEMEX House, the conflict with the Green Belt policy resulted in a Planning Inquiry where the sensitive design of Edward Cullinan Architects, with the help from Derek Lovejoy and Partners, convinced the Inspector that the scale of the office building was acceptable, and its considerably reduced visibility did not harm the openness of the Metropolitan Green Belt.[207] Cullinan's contextual design was supported by the Royal Fine Arts Commission and others,[208] and provided legibility whilst incorporating the existing listed buildings such as Eastley End House into the overall masterplan.

The issue of design influence on these three case studies is not clear. The corporate architecture, particularly that of out-of-town offices, emerged in the United States and the North American template was adopted in the UK from the 1960s. In most cases this was a continuation from earlier 'deep plan' office architecture such as Mies' Seagram building and the earlier Empire State building, both in New York.[209] At the same time the office landscaping emerged, bürolandschaft, characterised by random desk locations and combination of

[207] Runnymede Borough Council, microfiche RU.85/0877 1/14.
[208] Case Officer's Report, Runnymede Borough Council, microfiche RU.85/0877 1/14.
[209] Historic England, *The Late 20th-Century Commercial Office*, p. 12.

informal and relaxation spaces, aimed to humanise the office environment.[210] This was, however, rejected in the 1970s with office sub-division, integrated services, and privacy aimed to create cohesive office space and passive opportunities to congregate and socialise. This 'total concept' is evident internally and externally in all three case studies. The internal layout echoes the buildings' structural grid, which in turn resembles Louise Kahn's philosophy of modular and adaptable buildings. The external spaces follows but most importantly act as a transition zone between the building and the landscape. The integration of the buildings into the landscape is striking.

The three case studies analysed in this dissertation have demonstrated that the corporate office architecture of the 1970s and 1980s exemplifies the socio-economic and environmental issues that dominated the two decades. The issues expressed themselves in the way professionals, designers and planning authorities, approach their work but also the corporate stewardship of 'good design'.

The analysed three case studies are important and recognised examples of the 'energy conservation' corporate architecture. Their relatively 'young age' makes them an unlikely subject of academic research and the laps of the professional liability period does not place any legal duty on the designers to keep the records anymore. Therefore, further research is needed to verify to what extent 'energy conservation' design was applied by other architects and landscape architects. The work would also capture the primary sources that may still be held by various practices.

[210] Francis Duffy, 'Office buildings and organisational change', p. 275.

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