

Technical Appendix A:

TVIA Assessment Criteria (Sensitivity of Receptors: Townscape & Visual / Magnitude of Change: Townscape & Views)

Table A.1: Townscape Sensitivity Criteria

Sensitivity	Townscape Value	Key Characteristics and Features	Townscape Condition	Townscape Susceptibility
	Townscapes recognised and valued for their quality and / or cultural associations	As recognised in published SPD	Degree to which the townscape is intact and legible	The ability of a defined townscape to accommodate the specific proposed development without undue negative consequences
High	National / Regional Importance <i>(Landscape / Townscape Designations - AONB, National Park, Conservation Areas, Registered Parks and Gardens)</i>	Features which are dominant within the townscape and are fundamental to defining the distinct townscape character of an area. Important characteristics and features recognised as forming intrinsic part of nationally and regionally designated townscapes. Distinctive individual or rare features.	Distinct townscape structure with strong pattern and intact features. Few detractors or uncharacteristic features or elements present.	The townscape is such that changes in terms of the development proposed would be entirely at odds with the character of the local area, related to matters including pattern, grain, use, scale and mass.
Medium	Local Importance <i>(Other Designations – Specific Protected Features, Undesignated but value perhaps expressed through non-official publications and/or demonstrable use and/or local listing.)</i>	Locally important and notable features that contribute to the overall character of an area. Features and elements protected by local policy.	Townscape exhibits recognisable structure and characteristic patterns. Some detracting features present.	The proposed development has a degree of consistency with the existing scale, pattern, grain, land use of the prevailing character, although mitigation may be appropriate to enhance assimilation.
Low	No Designation. Areas identified for recovery.	Features or elements that are uncharacteristic and detract from the townscape character of an area.	Degraded townscape structure with fragmented pattern and poor legibility of character. Detracting features notable within the townscape. Opportunities for restoration through mitigation measures associated with proposals.	The development proposed is entirely consistent with the character of the local area, related to matters including use, scale and mass.

Table A.2: Visual Sensitivity Criteria

Sensitivity	Occupation and Activity of Users	Viewpoint Context	Visual Susceptibility
High	• Observers whose attention or interest may be focussed on the landscape and recognised views in particular. • Recognised / Important Viewpoints, including those identified within and protected by policy. These viewpoints may be tourist destinations and marked on maps. • Designed views, including from within historic landscapes. • Residential Properties - Views from rooms occupied during daylight / waking hours (predominantly ground floor rooms). • Users of Rights of Way and Recreational Trails. • Users of land with public access (i.e. Open Access Land and National Trust Land).	A viewpoint considered to be highly exceptional nature, identified in the listing of a designated heritage asset, or a planning policy designation; and/or mentioned in a number of guidebooks or on tourist maps; and/or referenced in art and literature.	People visiting recognised viewpoints with views towards the development. People using Public Rights of Way and Access Land as part of recreational routes with extensive views towards the development.
Medium	• Views of the landscape are part of, but not the sole purpose of the receptors' activities. • Residential Properties - Views from rooms unoccupied during daylight / waking hours (1st floor rooms)¹. • Those playing or participating at outdoor sports or undertaking formal outdoor recreation. • Users of local roads where there are clear / open views across the landscape and low levels of traffic.	The view from the representative viewpoint has a view of scenic value, with moderate local importance and scenic quality: it is typically identified to a heritage asset; and/or of local visual amenity importance. Limited potential for substitution of some elements within the view.	People using recreational facilities or playing outdoor sports with views of the development but for whom views are not the main focus. Users of Public Rights of Way and Access Land with intermittent views towards the development.
Low	• Attention is focussed upon the activity of the receptor and not upon the wider views. • Users of main roads travelling at speed, or local roads where the focus is upon the road ahead owing to traffic conditions and the context / composition of views. • Places of Work.	The view from the representative viewpoint is not related to designated, or non-designated, heritage asset, or a planning designation. Unsightly and of low importance. Potential for substitution of some or all elements in the view.	People travelling along roads or using transport routes where the focus is not on the views and views of the development are fleeting. People at places of work where attention is not on the views. Users of Public Rights of Way and Access Land where views towards the development are limited to glimpses and are not the main focus of attention.

¹ This is based on the premise that habitable rooms are on the ground floor with bedrooms occupying the upper floors.

Table A.3: Magnitude of Change Criteria – Townscape

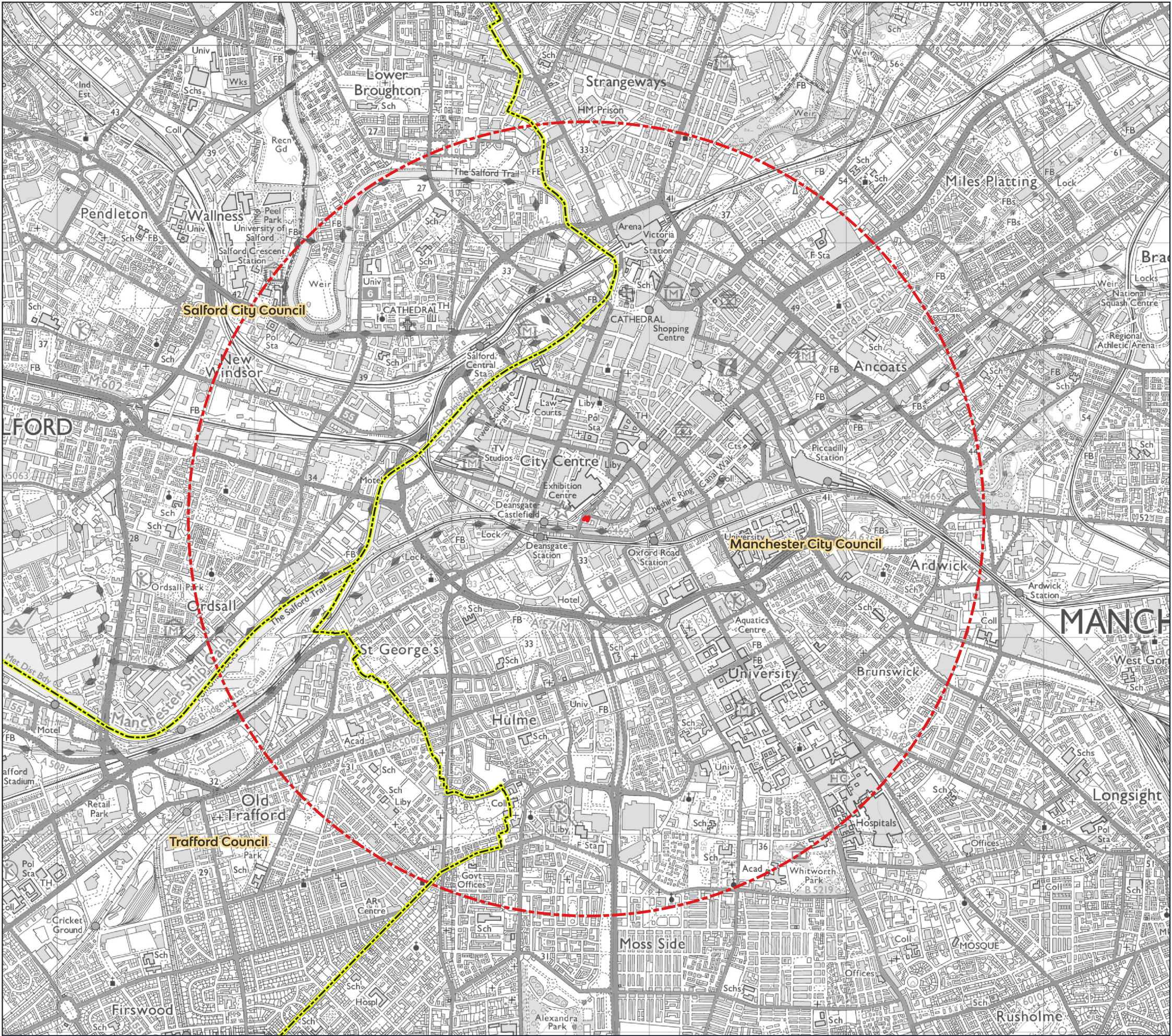
Magnitude	Change experienced
High	• Development would result in the irrevocable loss of key townscape elements and features, resulting in a permanent change to the character and context of the area. • Introduction of uncharacteristic, dominant elements within the townscape. • Proposals erode of the context of existing features and their perception within the landscape. Result of change may undermine any designation. • Mitigation measures do not reserve loss although will deliver some localised benefits. • Proposals strengthen existing townscape structure through the introduction of lost or degraded features and reinstatement of fragmented townscape patterns. • Development fits within existing townscape character and enhances and / or reinstates key townscape features. • Delivers policy objectives for townscape conservation or enhancement.
Medium	• Development would result in the localised medium to long-term loss of some key characteristic features. • Introduction of development / uncharacteristic elements within the landscape alongside characteristic features. • Proposals introduce characteristic development and key townscape features whilst respecting the scale and pattern of the townscape.
Low	• Development would result in the temporary loss of a low number of localised key features. Mitigation is possible and can maintain or restore losses. • The proposals introduce temporary uncharacteristic features into the townscape. • The proposals retain existing key features and respect the pattern of the townscape. • Proposals allow for local enhancements through the removal of detracting features.
Negligible	• The development would introduce barely discernible elements or physical change to the townscape. Key characteristics of the townscape and the integrity of the townscape remain unaffected.

Table A.4: Magnitude of Change Criteria – Visual

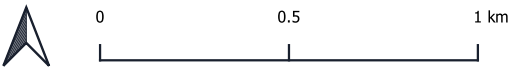
Magnitude	Change experienced
High	- Proposals introduce dominant, discordant elements altering the composition and balance of the view. - Total and complete change in the composition of the view with the introduction of features and elements not present in the locality. - Development interrupts or detracts from the focus of a recognised important view or vista. - Proposals introduce features not present in skyline views of the area. - Proposal removing existing visual detractors and introduce development that respects the scale, form and layout of existing visual components. - Development introducing positive elements that enhance legibility and composition of degraded views. - Proposals reinstate a formerly lost valued view. - Development introduces a valued landmark or feature within views from a recognised vantage point
Medium	- Development is clearly visible, but not prominent in views. - Proposals may introduce some uncharacteristic elements that are incongruous in limited localised views. - Development may form skyline features amongst existing development and / or vegetation where such skyline views are not typical. - Proposals complement the composition of the view and the scale and form of development within it.
Low	- Development does not introduce uncharacteristic or incongruent features into the view. - Proposals do not alter the overall composition of the view or the dominance or balance of elements within it. - Development does not protrude above existing elements to be dominant on the skyline. - Views of the proposals are filtered or seen in partial, glimpsed views between existing development and vegetation. - Views of development brief and fleeting as seen from moving vehicles.
Negligible	The development would be barely discernible in views. Proposals perceived as a background component in views or are subservient to other elements within it.

Table A5: Significance of Effect

Significance	Justification
Major	Total permanent loss or major alteration to key elements and features of the townscape, to include the introduction of elements totally uncharacteristic of the surrounding townscape (adverse). Development would be visually intrusive and would disrupt fine and valued views both into and across the area (adverse). Fitting well with the scale, landform and pattern of the townscape, and enhancing the existing townscape character (beneficial). The development would create a highly improved change in views (beneficial).
Moderate	Effects that are at variance with some of the characteristics of the townscape, adversely affecting the character (adverse). Development would be visible, but not wholly incongruous (adverse); or Fitting well with the landscape characteristics but changing their emphasis for improvement (beneficial). The development would enhance the visual setting and complement the existing composition of the view (beneficial).
Minor	Not quite fitting the characteristics of the townscape (but not considered wholly uncharacteristic), will have local / limited scale adverse impact (adverse). Development would introduce some incongruous elements to views (adverse); or Locally improving or adding to the quality of the townscape (beneficial); and Complementing the composition and balance of elements within existing views (beneficial).
Negligible	Complementing the townscape characteristics and maintaining the existing townscape character and quality. The development would be barely discernible in views, would be perceived as a background component, or would be subservient to other elements within views.
Neutral	No perceptible changes. Instances where impacts are neither harmful nor beneficial.



-  Site Boundary
-  2km Study Area
-  Administrative Boundary



Project	Apex Tower, Manchester
Drawing Title	Figure 1: Site Location [1-2]
Scale	1:20,000 @ A3
Drawing No.	13721_P04
Date	December 2021
Checked	RM/WL



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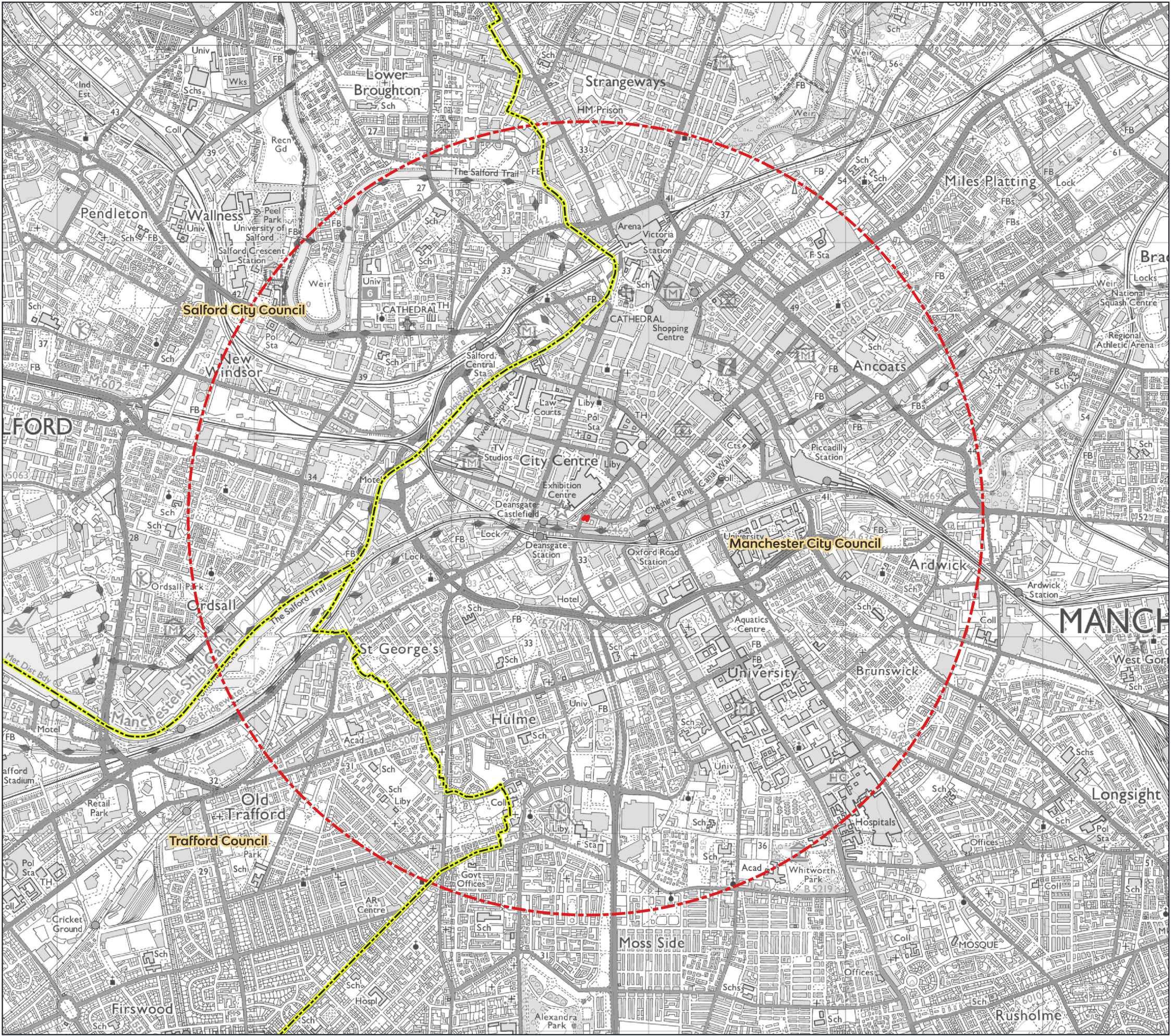
- Site Boundary
- 500m Radii from Site Boundary
- Administrative Boundary



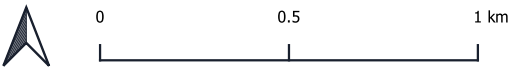
Project	Apex Tower, Manchester
Drawing Title	Figure 2: Site Location [2-2]
Scale	1:5,000 @ A3
Drawing No.	13721_P05
Date	December 2021
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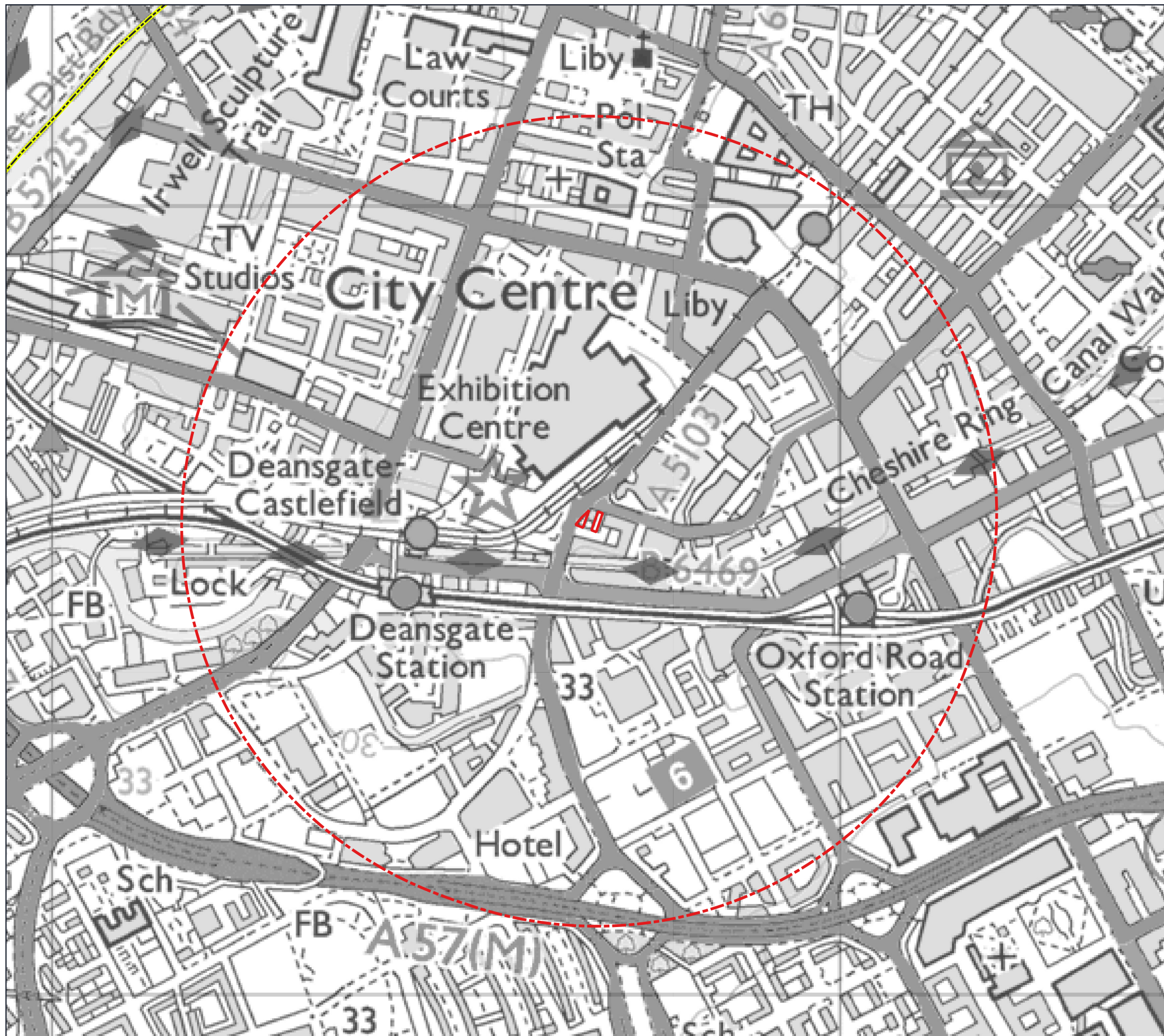
- Site Boundary
- 2km Study Area
- Administrative Boundary



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Drawing Title	Figure 1: Site Location [1-2]
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- Site Boundary
- 500m Radii from Site Boundary
- Administrative Boundary



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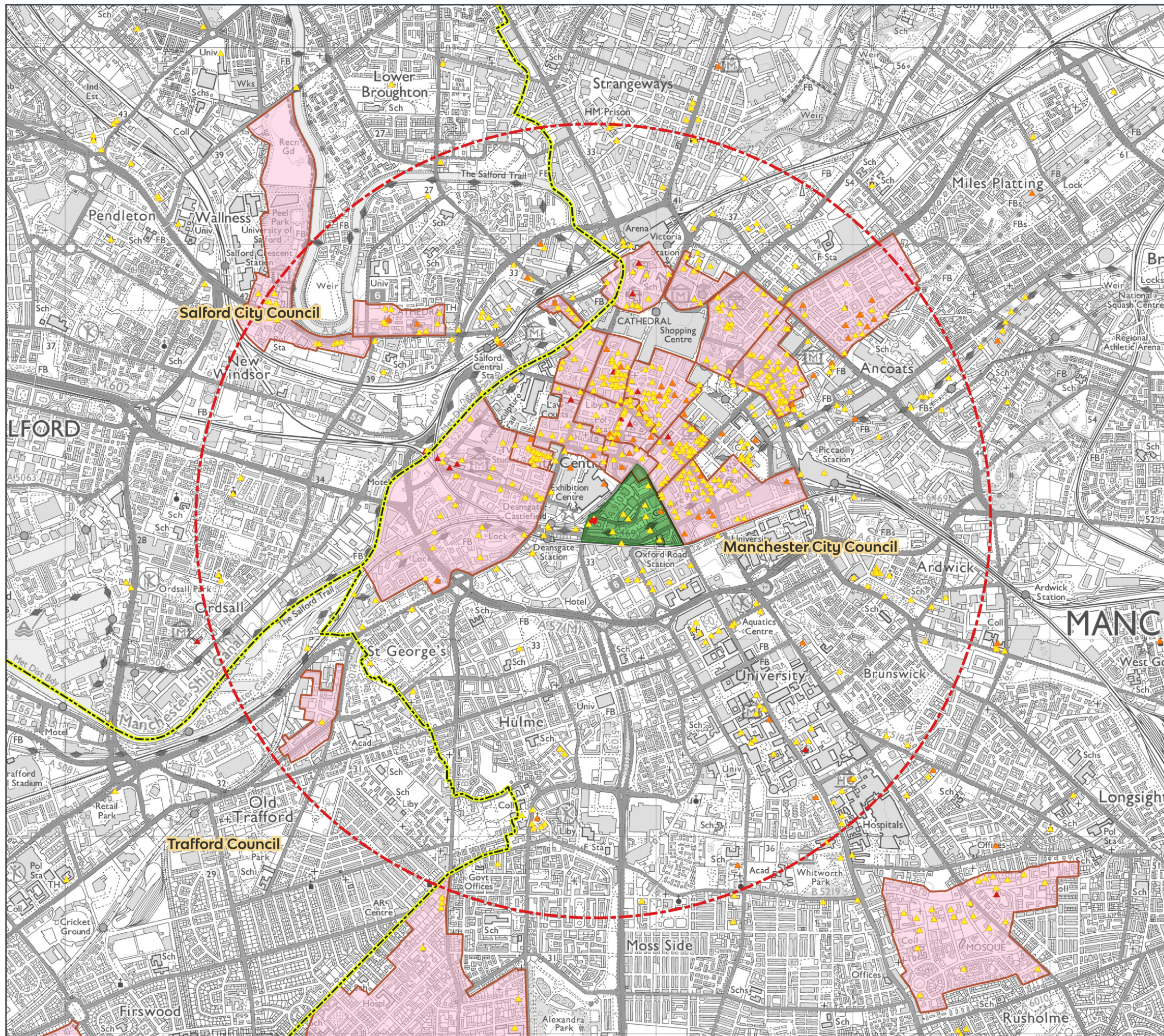
- Site Boundary
- 500m Radii from Site Boundary



Project	Apex Tower, Manchester
Drawing Title	Figure 3: Site Context
Scale	1:5,000 @ A3
Drawing No.	13721_P06
Date	December 2021
Checked	RM/WL

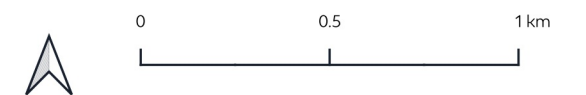


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- Site Boundary
- 2km Study Area
- Administrative Boundary
- Conservation Area (DC18.1)
- Listed Buildings (DC19.1)
 - Grade I
 - Grade II*
 - Grade II
- RC20 Area 21 - Oxford Street/Lower Mosley Street/Mosley Street/Railway

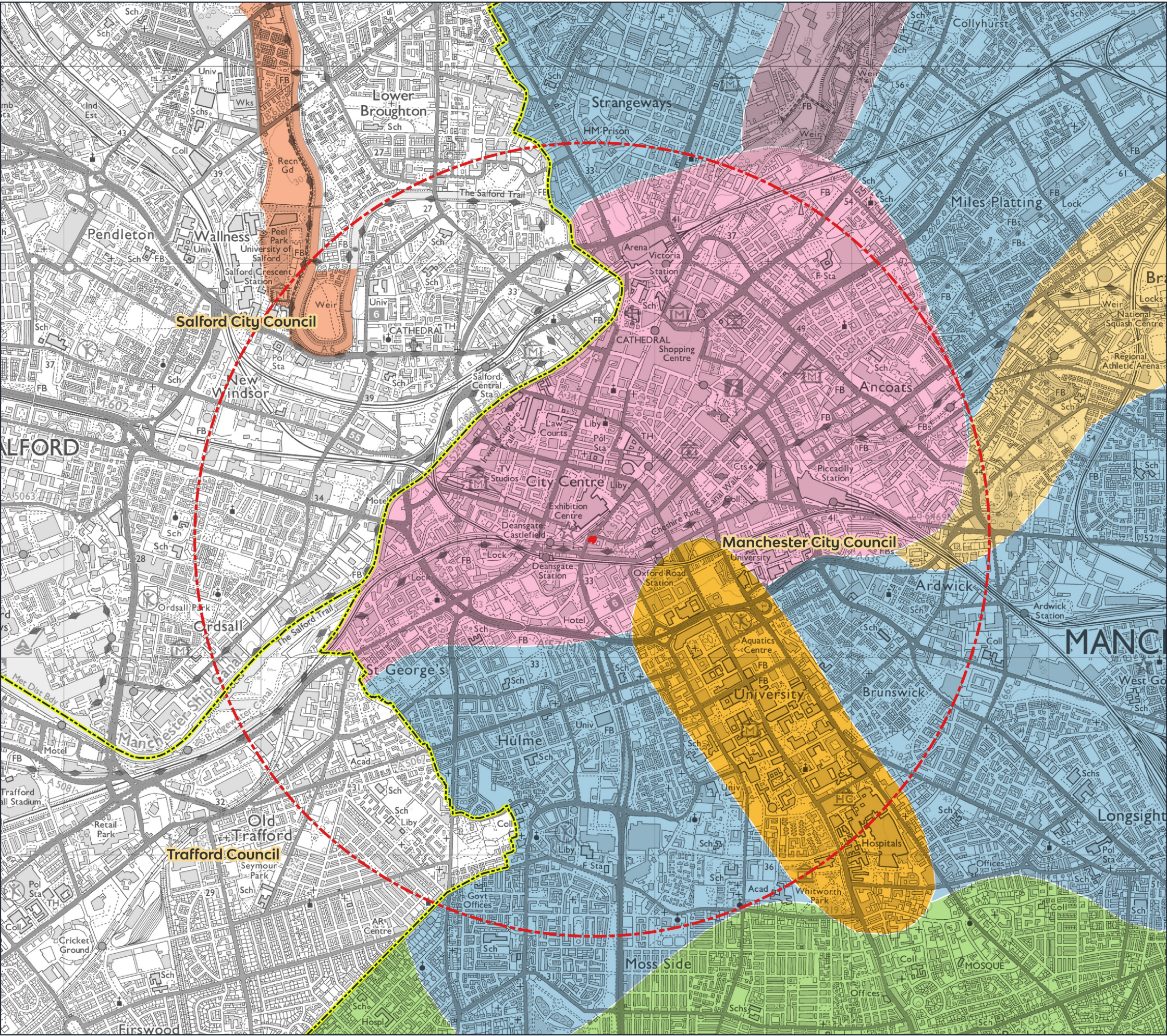
Note:
Policy areas derived from Manchester LDF Proposals Map (2012) and the UDP Proposals Map 5, City Centre.
Listed Buildings GIS dataset accessed from Historic England website.



Project	Apex Tower, Manchester
Drawing Title	Figure 4: Townscape Policy and Designations
Scale	1:20, 000 @A3
Drawing No.	13721/P07
Date	December 2021
Checked	PIJ/RM



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Site Boundary

2km Study Area

Administrative Boundary

Manchester City Council Strategic City Wide Character Area Assessment (2010)

Central Area of Change

City Centre

Higher Education Precinct

Irk Valley

Medlock Valley

South Area

Salford City Council Landscape Character Assessment (2007)

Urban River Valley, Sub Area 3: Kersal Corridor

Note:

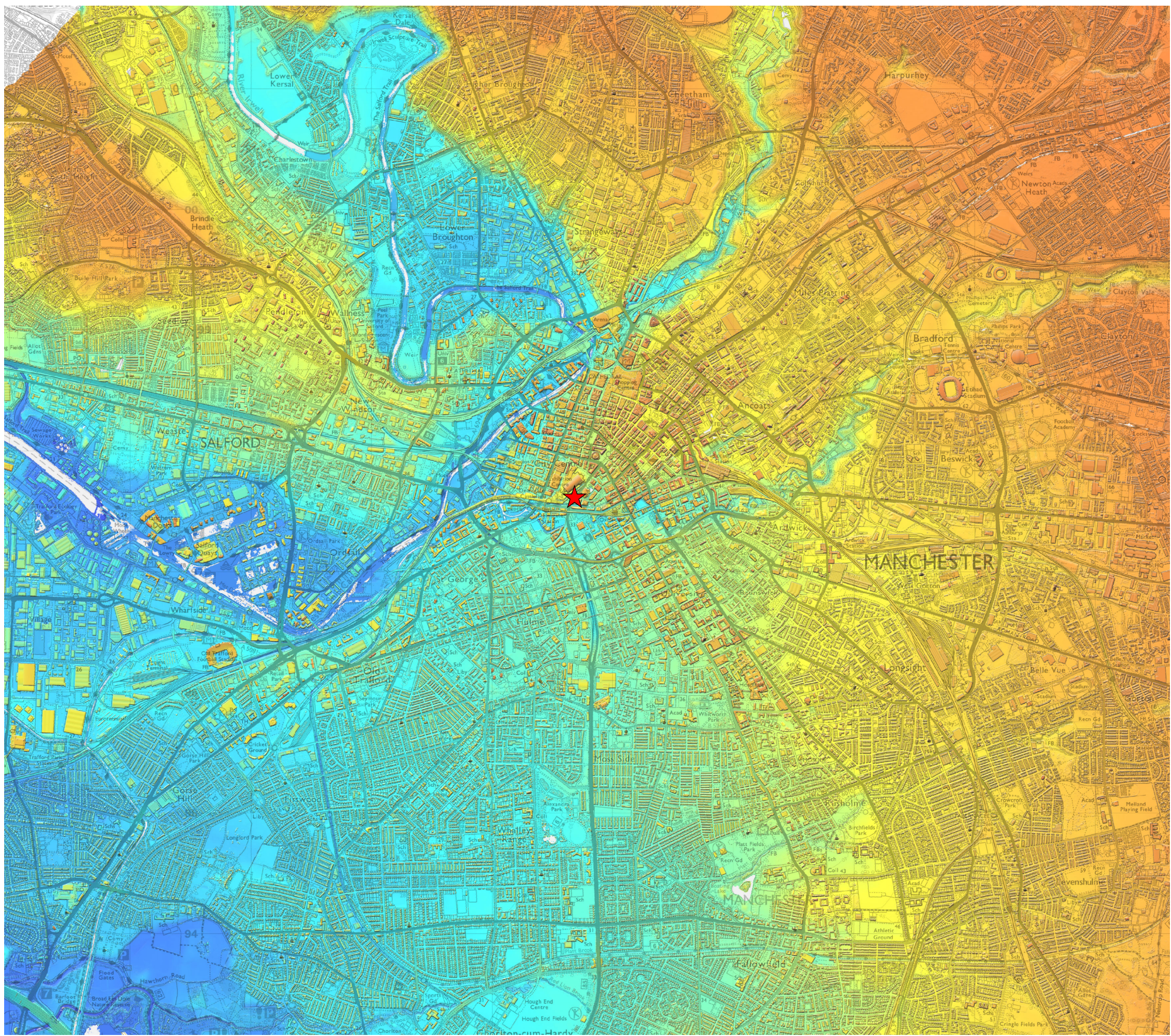
Site is wholly located within National Character Area 55: Manchester Conurbation. Salford City LCA does not include information relating to townscape character, limiting the LCA to the rural and urban fringes. A townscape character assessment has not been undertaken by Trafford Council.

Project	Apex Tower, Manchester
Drawing Title	Figure 5: Published Character Assessments
Scale	1:20,000 @ A3
Drawing No.	13721_P08
Date	December 2021
Checked	PIJ/RM

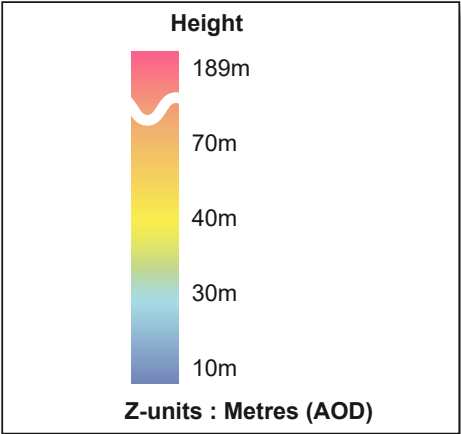
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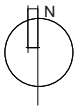
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 Application Site Location



Source:
The plan has been prepared using GIS computer software (MapInfo) and Environment Agency LiDAR DSM data, and as such takes into account built form. The DSM data provided by EA has undergone heavy filtering and while some vegetation is accounted for, it does not fully represent the potential screening observed in the field.



0 1km

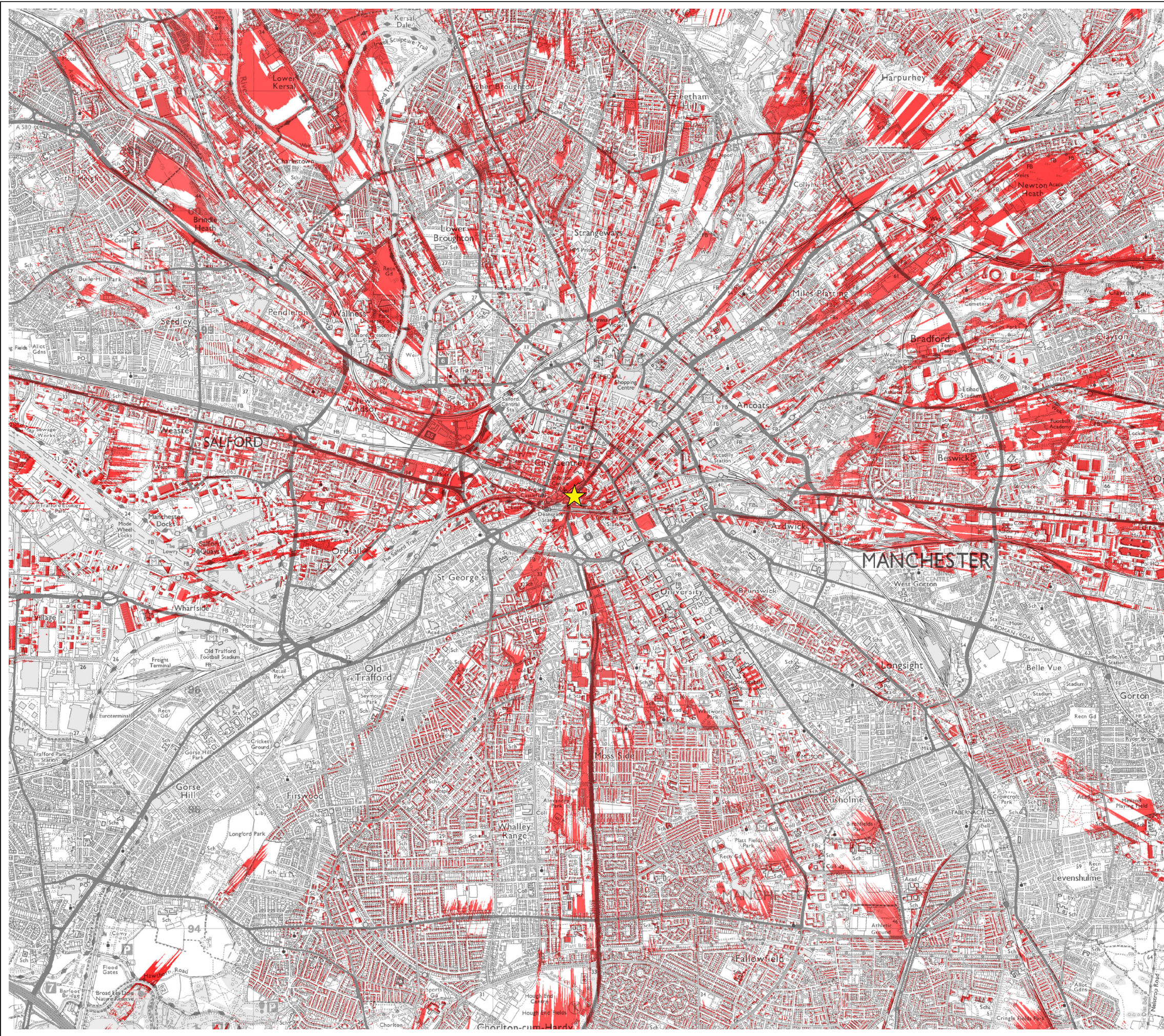
Project Details	Apex House, Manchester
Title	Topography Analysis
Scale	as shown
Drawing Ref	THL2854/P01a
Date	April 2021
Checked	AP



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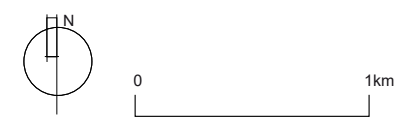
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-  Application Site Location
-  Zone of Theoretical Visibility

Source:
The Zone of Theoretical Visibility (ZTV) illustrates the extent to which the development as a whole (modelled at 86m maximum height) is potentially visible from the surrounding area (1.6m high receptor). The plan has been prepared using GIS computer software (MapInfo) and Environment Agency LiDAR DSM data, and as such takes into account built form. The DSM data provided by EA has undergone heavy filtering and while some vegetation is accounted for, it does not fully represent the potential screening observed in the field.



Project Details	Apex House, Manchester
Title	ZTV Analysis
Scale	as shown
Drawing Ref	THL2854/P02b
Date	November 2021
Checked	AP



Introduction

As part of Natural England's responsibilities as set out in the Natural Environment White Paper¹, Biodiversity 2020² and the European Landscape Convention³, we are revising profiles for England's 159 National Character Areas (NCAs). These are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment.

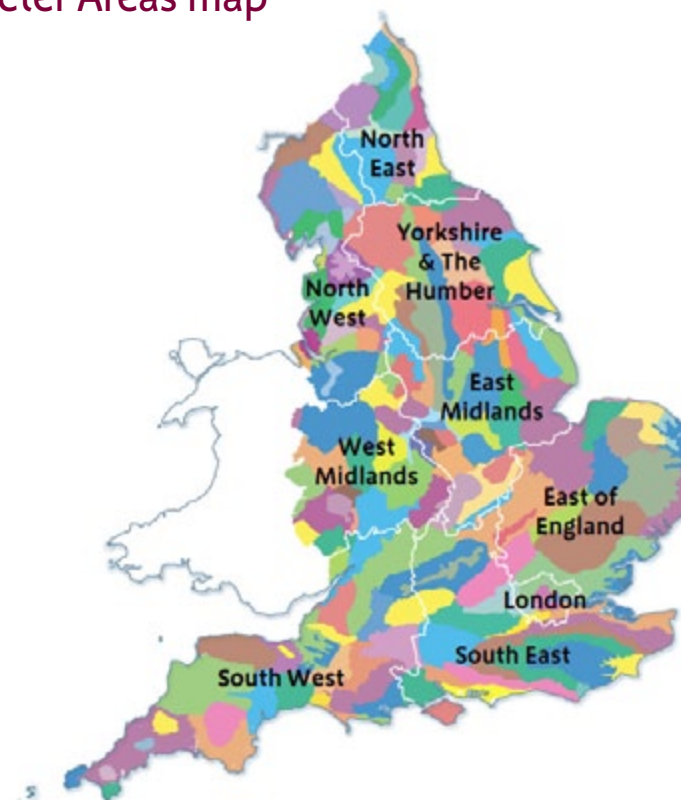
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and encourage broader partnership working through Local Nature Partnerships. The profiles will also help to inform choices about how land is managed and can change.

Each profile includes a description of the natural and cultural features that shape our landscapes, how the landscape has changed over time, the current key drivers for ongoing change, and a broad analysis of each area's characteristics and ecosystem services. Statements of Environmental Opportunity (SEOs) are suggested, which draw on this integrated information. The SEOs offer guidance on the critical issues, which could help to achieve sustainable growth and a more secure environmental future.

NCA profiles are working documents which draw on current evidence and knowledge. We will aim to refresh and update them periodically as new information becomes available to us.

We would like to hear how useful the NCA profiles are to you. You can contact the NCA team by emailing ncaprofiles@naturalengland.org.uk

National Character Areas map



¹ The Natural Choice: Securing the Value of Nature, Defra (2011; URL: www.official-documents.gov.uk/document/cm80/8082/8082.pdf)

² Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, Defra (2011; URL: www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf)

³ European Landscape Convention, Council of Europe (2000; URL: <http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm>)

Summary

A number of settlements have grown and come together to form the Manchester Conurbation, including Manchester, Salford, Stockport, Sale, Ashton-under-Lyne, Swinton, Altrincham, Stretford, Prestwich, Cheadle Hulme, Denton and Droylsden. The area is characterised by dense urban and industrial development, commercial, financial, retail and administrative centres, commuter suburbs and housing, interspersed with a network of green infrastructure.

The conurbation is centred on low hills, crossed by several river valleys that thread through the urban fabric. The geology is dominated by sandstones, overlain by thick deposits of glacial till. The underlying Permo-Triassic sandstones provide an extensive aquifer, contributing groundwater for a large number of industrial users as well as public water supply.

River valleys form important corridors of semi-natural habitats and natural greenspace – with open grassland, woodland and wetland – linking urban centres with open countryside. The industrial heritage now provides sites of wildlife interest in the urban environment. Canals that weave through the conurbation not only offer opportunities for access and recreation, but also form a network of wetland habitats. Sections of the Rochdale Canal, in particular, have been designated as being of international importance as a Special Area of Conservation (SAC). Woodland cover is generally low, but variable – and significant for such a heavily urban location. New areas of community woodland have been created in the Red Rose Forest and Pennine Edge Forest.

The history of the landscape is evident through the legacy of industrial archaeology, particularly relating to the textile industry. In the late 18th century the

area became rapidly industrialised, with dramatic growth in the cotton industry and expansion in ancillary trades. The population increased, fuelled by a need for labour, with rows of terraced housing built for the workers as well as mills and industrial buildings. Red brick and sandstone buildings are prominent in the city and town centres, alongside buildings using a mix of modern materials, high-rise buildings, and landmark 19th-, 20th- and 21st-century buildings.

Drivers for change within the Manchester Conurbation include the ongoing aspiration for economic growth. Development pressures are high, as is the need to provide infrastructure and associated services. There are challenges in ensuring that the area's natural environment is resilient enough to meet the demands of economic and population growth. Securing and enhancing green infrastructure provides an opportunity to deliver the benefits of a high-quality, healthy natural environment, including managing surface waters and reducing flood risk, adapting urban environments for climate change resilience, enabling healthy activity, recreation and social cohesion, and conserving the area's distinctive biodiversity, landscape and heritage.

[Click map to enlarge; click again to reduce.](#)

Statements of Environmental Opportunity

SEO 1: Provide and maintain green infrastructure, including multi-functional green spaces and trees, improving links between habitats as well as creating a high-quality urban environment – to aid adaptation to climate change, to provide opportunities for recreation, and to enable people to enjoy the benefits that access to nature brings.

SEO 2: Conserve and enhance the cultural heritage and character of the Manchester Conurbation, recognising the industrial and textile history of the area, and providing opportunities for access and interpretation of the urban environment for people to understand and enjoy.

SEO 3: Provide a healthy water environment – with rivers, canals, wetlands, streams and aquifers – creating habitats for wildlife, delivering sustainably managed water and bringing multiple benefits for people.

SEO 4: Conserve and enhance the river valleys and canals, as corridors through the urban areas, for the multiple benefits that the natural environment provides, to improve the landscape, and to make green spaces available for the benefit of both wildlife and people.



Provision of vegetation including trees can support urban wildlife, help keep urban environments cooler, provide green routes across the urban fabric, help manage surface water and contribute to people's health and wellbeing.

Description

Physical and functional links to other National Character Areas

The Manchester Conurbation National Character Area (NCA) is a predominantly urban area, bringing together a number of large settlements. The Manchester Pennine Fringe NCA wraps around the conurbation to the east and to the north. The Mersey Valley NCA lies to the west of the area, while the Shropshire, Cheshire and Staffordshire Plain NCA extends to the south.

The high-rise buildings of Manchester city centre serve as a visual orientation point within the surrounding urban context, and can be seen from many viewpoints in the conurbation and in surrounding NCAs. From the central and eastern extent of the Manchester Conurbation, views outwards include the moors of the Southern Pennines NCA, Dark Peak NCA and the Peak District National Park. Views to the west of the conurbation are typically more limited by the low-lying character of the landscape.

Drainage is through a series of river valleys, flowing broadly from the Pennine moors to the east and north, and the Peak District to the south-east, across the conurbation, and towards the lower-lying areas of the south and west. River valleys include those of the Mersey, Irwell, Tame and Bollin. Tributaries meet the River Mersey and Manchester Ship Canal, then cross the adjacent Mersey Valley NCA, ultimately reaching the Mersey Estuary in the west. The Manchester Ship Canal follows the original routes of the rivers Mersey and Irwell. The Manchester Ship Canal, the Bridgewater Canal, the Leeds and Liverpool Canal, and the Rochdale Canal are all connected, linking the Manchester Conurbation



The high rise buildings of Manchester city centre serve as a visual orientation point within the surrounding urban context and can be seen from many viewpoints.

with the Port of Liverpool. Water supply is from surrounding uplands, including reservoirs in the Dark Peak NCA, the Southern Pennines NCA, the Cumbria High Fells NCA and north Wales, supplemented by groundwater.

The Manchester Conurbation forms a busy transport hub, interlinked with surrounding areas by an extensive web of infrastructure into, out of, and around, the centre. Roads, tramways and railways all serve to connect the area, while the Manchester ring motorway serves to divert traffic around Manchester and Salford city centres. The transport network links mainline railways and motorways to the north and south. There are also connections from east to west, linking the area with the Merseyside Conurbation NCA and with trans-Pennine routes. The Trans Pennine Trail, a multi-user route for walkers, cyclists and horse riders, crosses the Manchester Conurbation from coast to coast, between the North Sea and Irish Sea.



The River Irwell and Salford Meadows are an important feature of the area, valued recreational space, wildlife resource, setting for residential, education and commercial infrastructure.

Key characteristics

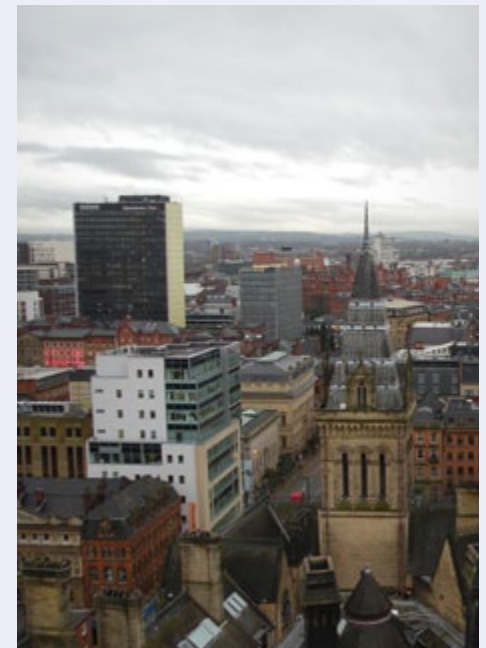
- Large settlements have come together to form the conurbation, characterised by dense urban and industrial development, commercial, financial, retail and administrative centres, commuter suburbs and housing.
- The area is centred on low hills, enclosed by the Pennine hills to the north and east, and crossed by several meandering river valleys.
- The geology is dominated by sandstones, with the underlying Permo-Triassic sandstones forming an extensive aquifer; this is overlain by thick deposits of glacial till.
- Woodland is usually found in corridors along the slopes of the river valleys, and also on what was once brownfield land.
- There are small pockets of farmland, bounded by fences or hedges. However, an increasing number of farms are now given over to urban farming uses such as equestrian facilities, supplying the demand for recreation.
- Public parks and recreation facilities provide valuable open spaces for people within this urban environment; community gardens and allotments are places for local food growing.
- River valleys form important corridors of semi-natural habitats and natural green spaces – with open grassland, woodland and wetland – linking urban centres with open countryside. Many post-industrial sites and canals provide wildlife habitats.
- Drainage is through a series of river valleys that weave through the urban fabric, flowing broadly from the Pennine moors to the east and north, towards the lower-lying areas of the south and west.
- The area's legacy of industrial archaeology – particularly relating to the

textile industry – is increasingly recognised. Red brick and sandstone buildings are prominent in the city and town centres, alongside buildings using a mix of modern materials, high-rise buildings, and landmark 19th-, 20th- and 21st-century buildings.

- The Manchester Conurbation forms a busy transport hub, interlinked with surrounding areas by an extensive web of roads, tramways and railways – major communications corridors. Access is also provided by the canal network.



Small patches of green space in the heart of the city can attract high levels of usage. A space to relax, enjoy events and socialise.



Red brick and sandstone buildings are prominent, alongside a mix of modern materials and high rise buildings.

Manchester Conurbation today

The Manchester Conurbation is characterised by dense urban and industrial development, with 82 per cent of the area being classed as urban. This development is focused around the principal commercial, financial, retail and cultural centres of Manchester, Salford and Stockport. Other main settlements that come together to form the conurbation include Sale, Ashton-under-Lyne, Swinton, Altrincham, Stretford, Prestwich, Cheadle Hulme, Denton and Droylsden.

The NCA is centred on low hills, which rise above a drift-covered sandstone plain. This is crossed by several river valleys that thread through the urban fabric, flowing down from the moors of the Pennines in the north and east, and the Peak District in the south-east, towards the Mersey Valley in the west. Elevations range from 15 m to 130 m. The geology is dominated by sandstones – some of which form part of an extensive aquifer. This is overlain by thick deposits of glacial till. Sands and river alluvium lie along the valleys of the Mersey and its tributaries.

Landscapes are predominantly urban in character, with green infrastructure threading through. There are strong visual connections with surrounding urban centres and the distant Pennine hills. The distinctive visibility of the Pennines on the skyline, as well as the high-rise buildings of Manchester city centre, contribute to the area's orientation and sense of place. From the central and eastern extent of the Manchester Conurbation, views outwards include the moors of the distant Pennine hills and the Peak District National Park. In settlements to the west of the area, there is limited inter-visibility with the surrounding low-lying agricultural landscape.



Community gardens and allotments provide places for local food growing.

Semi-natural broadleaved woodland can be found in small pockets, some of which are ancient woodland sites, such as Bailey's Wood, Mere Clough and Prestwich Clough in the north, and Bramhall and Carr Woods in the south. The flora of this NCA was well documented by the Victorians – both by artisan naturalists such as Richard Buxton and by more academic naturalists such as Leopold Grindon. Many of the river valleys have large areas of woodland along their slopes. The Red Rose Forest and the Pennine Edge Forest cover this NCA. They have encouraged the establishment of new community woodland, semi-natural habitats and other green spaces for people to enjoy within the conurbation, recognising the important quality-of-life benefits that these features provide.

Field boundaries, where they occur, include both fences and hedges in river valleys and on the peripheries of the urban areas.

Small pockets of farmland can be found along the river valleys. Most of the agricultural land is grade 3, but there are some areas of grade 4 land. In some locations, peat soils provide grade 2 land – such as around Ashton-under-Lyne. The majority of holdings are grass and uncropped land. An increasing number of farms are given over to urban fringe uses, feeding the demand for recreational facilities such as equestrian centres, playing fields and golf courses.

The countryside filters through the Manchester Conurbation, following the network of corridors formed by the rivers (and, to a lesser extent, canals and railways), which cut through the urban fabric. All the river valleys contain sizeable networks of semi-natural habitats, including open grassland, woodland and wetland.

The area's industrial heritage provides many important post-industrial sites, which now provide sites of wildlife interest in the urban environment. Canals that extend through the conurbation not only offer opportunities for access and recreation, but also form a network of wetland habitats. These include the Bridgewater Canal, Rochdale Canal, Macclesfield Canal, and Leeds and Liverpool Canal. Some sections of the disused Manchester, Bolton and Bury Canal still hold water. The Rochdale Canal, in particular, is widely recognised for its aquatic plant assemblages: sections have been designated as a Special Area of Conservation (SAC) for an internationally important population of floating water plantain. Elsewhere, the borrow pits that were excavated to provide material for motorway construction have now been developed into extensive lakes. These now form habitats for wildlife, as well as recreational areas for

people. There are major examples at Sale and Chorlton Water Parks.

As is typical with urban areas, there are a number of Local Nature Reserves (LNRs). Parks, cemeteries, disused railway lines, gardens, golf courses and allotments are all important refuges for wildlife, while providing places of relative tranquillity for people to enjoy. A number of conspicuous species have colonised the urban areas. Fox, badger, peregrine falcon, black redstart and marsh orchid are among the best-publicised examples. The mosaic of built environment and open space is also important for urban specialist species such as house sparrow and house martin. The tolerance of black poplars to industrial pollution has meant that this species was widely planted as an urban tree in Manchester in the late 19th and early 20th centuries. It has become known as the 'Manchester poplar', and until recently it survived almost anywhere. Since around 2000 a virulent disease diagnosed as poplar scab has affected the Manchester poplar, and badly diseased trees have been felled.

A series of river valleys flow through the urban fabric of the Manchester Conurbation, from the Pennine hills in the north and east, and Peak District to the south-east, ultimately draining into the Mersey Estuary in the west. These provide corridors of greenspace for wildlife and for people. The Mersey river valley is the largest stretch of continuous countryside within the conurbation, dominated by its heavily meandering river within a broad flood plain. Other river valleys include those of the Irwell, Tame and Bollin, which are smaller, more sinuous and narrower than the Mersey, but nevertheless form important countryside corridors throughout this otherwise built-up area. The Rivers Goyt, Irk and Medlock also flow into the Manchester Conurbation.

The Manchester Conurbation has an increasingly recognised legacy of industrial archaeology, with its industrial past evident in the landscape.

Manchester is seen as an archetypal city of the Industrial Revolution: the canal network, mainline railways and industrial suburbs were all created as a result of it. The surviving built heritage includes former cotton warehouses, steam-powered mills and large engineering works that were established to serve the textile industry. The historic centres of Manchester, Salford and Stockport house many museums, galleries and impressive municipal buildings. Grand country houses and parklands are located within the wider NCA, such as at Heaton Park and Wythenshawe Park. The formal parks and green spaces provided through Victorian and Edwardian planning are just as crucial today, and offer spaces of tranquillity and well as places for wildlife.

The many high-rise and landmark buildings give the area a strong sense of identity. Laurence Stephen Lowry famously painted scenes of life in industrial Manchester and Salford. The Lowry Building, an arts centre in the redeveloped Salford Quays area, now takes the artist's name. Other noteworthy buildings include Manchester Cathedral, Salford Cathedral, Manchester Town Hall, Manchester Library, Stockport Viaduct and Stockport Pyramid. At 168 m, the Beetham Tower is a prominent feature on the Manchester skyline. Red brick and sandstone are prominent, alongside a mix of modern materials. The dominance of modern residential land use reflects the substantial expansion of the area over the later 19th and 20th centuries. The city-edge commuter suburbs include affluent, leafy settlements around the southern fringes of Manchester, and the more generic western suburbs. Some of the conurbation suburbs exhibit a distinct character typical of mill-towns in the wider area.

The Manchester Conurbation forms a busy transport hub, interlinked with surrounding areas by an extensive web of infrastructure into, out of, and around, the centre. Communications corridors and other infrastructure are dominant, with major communications routes including mainline railways,



River and canal corridors continue to provide a focus for redevelopment, but they can also contain important recreation routes and surprisingly rich biodiversity.

tramways and the Manchester ring motorway. The transport network creates links to the north and south, as well as east to west, connecting the area with the Port of Liverpool and trans-Pennine routes. Many of the towns and villages within the area function as commuter settlements, benefiting from the concentration of transport infrastructure in the area. Recreational trails, including the Trans Pennine Trail, also serve to connect people. Manchester Airport is adjacent to this NCA.

Unsurprisingly, this predominantly urban area has very low levels of tranquillity. The areas with the lowest tranquillity scores are found in the urban centres of Manchester, Salford and Stockport. This makes the comparatively tranquil areas all the more important for local residents, as well as acting as access routes out to the wider countryside.

Most of the available countryside is suburban in character, and often used for leisure or keeping horses. The river valleys are important as recreational areas, with large expanses of playing fields, numerous golf courses and countryside. Country parks, and Victorian and Edwardian urban parks, are associated with the river valleys and often connected by recreational trails. The canal network is used for activities such as canoeing and recreational boating, while the towpath is used for walking and cycling, and is a setting for angling. These areas are complemented by a series of 26 LNRs that are either wholly or partly in this NCA, providing accessible areas where people can enjoy wildlife. The Red Rose Forest and Pennine Edge Forest cover this NCA, supporting community woodland and delivering multiple environmental and social benefits, such as providing places for recreation and enhancing quality of life.



Hulme Park.

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LOCAL DEVELOPMENT FRAMEWORK: STRATEGIC LEVEL CITY-WIDE URBAN CHARACTERISATION FOR CORE STRATEGY

Introduction

A City-Wide Urban Characterisation Study, appropriate to the strategic level required for the Core Strategy, has been undertaken in order to identify broad character areas across the City. Further guidance, which may be provided in a Supplementary Planning Document, will need to be supported by more detailed work which will look at a more local level and consider the finer grain of the City's character areas.

The strategic level City-Wide Urban Characterisation Study has been undertaken using the following data sources.

Principal data sources

Manchester Urban Historic Landscape Characterisation Interim Report, GMAU, June 2009.

The Manchester Plan 1945

Manchester 50 Years of Change, Phil Bamford (Project Co-ordinator), HMSO, 1995

Google Earth and Multimap web-sites

Personal knowledge of the urban design officer

The analysis of physical characteristics

The analysis undertaken found that the underlying natural topography and the historic urban evolution of the city are critical to understanding the physical character of the current-day city. Taking a broad-brush approach, eleven over-lapping areas ('strategic character areas') of varying size have been identified which can each be viewed as having a distinctive character. A more refined and detailed analysis would enable sub-areas of more localised distinctiveness to be identified within each of these strategic character areas.

The story of the city's urban evolution, as shall be seen, is clearly influenced by the economic and social changes over time. However, it is suggested that the following urban character assessment would be (and, indeed, should be) enriched by an element of social and economic analysis. This would hopefully support rather than challenge the following assessment of the physical urban character but could also assist future, more detailed work, including by potentially identifying further sub-areas of distinctiveness.

The presented information

This is in three parts:

1. A selection of the background of work - mainly plan based and including 'time slices' of the city which show the urban development of the city as a series of snap-shots over time.
2. A series of overlay plans (based on the background work) that give a broad understanding of the built form of the city today and provide some

historical background and show the underlying natural topography. This underpins the final overlay which identifies the eleven 'strategic character areas' identified by this project.

3. A written commentary as follows.

Natural topography

The main natural topographical features of the city – the principal rivers and overall change in land height - are apparent on the overlay plans and is a reflection of the underlying geology. This has been exploited in the past (most significantly in the 19th century and first half of the 20th century) for mineral extraction associated with, for example, the coal and brick industries. In certain localities this has left an impression in the landscape but one that has been largely erased by more recent development.

The urban history of the city

The history of the urban development of the city is important to understanding its present-day character and has significantly influenced the identification of the strategic character areas.

Pre-Roman

The limited archaeological finds within the current-day boundary of the city suggests the presence of some permanent or semi-permanent settlement. By the time the Romans arrived in the area in the 70's AD they may have found a partially cultivated landscape dotted with farmsteads, particularly along the river valleys and defended hilltops - the promontory sites at either end of current-day Deansgate (in the vicinity of Castlefield and Hanging Ditch) have been identified as ideal pre-historic settlement sites. The climatic deterioration between about 1,300BC and 400AD may explain the lack of confirmed Iron Age (500BC - Roman invasion) settlements in the area as the lowland wetland areas increased making marginal farming unworkable. The urban legacy of this period is limited but may include a number of place names.

Roman

The Roman occupation in the area extended from the 70's AD to their withdrawal from Britain in 410AD. While the Roman fort and associated vicus in the Castlefield area was a notable feature of the time there remains minimal evidence, mainly in the form of a limited number of road-lines, of the occupation in the current-day townscape. The landscape would have largely remained as existing prior to the occupation.

Medieval

There is a reference in 919AD in the Anglo-Saxon Chronicle to a "burgh" (or fort) at Manchester and while this could have been in Castlefield it is believed more likely to have been in the vicinity of Hanging Ditch which was both defensible and became the focus for medieval military, ecclesiastical and urban development. Elsewhere in the city, the Chronicle only made reference to Northenden and Baguley.

By the late 1200's Manchester had become a town of regional importance but still only covered a fraction of the current core area of the present-day city centre.

Outside Manchester town during the medieval period, the landscape became dotted with isolated halls (as the centres of medieval manors) and farmsteads against a backdrop of open-field systems, pasture meadows and large tracts of woodland. By the late 1400's there were a number of small settlements but Northenden seems to be the only settlement of any note outside Manchester town.

Tudor, Elizabethan and Georgian periods

The population of Manchester grew steadily in the 1500's reflecting its importance for wool, linen and flax and, consequently the town started to see notable physical expansion. By the mid-1600's this industrial sprawl led to wealthier merchants and clothiers moving out to high-status country estates. The gradual increase in population placed pressure on the agricultural system which led to the increased enclosure of wastelands, the clearing of woodlands and new crops and farming methods.

The Bridgewater Canal, Ashton and Rochdale Canals were opened in 1765, 1796 and 1800 respectively and have had a continued influence on the pattern of urban development to the current day. Early water-powered mills had been established on water courses in and around the town and, at the end of the 1700's, steam-powered mills were introduced for the first time. Areas in and adjacent to Manchester town - notably the Irk and Medlock valleys - were being industrialised including with increasingly large-scale mills.

Subsequent development and redevelopment has left only traces (some notable) of the urban built form up to the end of this period. These include some buildings together with the canals and elements of the street pattern and place-names.

Victorian period

Between the late 1700's and early 1900's the historic centre of Manchester expanded exponentially on a series of colliding streets grids transforming it from one of town houses and small mercantile establishments to one of larger scale warehouses, hotels, theatres and high status public institutions and overlaid with new transport infrastructure. The number of people now wealthy enough to leave the centre was increasing, and by the Victorian period new planned villa suburbs began to appear around the edge of the town, notably in an arc to the south-east in the vicinity of Ardwick, and also in a broad swathe along the Oxford Road/Wilmslow Road highway but with pockets of varying size in other locations. An emphasis on tree planting and other soft landscaping as a 'natural' setting was often associated with these developments. However, the increasingly rapid expansion of the industrialising urban centre soon overwhelmed the early villa suburbs around the edge of town with the building terraced and back-to-back workers housing on a massive scale. The tight, grid-street pattern was relatively quickly

adopted which allowed for little incidental, private or public open space and the expansion gained added momentum as technology improved and with the coming of the railways in the 1830's.

In the surrounding countryside, in the early part of the Victorian period, settlements remained as small 'folds' (based on earlier farmsteads) and discrete clusters of development on key radial roads and junctions. However, Northenden remained the only nucleated settlement core of any size outside Manchester into the later 1800's by which time a number of other urban cores started to emerge often resulting from the expansion of rural settlements by a dispersed pattern of industrial development and associated workers housing.

By the end of the 1800's, outside Manchester's urban core, a pattern of residential and commercial ribbon development based on key radial routes had become established and, other than along Wilmslow Road, they were principally based on terraced housing and industry. The relentless outward push of Manchester saw a new wave of villa building on the urban fringe and principally (but not exclusively) to the south.

The Victorian legacy varies across the city. In some localities it remains very much a defining characteristic, in many places it remains clearly evident but not dominant, while in others it may only be visible, if at all, in the street pattern and residual built form following subsequent events.

20th century to date

The first half of the 20th century saw a consolidation of the urban area with the infilling of significant areas between the fingers of 19th century ribbon development with a mix of public/social and private housing but also with a range of other commercial and community buildings and spaces. Local retail and civic uses had also further strengthened the identifiable urban cores that would become district centres. At the same time there was also a significant southwards urban extension focused on Wythenshawe to provide much needed, good quality social housing. The increasing number of road vehicles (and congestion) was leading to new ideas such as 'parkways' and, later, to motorways including elevated highway structures.

In the 1950's and 1960's the huge area of (often poor quality) 19th century terraced and back-to-back housing encircling the city centre was comprehensively redeveloped. The resultant urban form was typical of the era but has not proved to be successful and is now itself the subject of regeneration including, in places, wholesale replacement. Areas of redundant, former industrial and transport land have also been made available for reuse that has included residential use as well for facilities of not just local but national importance such as those at Sport City.

Similarly, since the 1950's the city centre has seen change and, more recently, regeneration. In some places this has involved significant site assembly and a radical change in scale while others have been far less dramatic but nevertheless with an important cumulative impact that clearly identifies the centre as modern and dynamic but one that is more than

comfortable with its past.

Strategic Character Areas

These have been identified as follows:

1. City Centre
2. Higher Education Precinct (HEP)
3. Airport & green belt
4. Wythenshawe environs
5. South Area
6. North Area
7. Heaton Park
8. Central Area of change
9. Irk Valley
10. Medlock Valley
11. Mersey Valley

City Centre

Underlying natural form

The city centre stands on a gentle spur of land extending from the east within the area of gentle transition between the higher land to the north and lower, flatter land to the south and is bounded on three sides by the valleys of the Rivers Irwell, Medlock and Irk. The ground levels of the current day city centre also gently respond to the remaining impression left by lesser, and now culverted, water courses such as the River Tib and Shooters Brook that cross the area.

Urban form

The urban form is one of contrasts. Despite an urban history dating from Roman times, the principal remaining influence of the pre-Victorian era on the city centre urban form is the street pattern in the historic core and routes that radiate from it and that respond organically to topography and other landscape features.

While some built form remains of both Medieval and Georgian Manchester, the core area is principally a mix of development from the Victorian period onwards with some localities often displaying a predominance of a particular age and style of built form and others having a more eclectic mix. A series of colliding street grids - with origins in the Georgian period but mainly dating from the Victorian period - have informed both the original and subsequent built development and the legibility and permeability of the city centre. The scale of built form also varies, sometimes dramatically, but the core area is mainly one of higher, larger scale buildings. Other than open spaces relating to transport infrastructure, the core has a relatively modest amount of open space (when compared to built floorspace) principally in the form of larger, high quality civic spaces but also with some smaller, much greener and less formal public gardens. The Conservation Area status of much of the centre and the concentration of listed buildings reflects the urban history and quality of the urban environment.

The urban form around the core reflects the economic, social and physical dynamic of the city's on-going evolution and transition from the core to the outer areas. It contains a mix of building ages, types and quality but with a predominance of often lower scale built form a greater sense of space and lower density arising from areas of cleared, previously developed land.

Mancunian Way forms a more distinct boundary to the southern edge of the City Centre than elsewhere along the remainder of the Inner Relief Route or along the River Irwell where the city centre character extends outwards.

Use, activity and movement

The diversity and intensity of use, including over extended periods of any 24 hour day, reflects the regional (as well as city) centre role of the area. The predominant use in any particular part of the city centre can vary in relatively short distances to give pockets with particular use and activity characteristics. However, the over-riding character of the core area is a dense mix of non-industrial commercial uses, a predominance of regionally and locally significant uses and activities (including events) and a notable number of residential apartments. By comparison, outside the core, the intensity of activity falls and, within larger areas, uses are less mixed with fewer uses of particular regional significance but that can include uses not generally found in the core area including elements of industrial use. The non-core area includes significant areas of cleared land (often used for surface car parking) and a growing component of contemporary residential use as the core area pushes outwards.

Activity in the city centre, in part, derives from the area as the focus of road, water and rail routes which often have historic origins that continue to both inform the development of the city centre and contribute to its distinctive appearance and character. Particular activity 'hot-spots' can occur where routes cross and opportunities to change travel mode are presented such as at railway stations, and tram and bus stops.

Higher Education Precinct (HEP)

Underlying natural form

The locality where the City Centre and HEP character areas merge is demarcated by the gentle, but noticeable, valley slopes in the immediate vicinity of the River Medlock from which the HEP stretches away south-eastwards, following Oxford Road, as a relatively level area.

Urban form

The main Oxford Road highway runs centrally through the length of this area and, prior to the mid 1700's, would have passed through largely open countryside.

The character of the area today is very much linked to Oxford Road as the focus of the city's major education and medical facilities in a significant

number of often large, institutional buildings. These clearly relate to and define the Oxford Road frontage and give the wider area a particular sense of scale and gravitas. A number of these imposing buildings date from the later 1800's and often are in stone but also some in red brick with Portland stone or terracotta detailing. Many are from the 1950's onwards and set in soft landscaped areas and represent every period of the modern era in terms of style and elevation materials, and this process of evolution continues today with recent and on-going development at the hospital and two universities.

There still remain some limited examples of the original development of the area for higher status villas and town houses for the wealthy moving out of the urban core as it began to industrialise. However, underlying the area is the still legible but fragmented grid-street pattern that was laid down when the area was subsequently overwhelmed by workers housing of the 1800's including to serve new mills in the vicinity of the township of Chorlton-upon Medlock. Virtually all trace of the residential areas was swept away as part of their 1950's and 1960's comprehensive redevelopment, but vestiges of often domestically scaled civic and commercial buildings that served the township still survive - principally along the Oxford Road frontage and around All Saint's Square that was an integral part of the grid-iron.

Use, activity and movement

Not unexpectedly the area is dominated by the educational and hospital uses either directly or with ancillary uses and activity. The HEP, particularly during university term-time, is a highly active and vibrant extension to the city centre including into the night-time. The Oxford Road frontage is particularly busy with a host of student facilities, performance venues, museums, shops and bars. In contrast, since being established in the late 19th Century, Whitworth Park (at the southern extent of the HEP) has remained as a large and more relaxed green public space of sweeping lawns and mature tree planting for recreation and occasional events.

Oxford Road is an extremely busy pedestrian and vehicle route which heightens the overall sense of activity along its entire length. Other than for a limited number of east-west roads it is pedestrians that predominantly permeate the area between (but without often reaching) the Cambridge Street and heavily trafficked Upper Brook Street routes that broadly define the HEP to the west and east respectively.

Wythenshawe environs

Underlying natural form

This area slopes gently down towards the Mersey Valley to the north. In places near the river the natural change in level has become slightly exaggerated by man-made flood defences. Historically the lowlands around the Mersey basin contained large tracts of mossland which remained largely undrained until around the mid-18th Century.

Urban form

The over-riding current-day character of this area derives from the 20th

Underlying natural form

The area is relatively flat but with a slight fall to the River Bollin in the south. It maintains a relatively open and green appearance especially in those areas not occupied by the Manchester International Airport and represents the largest area of countryside (as opposed to parkland) within the city. However, even this countryside, which includes some limited areas of woodland, derives from human intervention in the landscape such as enclosed fields. The sense of openness is significantly increased by the views across adjoining, similarly open areas, of adjacent districts.

Urban form

A particular urban form is associated with the airport including expansive areas of surfaced open space and a variety of modern and often extremely large buildings which is permeated by an extensive network of roads. Elsewhere in the area there is minimal and domestically scaled built form set within the countryside (mostly dating from before the mid 1800's and little from after the early 1900's) and often associated with the agricultural history of the area.

Use, activity and movement

The airport represents a major source of activity by comparison with the remainder of the area which has a pattern of activity associated with agriculture, dispersed residential use and the use of former agricultural premises and land for airport associated car parking.

Significant volumes of traffic are generated to and from the airport the majority of which, on the ground, is road traffic with some rail use and relatively little pedestrian movement. The airport also has intense patterns of movement within its boundary. By contrast the remainder of the area generates and experiences relatively low levels of movement which contributes to the perceived sense of inactivity.

South area

Underlying natural form

The area is broadly bounded by the valleys of the Rivers Medlock, Irwell and Mersey to the north, west and south respectively. While the area is perceived as largely flat there is a gentle upwards slope moving away from the rivers and towards the east. It rises from some 30m above sea level in the Mersey Valley area to about 65m around Gorton after which the change in gradient becomes more noticeable on the eastern edge of the city. Historically the lowlands around the Mersey basin contained extensive tracts of mossland which remained largely undrained until around the mid-18th Century.

Urban form

The character of this area is principally defined by the gentle topography, the overriding suburban residential use dissected by principal routes, a more domestically scaled built form in a predominance of red brick and grey roofs, a sense of greenery and a flowing transition between areas of different

development ages up to the current day (but predominantly from the late 1700's to the 1960's). The overall impression is of a complete carpet of built form, managed urban spaces and mature soft landscaping but within which there are potential sub-character areas.

There are two key components to the built character. Firstly, surviving concentrations of the 19th century development focused on main routes and the urban cores along them that often developed from former small rural settlements. In some of these areas there is a predominance of higher status villa residences set in leafy localities with some worker terraces as in a swathe along Wilmslow Road (taking in, for example, Didsbury and Withington) and in the Chorlton and Whalley Range areas. Elsewhere, but predominantly on the eastern side of the area, the reverse holds with a majority being former worker terraces associated with the original dispersal of industry to give places such as Levenshulme and Gorton a denser, harder, meaner appearance. The particular emphasis of such remaining built form suggests a number of sub-character areas could, therefore, legitimately be identified.

The second key component of this area's built character resulted from the subsequent continued expansion of the city up to the 1960's. The rural land between the earlier areas of 19th century development saw rapid piecemeal infilling with archetypal public and private suburban housing of the time: mostly two-storey and lower density in a mix of detached and semi-detached houses, short terraces and maisonettes. A patchwork of estates appeared of varying size including some large enough to present particularly extensive geometric estate layouts.

Interspersed within the area are elements of more recent development from the 1960's onwards (some of which exhibits an increase in scale and form and introduction of new building methods and materials), a number of large historic parks and other managed open spaces (contributing further to the sense of greenery) and a few fragments of the historic origins of the area: Didsbury has medieval origins and Withington Old Hall, Barlow Hall and Peel Hall are confirmed as having mediaeval foundation dates.

Use and activity and movement

The level and rhythm of activity within the area is set by the predominant residential and associated uses. The various district centres provide particular mixed concentrations of uses and activity.

Much of the sense of activity within the area is generated by the principal traffic routes that pass through the area and contributes to the more intense activity of the district centres. Pedestrian activity is also at its most intense in the district centres but falls away in the interiors of the residential estates and areas. While movement is generated within the area, a significant amount is also attributable to the area as a thoroughfare to the city centre from elsewhere including the airport and the M6 motorway.

activity of the district centres. Pedestrian activity is also at its most intense in the district centres but falls away in the interiors of the residential estates and areas. While movement is generated within the area, a significant amount is also attributable to the area as a thoroughfare to the city centre from elsewhere including the motorway network.

Heaton Park

Underlying natural form

A gently sloping area forming the eastern side of the Irk Valley and influenced by the Irwell Valley to the south. Extensive views are afforded from the highest point in the city lying to the north-eastern corner of this area.

Urban form

The park formed the estate centred on Heaton Hall which has medieval origins. As the elite residence in the Manchester area, the hall was rebuilt to the current grand design in the late 1700's and the park laid out in the informal picturesque manner with sweeping grassed areas and strategically placed areas of trees, follies and other structures. Owned by the City Council since the early 1900's, the park is open to the public and now also contains a variety more recent structures and features, various recreational facilities, associated car parks and part of a reservoir but largely retains the character of the grounds of a country estate. The park is known to include the site of Heaton Gate - a settlement of medieval origin - and, given the history of use and as the major continuously open space in the city, the park offers a particular opportunity for archaeological investigation.

Use, activity and movement

The park now offers a range of possibilities for informal and more organised recreational activity but, by its nature, this tends to be influenced by the time of day and year. The park has areas of higher activity although even at peak times the park can still provide areas of relative calm and solitude. The park continues an historic tradition of periodically providing space for large, organised events.

Vehicles move around the boundary of the park on a number of principal routes and the use itself generates varying (but often significant) levels of movement by a range of modes which can be expected to provide an increased sense of activity in the wider locality. However, within the park itself movement is principally pedestrian - the Metrolink follows a former rail tunnel under the park.

Central area of change

Underlying natural form

The area gently undulates in response to the valleys of the River Irwell that bounds the area's western edge and the Rivers Medlock and Irk that flow through the area from east to west and north to south respectively. Overall the

height of land above sea level increases gently in an arc around the north-east of the area and with a more noticeable change near the North Area and on the eastern edge of the city.

Urban form

This area covers the majority of the area engulfed by the industrialised expansion of the city in the 19th and early 20th century, focused on the Rochdale and Ashton Canals, but the current-day character principally derives from change: The subsequent comprehensive redevelopment of the area in the 1960's and the more recent on-going programme of large-scale regeneration.

As such, the urban form is predominantly of the 1960's: one of lower-density development set within open areas consisting of a mix of generous principal highways and junctions, commercial yards, public open space (including significant areas of incidental open space), school playing fields and small private gardens. The area remains the focus of the city's industrial and other out-of-centre commercial activity mostly in low-rise industrial shed-style buildings. It also contains a significant concentration of 1960's housing with a predominance of purpose-built, social housing estates, often on the segregated vehicle and pedestrian Radburn layout and containing a mix of high and low-rise flats and short terraces on a series of cul-de-sac roads.

This change was almost area-wide although pockets of older development remain to contribute to localised distinctiveness such as at Ardwick Green - both Ardwick and Clayton are known sites of medieval halls.

Change is once again underway with regeneration programmes that have, and continue, to transform the urban form of significant parts of the area. In Hulme, for example, new development has taken place on a reinstated grid-street pattern (which, as elsewhere in the area, was often swept away or heavily corrupted in the 1960's) to provide an area which is once again legible and permeable. An over-all higher density, but human scale of development has been achieved but with less incidental open space and larger areas of more meaningful public open space. New East Manchester is witnessing similar a similar approach to the urban form.

Use, activity and movement

The greatest sense of activity within the area is found in Sport City and the other centres which are a focus for facilities, services and pedestrian and vehicle movement. The level of activity in and around Sport City increases dramatically at the time of events. The activity levels outside these 'hot-spots' are relatively low with the greatest sense of activity generated by vehicle movement on the principal routes. There are, however, localities which exhibit increased levels of overall activity: Those close to the city centre and the Higher Education Precinct and areas that have recently experienced regeneration to higher densities that can now sustain a greater range of associated facilities.

Irk Valley

Underlying natural form

The River Irk makes the marked but gradual descent from the higher ground in the north of the city to join the River Irwell on the northern edge of the City Centre. The valley is one of contrasts that reflects geology and topography: it is relatively restricted in perceived width for much of its route through the city with some localised lengths of a narrow cut with steep banks but in other areas it broadens out (- presumably where gradients are less steep). It is often heavily treed and semi-natural although this character changes as it approaches the edge of the city centre.

Urban form

The Irk Valley has a history of early industrial development associated with mills (at first water, later steam, powered) and particularly focused near the City Centre. Today, other than in the immediate vicinity of the City Centre where the River Irk is taken underground and where the area's character becomes more like that of the City Centre, the Irk Valley provides a focus for greenery and tree planting along much of its length. However, in places, the width of open space is severely restricted by built development – particularly industrial type uses and their yards. Elsewhere, suburban houses and low-rise flats step as close to the river as the flood plain allows which gives the varying width of open valley space – often heavily treed and semi-natural but with some more formal open recreation land.

Use, activity and movement

A mix of residential and industrial land uses back on to the majority of the riversides. The valley space provides some opportunity for formal and informal recreation and as a pedestrian route but overall there is a perceived low level of movement and other activity.

Medlock Valley

Underlying natural form

Compared to the River Irk, the River Medlock makes less of a descent across the city and has had the opportunity to meander and create a wider, shallower river valley.

Urban form

This area principally covers the river valley from the eastern boundary of the city to the City Centre - within the City Centre the river is heavily channelled and culverted often with development sites and built form addressing the river walls. Outside the City Centre to Eastlands the river space becomes a little more open with increased opportunity for greenery but is still largely defined by built form. Between Eastlands and beyond the city boundary in the east the sense of openness increases and this is further emphasised both by the width of the open plain but also by the suburban scale of development alongside.

Use, activity and movement

Even in the more developed localities much of the area exhibits only a modest sense of activity.

Mersey Valley

Underlying natural form

A wide bottomed valley containing the meandering River Mersey with mainly gently sloping valley sides extending into the adjacent character areas but with some localised steeper banks.

Urban form

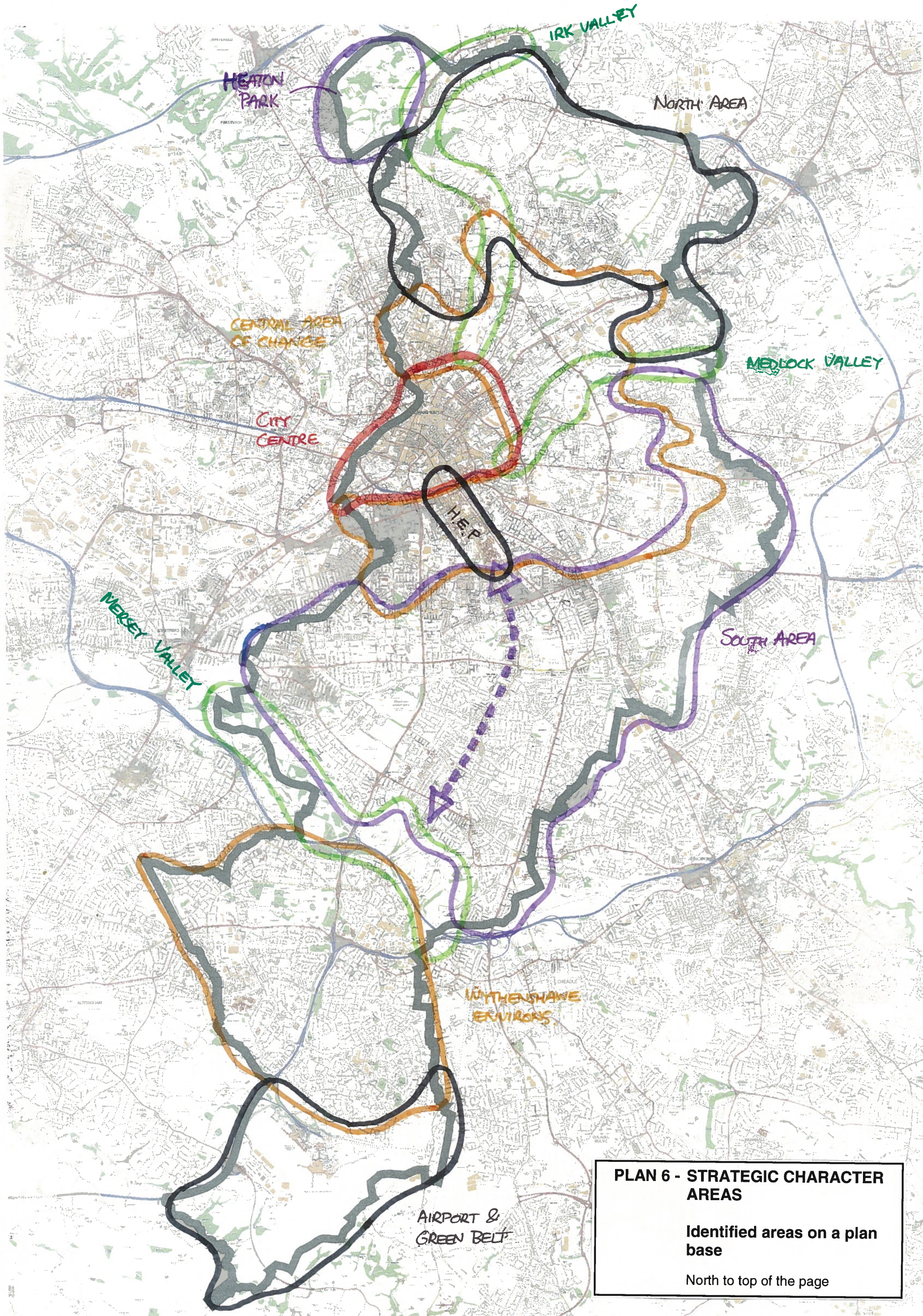
Unlike the Irk and Medlock Valleys, the Mersey Valley remained largely unaffected by the early urban industrialisation and sprawl of the city and the area retains an overall sense of openness associated with its rural past and the green belt status that covers much of the area. Today, however, the Mersey Valley is not in a natural or semi-natural state but instead is largely occupied by managed spaces such as golf courses, sports pitches and water parks. The area also accommodates flood defences, the M60 motorway that follows the southern valley side, a number of major highway junctions and several raised cross-valley routes that tend to compartmentalise the space – this is particularly the case at East Didsbury where a wide ribbon of built form also crosses the river in the vicinity of the city boundary. Significant areas and stands of trees, particularly to the valley sides, increases the overall sense of greenery by masking built form or softening its visual impact. Extensive long-range views exist from the valley sides and bridges into and along the valley.

Use, activity and movement

The area is predominantly used during daylight hours for a mix of formal and informal recreation not involving large numbers of people congregating. Away from the intense activity associated with the major highway routes there is a prevailing sense of tranquillity.

John Whyard,
Design, Conservation & Projects Team,
Planning Service.

November 2010.



PLAN 6 - STRATEGIC CHARACTER AREAS

Identified areas on a plan base

North to top of the page



Salford City Council

Landscape Character Assessment
September 2007

7 Landscape Character Classifications and Descriptions: Urban River Valley

Urban River Valley

- 7.1** Classification: Urban River Valley (located within JCA 55 Manchester Conurbation and JCA 56 Lancashire Coal Measures)
- 7.2** The river Irwell in Salford lies to the east of the city on a broad northwest to southeast alignment. Its northern section (from Agecroft Bridge to Clifton Country Park) forms the boundary between Bury and Salford, whilst its southern stretch falls completely within the city.

Overall Landscape Character

7.3 Key Features

- Medium scale and U shaped valley
- Major corridor of principally open land along the valley which is constrained and sometimes encroached on by urban development

Geology, Topography and Drainage

- 7.4** Within Salford the river valley falls from around 40 metres AOD at its northern end within Salford down to below 20 metres through its lower reaches (see Map 5). Its valley is underlain by Carboniferous and Permo-Triassic rocks (mainly sandstones, mudstone and siltstone), which have both been subject to folding and faulting. Following the Ice Age the river was naturally diverted westwards and southwards to a new channel around deep glacial deposits (including diamicton, sand and gravel) to form its current course. It is this diversion, which has led to the exposure of the coal bearing rocks and their superficial cover of glacial deposits in the river channel in the northern section of the valley (see Maps 6 and 7). In the southern section of the valley, the river has developed extensive meanders. Because of the previous movement of the rocks a major fault runs down the valley. A number of tributary streams enter the northern section of the valley via a series of narrow, steep sided valleys. The southern section of the valley within Salford represents part of the river's natural flood basin.

Agricultural Land Quality

- 7.5** Apart from 2 or 3 fields of relatively poor quality (Grade 4) land in Clifton Country Park, no other land in the valley is classified as agricultural by the Department for Food and Rural Affairs (DEFRA) (see Map 8 and Appendix 2 for extent and definition respectively).

Biodiversity

- 7.6** There are extensive areas of good quality woodland within the northern (Sub Area 1) and southern (Sub Area 3) sections of the valley, which have been identified as Sites of Biological Importance (SBIs) and designated as part of 2 Local Nature Reserves. There is also some woodland cover within Pendlebury Newlands sub area. Much of this is of more recent origin having been planted over former landfill sites and a former sewage works. Despite being younger in age however, it is still of much general benefit to wildlife.

- 7.7** Clifton Country Park also has a large lake (originally formed from gravel extraction) with some fringing reed beds, which has been identified as eutrophic standing water. This is one of the priority habitats identified in the UK Biodiversity Action Plan. In terms of other water habitats, there is an area of marsh/swamp within sub area 3 and the river itself. The river although having only reasonable water quality (which is gradually improving) and generally poor bank side vegetation, is also important for birds and bats. The lake in the country park, the lower section of the river and the marsh/swamp have all been identified as SBIs.
- 7.8** A key feature of the Pendlebury Newlands sub area is an extensive block of lowland heath which occupies part of the valley sides, and which seems to have escaped past industrial activity.
- 7.9** The only areas of reasonably good quality grassland are the areas of unimproved acidic and neutral grassland to be found on part of the lower valley side and floor within sub area 3. The grassland on the valley side is included within an SBI. Within the Pendlebury Newlands sub area 2, some of the open land around the prison was originally planted as wildflower meadows designed to enhance its biodiversity value.
- 7.10** All the habitats throughout the 3 sub areas are collectively thought to represent a very important wildlife corridor helping to bring biodiversity right into the centre of a major conurbation.

Broad Historical Influences

- 7.11** In early times the valley was probably heavily wooded, with only small clearings created by man's activities. Early settlement would have avoided the valley floor and kept to the higher land on either side of the valley and around the river's main crossing points. From medieval times there would have been small-scale mining and further clearance of woodland. However the major influences on the valley arose from the start of the industrial revolution and the associated increase and movement of population. With the spread of urban development, extensive areas of the river's flood plain were utilised for a range of urban land uses. In addition new river crossings were constructed.

Urban River Valley Sub Area 1: Clifton Corridor

- 7.12** That section of the valley lying within the JCA 56 Lancashire Coal Measures character area, stretches from the Bolton/Salford boundary south-eastwards down to the M60 motorway, and is bounded to the northeast by the river itself and to the southwest by the urban area of Clifton.

Specific Landscape Character

- 7.13** Key Features Additional to Overall Valley Area
- Secluded enclosed character even though adjacent to urban area
 - River is mainly hidden from view running in a deep narrow rocky channel below the riverbank plateau
 - Narrow side valleys drop steeply down to the main valley floor and add to a sense of visual anticipation
 - Woodland covers much of the floor and tributary valleys and gives a real sense of being in a rural area
 - A large lake bordered by trees is perched on the plateau above the river and adds great visual interest

- The few buildings and lack of vehicular access routes along the valley floor adds to the sense of tranquillity although this is marred by the roar of traffic using the motorway high above the valley floor
- Footpaths enter the main valley along tributary valleys and more strategic recreational routes run along the river bank plateau providing users with good access to this secluded quiet area

Specific Historical and Cultural Influences

- 7.14** The presence of the coal bearing rocks and the narrow rocky channel cut by the river were a major influence on the location of the first coal mining activities in this part of the valley in the early eighteenth century, with adits excavated from the rocky riverbanks allowing relatively easy access to the coal deposits. Later when one of the first deep mine shafts was sunk here, the original means of withdrawing water from the workings was by horsepower. However, when the workings became flooded in the mid eighteenth century, the fall of the river through the nearby rocky stretch of the valley, was used by James Brindley (famous early engineer) as water-power to help drain the mine workings. The Fletcher's Canal was also constructed to transport the coal southwards down the valley.
- 7.15** In the 1830s the Manchester to Bolton railway line was constructed along the side of the ridge to the west of the valley. This effectively severed this stretch of the valley from Clifton lying on the ridge to the west, and made vehicular access to it very difficult. A railway track was later constructed southwards from the Wet Earth Colliery to connect with the nearby Manchester to Bolton line further southwards down the valley.
- 7.16** Following cessation of the mining activities in the 1920s, the buildings became derelict and the area was gradually taken over by the natural regeneration of woodland, which obscured the remains of the mine workings and the line of the Fletcher's Canal. In the mid twentieth century sand and gravel was excavated from the plateau adjoining the river to help with construction of the nearby M62 (now M60) motorway. This left a large lake perched on the plateau above the main river channel. At present vehicular access is only possible to this stretch of the valley along 2 routes. The first is from Clifton on the ridge to the west, via a private road, which runs down one of the steep side valleys and under a narrow and relatively low stone bridge. The second is from a private road, which runs from the Clifton industrial area (see Irwell Valley Sub Area 2), under the motorway to a former industrial waste tip.
- 7.17** Given the seclusion of the area, its woodland and lake, and the importance of the former mine workings in industrial archaeological terms, the area was developed as Clifton Country Park in the last decades of the twentieth century. A recreational network of footpaths now runs along the side valleys, and more strategic paths along the valley bottom. These give access to the Bolton section of the valley to the north and a pedestrian footbridge over the river provides links into Bury.

Landscape Description for Sub Area 1: Clifton Corridor

- 7.18** The valley through Sub Area 1 is relatively broad and defined to the west by very steep slopes. These have been eroded by a series of tributary streams, which run down the slopes and meander across the valley floor. The floor through this stretch of the valley is actually a plateau some 10 metres above the river itself, which runs in a deep gorge cut through red sandstone Permian rocks. Glacial deposits overlie the plateau and have been partially extracted to form an extensive lake. The only urban development is 2 buildings (a modern visitor centre and a privately owned farm), a surfaced access road / car park and electricity pylons and transmission lines.

- Proposed relocation of Civic Amenity site
- Location within potential joint Regional Park with Bury/Bolton

Urban River Valley Sub Area 3: Kersal Corridor

7.34 This section of the valley lies within the JCA 55 Manchester Conurbation and stretches from The Crescent in the south up to Agecroft Road in the north. It is bounded to the east by the settlements of Lower and Higher Broughton, and Kersal and to the west by the settlements of Pendleton and Charlestown, and the Manchester to Bolton railway line.

Specific Landscape Character

7.35 Key Features Additional to Overall Urban Valley

- River meanders through a broad flood plain lying at around 30 metres AOD
- There are few tributaries to the main river
- A series of extensive open land sites along the valley floor are occupied by a range of formal (public parks, playing fields) and informal recreation uses, and a cemetery
- Large areas of residential development have spilled into the river's floodplain, and in parts of Lower Kersal, Higher and Lower Broughton, and Charlestown, extend right to the river bank
- One of the playing field sites has been enclosed with earth bunds to provide a flood storage basin

Specific Historical and Cultural Influences

7.36 This stretch of the valley has been less affected by industrial uses than the other more northerly sections of the valley. In the mid nineteenth century, large tree lined fields still occupied land to the west of the current Littleton Road, the Kersal Dale area, and the area of the present day university/David Lewis playing fields. The open land within the northern meander of the river at Castle Irwell had also been used for a time (1847 – 67) as a horse racing circuit. There were also some small-scale industrial uses, such as a bleach works' reservoir to the north of the Irwell at the Crescent, and a dye works' reservoir within the Castle Irwell meander, but the impact of these on the overall valley would have been minimal.

7.37 By the end of the nineteenth century, the 2 previously mentioned reservoirs were still present, the Peel Park recreation ground off the Crescent had been developed and the dwellings of Lower Broughton had been built up to the river's edge. However, the other open land and fields at Littleton Road, Kersal Dale and Castle Irwell still remained. The relatively rural character of the valley's remaining open land seems to have been seen as favourable for the location of some recreation uses. These included an early 9-hole golf course in Kersal Dale (established 1896) and later the re-establishment of a horse racing circuit within the extensive meander of the river at Castle Irwell.

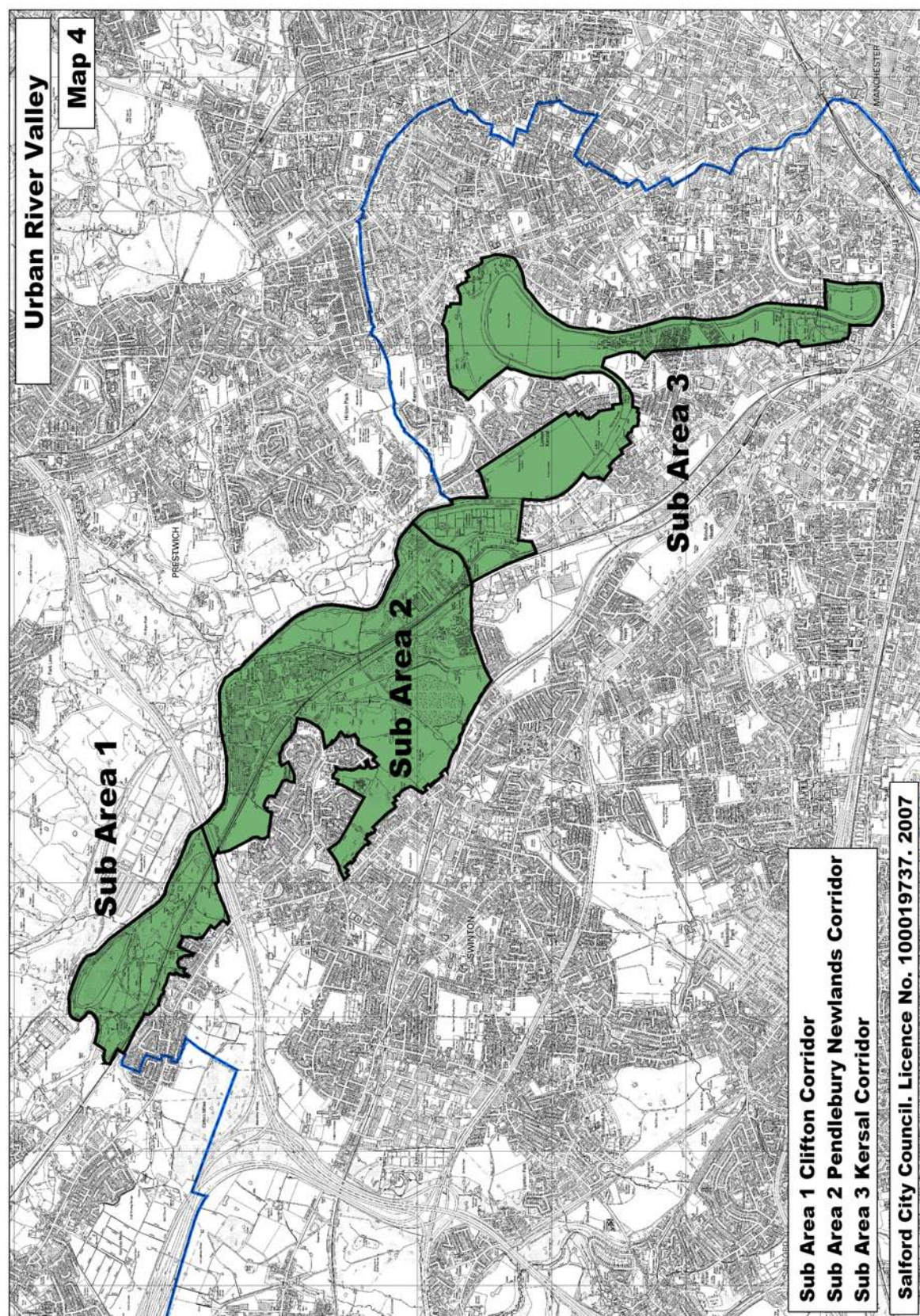
7.38 During the twentieth century, although the use for horse racing and golf ceased development within the river's floodplain continued, with the construction of large areas of local authority housing in Lower Kersal, and the Salford university students' village at the southern end of Castle Irwell. However, the contribution the recreational open land sites along the valley can make as part of a strategic recreational corridor based on the Irwell valley and extending from the heart of the Greater Manchester conurbation out to Bolton and Bury has long been recognised.

Landscape Description for Sub Area 3: Kersal Corridor

7.39 The river slowly meanders through the thick fluvial-glacial deposits of its broad flat flood plain and in the Kersal Dale area, is eroding its northern bank. This has resulted in the loss of some trees. However the site of a previous landslip (along a geological fault separating Higher Broughton on the plateau above the river from the valley floor) is covered in mixed woodland, much of which originated from the former gardens that were lost in the landslip but some of which has regenerated naturally. This woodland sweeps westwards from the landslip to cover the steep valley sides below Kersal. On the valley floor below the woodland are areas of acidic grassland and marsh. Elsewhere mixed twentieth century development (primarily housing) occupies the flood plain right to the river bank but in many places the valley floor remains open and has been used to provide a mix of recreation uses (including playing fields and informal open space) and a cemetery. Some edges of the recreation sites and the strategic footpath along the riverside have been landscaped with trees and shrubs. Where this is well established it helps to contain views along the river. Elsewhere views are much more open and what enclosure there is, is provided by the adjoining urban development.

Factors Affecting Change

- Salford UDP Environmental Policies
- Location within potential joint Regional Park with Bury/Bolton
- Potential location for new flood storage basin to help address climate change issues



Map 7.1 Urban River Valley

Salford City Council

Spatial Planning

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September 2007

Date: 08 December 2021
Our ref: 376823
Your ref: Apex Tower



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BY EMAIL ONLY

Dear Mr Hughes

Environmental Impact Assessment Scoping consultation (Regulation 15 (4) of the Town and Country Planning EIA Regulations 2017): Apex Tower - EIA Scoping Opinion for residential development up to 79 apartments and commercial office space

Location: Land adjacent to Albion St and Trumpet St Manchester City Centre

Thank you for seeking our advice on the scope of the Environmental Statement (ES) in the consultation dated 30 November 2021 ,received on 30 November 2021.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

A robust assessment of environmental impacts and opportunities based on relevant and up to date environmental information should be undertaken prior to a decision on whether to grant planning permission. Annex A to this letter provides Natural England's advice on the scope of the Environmental Impact Assessment (EIA) for the proposed development.

Further guidance is set out in Planning Practice Guidance on [environmental assessment, natural environment and climate change](#).

Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again.

Please note that Natural England must be consulted on Environmental Statements.

Please send any new consultations or further information on this consultation to consultations@naturalengland.org.uk.

Yours sincerely

Joe Thorpe
Consultations Team

Annex A – Natural England Advice on EIA Scoping

General Principles

[Schedule 4](#) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, sets out the information that should be included in an Environmental Statement (ES) to assess impacts on the natural environment. This includes:

- A description of the development – including physical characteristics and the full land use requirements of the site during construction and operational phases
- Expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation etc.) resulting from the operation of the proposed development
- An assessment of alternatives and clear reasoning as to why the preferred option has been chosen
- A description of the aspects of the environment likely to be significantly affected by the development including biodiversity (for example fauna and flora), land, including land take, soil, water, air, climate (for example greenhouse gas emissions, impacts relevant to adaptation, cultural heritage and landscape and the interrelationship between the above factors
- A description of the likely significant effects of the development on the environment – this should cover direct effects but also any indirect, secondary, cumulative, short, medium, and long term, permanent and temporary, positive, and negative effects. Effects should relate to the existence of the development, the use of natural resources (in particular land, soil, water and biodiversity) and the emissions from pollutants. This should also include a description of the forecasting methods to predict the likely effects on the environment
- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment
- A non-technical summary of the information
- An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information

Further guidance is set out in Planning Practice Guidance on [environmental assessment](#) and [natural environment](#).

Cumulative and in-combination effects

The ES should fully consider the implications of the whole development proposal. This should include an assessment of all supporting infrastructure.

An impact assessment should identify, describe, and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment (subject to available information):

- a. existing completed projects;
- b. approved but uncompleted projects;
- c. ongoing activities;
- d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
- e. plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

Environmental data

Natural England is required to make available information it holds where requested to do so. National datasets held by Natural England are available at <http://www.naturalengland.org.uk/publications/data/default.aspx>.

Detailed information on the natural environment is available at www.magic.gov.uk.

Natural England's SSSI Impact Risk Zones are a GIS dataset which can be used to help identify the potential for the development to impact on a SSSI. The dataset and user guidance can be accessed from the [Natural England Open Data Geoportal](#).

Natural England does not hold local information on local sites, local landscape character, priority habitats and species or protected species. Local environmental data should be obtained from the appropriate local bodies. This may include the local environmental records centre, the local wildlife trust, local geo-conservation group or other recording society.

Biodiversity and Geodiversity

General principles

The [National Planning Policy Framework](#) (paragraphs 174-175 and 179-182) sets out how to take account of biodiversity and geodiversity interests in planning decisions. Further guidance is set out in Planning Practice Guidance on the [natural environment](#).

The potential impact of the proposal upon sites and features of nature conservation interest and opportunities for nature recovery and biodiversity net gain should be included in the assessment.

Ecological Impact Assessment (EclA) is the process of identifying, quantifying, and evaluating the potential impacts of defined actions on ecosystems or their components. EclA may be carried out as part of the EIA process or to support other forms of environmental assessment or appraisal. [Guidelines](#) have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM).

Local planning authorities have a [duty](#) to have regard to conserving biodiversity as part of their decision making. Conserving biodiversity can include habitat restoration or enhancement. Further information is available [here](#).

Designated nature conservation sites

The proposal is unlikely to adversely impact any European or internationally designated nature conservation sites (including 'habitats sites' under the NPPF) or nationally designated sites (Sites of Special Scientific Interest, National Nature Reserves or Marine Conservation Zones).

Regionally and Locally Important Sites

The ES should consider any impacts upon local wildlife and geological sites, including local nature reserves. Local Sites are identified by the local wildlife trust, geoconservation group or other local group and protected under the NPPF (paragraph 174 and 175). The ES should set out proposals for mitigation of any impacts and if appropriate, compensation measures and opportunities for enhancement and improving connectivity with wider ecological networks. Contact the relevant local body for further information.

Protected Species

The conservation of species protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017 is explained in Part IV and Annex A of Government Circular 06/2005 [*Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System*](#).

The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats). Natural England does not hold comprehensive information regarding the locations of species protected by law. Records of protected species should be obtained from appropriate local biological record centres, nature conservation organisations and local groups. Consideration should be given to the wider context of the site, for example in terms of habitat linkages and protected species populations in the wider area.

The area likely to be affected by the development should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and, where necessary, licensed, consultants.

Natural England has adopted [standing advice](#) for protected species, which includes guidance on survey and mitigation measures. A separate protected species licence from Natural England or Defra may also be required.

District Level Licensing for Great Crested Newts

District level licensing (DLL) is a type of strategic mitigation licence for great crested newts (GCN) granted in certain areas at a local authority or wider scale. A [DLL scheme for GCN](#) may be in place at the location of the development site. If a DLL scheme is in place, developers can make a financial contribution to strategic, off-site habitat compensation instead of applying for a separate licence or carrying out individual detailed surveys. By demonstrating that DLL will be used, impacts on GCN can be scoped out of detailed assessment in the Environmental Statement.

Priority Habitats and Species

Priority Habitats and Species are of particular importance for nature conservation and included in the England Biodiversity List published under section 41 of the Natural Environment and Rural Communities Act 2006. Most priority habitats will be mapped either as Sites of Special Scientific Interest, on the Magic website or as Local Wildlife Sites. Lists of priority habitats and species can be found [here](#). Natural England does not routinely hold species data. Such data should be collected when impacts on priority habitats or species are considered likely.

Consideration should also be given to the potential environmental value of brownfield sites, often found in urban areas and former industrial land. Sites can be checked against the (draft) national Open Mosaic Habitat (OMH) inventory published by Natural England and freely available to [download](#). Further information is also available [here](#).

An appropriate level habitat survey should be carried out on the site, to identify any important habitats present. In addition, ornithological, botanical, and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present.

The Environmental Statement should include details of:

- Any historical data for the site affected by the proposal (e.g. from previous surveys)
- Additional surveys carried out as part of this proposal
- The habitats and species present

- The status of these habitats and species (e.g. whether priority species or habitat)
- The direct and indirect effects of the development upon those habitats and species
- Full details of any mitigation or compensation measures
- Opportunities for biodiversity net gain or other environmental enhancement

Ancient Woodland, ancient and veteran trees

The ES should assess the impacts of the proposal on any ancient woodland, ancient and veteran trees, and the scope to avoid and mitigate for adverse impacts. It should also consider opportunities for enhancement.

Natural England maintains the Ancient Woodland [Inventory](#) which can help identify ancient woodland. The [wood pasture and parkland inventory](#) sets out information on wood pasture and parkland.

The [ancient tree inventory](#) provides information on the location of ancient and veteran trees.

Natural England and the Forestry Commission have prepared [standing advice](#) on ancient woodland, ancient and veteran trees.

Biodiversity net gain

Paragraph 174 of the NPPF states that decisions should contribute to and enhance the natural and local environment by minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Biodiversity Net Gain is additional to statutory requirements relating to designated nature conservation sites and protected species.

The ES should use an appropriate biodiversity metric such as [Biodiversity Metric 3.0](#) together with ecological advice to calculate the change in biodiversity resulting from proposed development and demonstrate how proposals can achieve a net gain.

The metric should be used to:

- assess or audit the biodiversity unit value of land within the application area
- calculate the losses and gains in biodiversity unit value resulting from proposed development
- demonstrate that the required percentage biodiversity net gain will be achieved

Biodiversity Net Gain outcomes can be achieved on site, off-site or through a combination of both. On-site provision should be considered first. Delivery should create or enhance habitats of equal or higher value. When delivering net gain, opportunities should be sought to link delivery to relevant plans or strategies e.g. Green Infrastructure Strategies or Local Nature Recovery Strategies.

Opportunities for wider environmental gains should also be considered.

Landscape

Landscape and visual impacts

The environmental assessment should refer to the relevant [National Character Areas](#). Character area profiles set out descriptions of each landscape area and statements of environmental opportunity.

The ES should include a full assessment of the potential impacts of the development on local landscape character using [landscape assessment methodologies](#). We encourage the use of Landscape Character Assessment (LCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA provides a sound

basis for guiding, informing, and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character.

A landscape and visual impact assessment should also be carried out for the proposed development and surrounding area. Natural England recommends use of the methodology set out in *Guidelines for Landscape and Visual Impact Assessment 2013* ((3rd edition) produced by the Landscape Institute and the Institute of Environmental Assessment and Management. For National Parks and AONBs, we advise that the assessment also includes effects on the 'special qualities' of the designated landscape, as set out in the statutory management plan for the area. These identify the particular landscape and related characteristics which underpin the natural beauty of the area and its designation status.

The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. This should include an assessment of the impacts of other proposals currently at scoping stage.

To ensure high quality development that responds to and enhances local landscape character and distinctiveness, the siting and design of the proposed development should reflect local characteristics and, wherever possible, use local materials. Account should be taken of local design policies, design codes and guides as well as guidance in the [National Design Guide](#) and [National Model Design Code](#). The ES should set out the measures to be taken to ensure the development will deliver high standards of design and green infrastructure. It should also set out detail of layout alternatives, where appropriate, with a justification of the selected option in terms of landscape impact and benefit.

Heritage Landscapes

The ES should include an assessment of the impacts on any land in the area affected by the development which qualifies for conditional exemption from capital taxes on the grounds of outstanding scenic, scientific, or historic interest. An up-to-date list is available at www.hmrc.gov.uk/heritage/lbsearch.htm.

Connecting People with nature

The ES should consider potential impacts on access land, common land, public rights of way and, where appropriate, the England Coast Path and coastal access routes and coastal margin in the vicinity of the development, in line with NPPF paragraph 100. It should assess the scope to mitigate for any adverse impacts. Rights of Way Improvement Plans (ROWIP) can be used to identify public rights of way within or adjacent to the proposed site that should be maintained or enhanced.

Measures to help people to better access the countryside for quiet enjoyment and opportunities to connect with nature should be considered. Such measures could include reinstating existing footpaths or the creation of new footpaths, cycleways, and bridleways. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green infrastructure. Access to nature within the development site should also be considered, including the role that natural links have in connecting habitats and providing potential pathways for movements of species.

Relevant aspects of local authority green infrastructure strategies should be incorporated where appropriate.

Soils and Agricultural Land Quality

Soils are a valuable, finite natural resource and should also be considered for the ecosystem services they provide, including for food production, water storage and flood mitigation, as a carbon store, reservoir of biodiversity and buffer against pollution. It is therefore important that the soil

resources are protected and sustainably managed. Impacts from the development on soils and best and most versatile (BMV) agricultural land should be considered in line with paragraphs 174 and 175 of the NPPF. Further guidance is set out in the Natural England [Guide to assessing development proposals on agricultural land](#).

As set out in paragraph 211 of the NPPF, new sites or extensions to sites for peat extraction should not be granted planning permission.

The following issues should be considered and, where appropriate, included as part of the Environmental Statement (ES):

- The degree to which soils would be disturbed or damaged as part of the development
- The extent to which agricultural land would be disturbed or lost as part of this development, including whether any best and most versatile (BMV) agricultural land would be impacted.

This may require a detailed Agricultural Land Classification (ALC) survey if one is not already available. For information on the availability of existing ALC information see www.magic.gov.uk.

- Where an ALC and soil survey of the land is required, this should normally be at a detailed level, e.g. one auger boring per hectare, (or more detailed for a small site) supported by pits dug in each main soil type to confirm the physical characteristics of the full depth of the soil resource, i.e. 1.2 metres. The survey data can inform suitable soil handling methods and appropriate reuse of the soil resource where required (e.g. agricultural reinstatement, habitat creation, landscaping, allotments and public open space).
- The ES should set out details of how any adverse impacts on BMV agricultural land can be minimised through site design/masterplan.
- The ES should set out details of how any adverse impacts on soils can be avoided or minimised and demonstrate how soils will be sustainably used and managed, including consideration in site design and master planning, and areas for green infrastructure or biodiversity net gain. The aim will be to minimise soil handling and maximise the sustainable use and management of the available soil to achieve successful after-uses and minimise off-site impacts.

Further information is available in the [Defra Construction Code of Practice for the Sustainable Use of Soil on Development Sites](#) and

The British Society of Soil Science Guidance Note [Benefitting from Soil Management in Development and Construction](#).

Air Quality

Air quality in the UK has improved over recent decades but air pollution remains a significant issue. For example, approximately 85% of protected nature conservation sites are currently in exceedance of nitrogen levels where harm is expected (critical load) and approximately 87% of sites exceed the level of ammonia where harm is expected for lower plants (critical level of 1µg) ^[1]. A priority action in the England Biodiversity Strategy is to reduce air pollution impacts on biodiversity. The Government's Clean Air Strategy also has a number of targets to reduce emissions including to reduce damaging deposition of reactive forms of nitrogen by 17% over England's protected priority sensitive habitats by 2030, to reduce emissions of ammonia against the 2005 baseline by 16% by 2030 and to reduce emissions of NO_x and SO₂ against a 2005 baseline of 73% and 88% respectively by 2030. Shared Nitrogen Action Plans (SNAPs) have also been identified as a tool to

^[1] [Report: Trends Report 2020: Trends in critical load and critical level exceedances in the UK - Defra, UK](#)

reduce environmental damage from air pollution.

The planning system plays a key role in determining the location of developments which may give rise to pollution, either directly, or from traffic generation, and hence planning decisions can have a significant impact on the quality of air, water and land. The ES should take account of the risks of air pollution and how these can be managed or reduced. This should include taking account of any strategic solutions or SNAPs, which may be being developed or implemented to mitigate the impacts on air quality. Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System (www.apis.ac.uk).

Information on air pollution modelling, screening and assessment can be found on the following websites:

- SCAIL Combustion and SCAIL Agriculture - <http://www.scail.ceh.ac.uk/>
- Ammonia assessment for agricultural development <https://www.gov.uk/guidance/intensive-farming-risk-assessment-for-your-environmental-permit>
- Environment Agency Screening Tool for industrial emissions <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>
- Defra Local Air Quality Management Area Tool (Industrial Emission Screening Tool) – England <http://www.airqualityengland.co.uk/laqm>

Water Quality

The planning system plays a key role in determining the location of developments which may give rise to water pollution, and hence planning decisions can have a significant impact on water quality, and land. The assessment should take account of the risks of water pollution and how these can be managed or reduced. A number of water dependent protected nature conservation sites have been identified as failing condition due to elevated nutrient levels and nutrient neutrality is consequently required to enable development to proceed without causing further damage to these sites. The ES needs to take account of any strategic solutions for nutrient neutrality or Diffuse Water Pollution Plans, which may be being developed or implemented to mitigate and address the impacts of elevated nutrient levels. Further information can be obtained from the Local Planning Authority.

Climate Change

The ES should identify how the development affects the ability of the natural environment (including habitats, species, and natural processes) to adapt to climate change, including its ability to provide adaptation for people. This should include impacts on the vulnerability or resilience of a natural feature (i.e. what's already there and affected) as well as impacts on how the environment can accommodate change for both nature and people, for example whether the development affects species ability to move and adapt. Nature-based solutions, such as providing green infrastructure on-site and in the surrounding area (e.g. to adapt to flooding, drought and heatwave events), habitat creation and peatland restoration, should be considered. The ES should set out the measures that will be adopted to address impacts.

Further information is available from the [Committee on Climate Change's](#) (CCC) [Independent Assessment of UK Climate Risk](#), the [National Adaptation Programme](#) (NAP), the [Climate Change Impacts Report Cards](#) (biodiversity, infrastructure, water etc.) and the [UKCP18 climate projections](#).

The Natural England and RSPB [Climate Change Adaptation Manual](#) (2020) provides extensive information on climate change impacts and adaptation for the natural environment and adaptation focussed nature-based solutions for people. It includes the Landscape Scale Climate Change Assessment Method that can help assess impacts and vulnerabilities on natural environment features and identify adaptation actions. Natural England's [Nature Networks Evidence Handbook](#) (2020) also provides extensive information on planning and delivering nature networks for people and biodiversity.

The ES should also identify how the development impacts the natural environment's ability to store and sequester greenhouse gases, in relation to climate change mitigation and the natural environment's contribution to achieving net zero by 2050. Natural England's [Carbon Storage and Sequestration by Habitat report](#) (2021) and the British Ecological Society's [nature-based solutions report](#) (2021) provide further information.

Contribution to local environmental initiatives and priorities

The ES should consider the contribution the development could make to relevant local environmental initiatives and priorities to enhance the environmental quality of the development and deliver wider environmental gains. This should include considering proposals set out in relevant local strategies or supplementary planning documents including landscape strategies, green infrastructure strategies, tree and woodland strategies, biodiversity strategies or biodiversity opportunity areas.

Photoviewpoint number	Description of receptor	Description of existing view towards the site	Existing visibility	Indicative distance from nearest site boundary	Value of view	Susceptibility to change	Sensitivity
1	Visitors to Manchester Town Hall and Albert Square.	Photoviewpoint 1 situated to the north of Albert Square. Views are over the square in a southerly direction towards the site, Albert Square is currently being refurbished as is the town hall that fronts its eastern side. Construction activity including hoardings, scaffolding and temporary offices currently define views. Albert Square is enclosed by a range of building of varying architectural styles. Beyond Albert Square a number of contemporary towers are evident within the wider city centre.	Open	600m	High	Medium/high	High
2	Pedestrians using Mosely Street and visitors to Manchester Art Gallery	Photoviewpoint 2 is situated on Mosely Street close to the entrance of the Manchester Art Gallery. Views towards the site are focussed along the alignment of Mosely Street by contemporary commercial buildings. Tram infrastructure and station are evident, drawing the eye along the streetscape. The view terminates with the form of Axis Tower and the more distant development at Deansgate Square.	Channelled	590m	Medium	Medium	Medium

3	Pedestrians using Mosely Street and visitors to St Peters Square	Photoviewpoint 3 is situated on Mosely Street close to St Peters Square. Views towards the site are focussed along the alignment of Mosely Street by buildings of mixed architectural styles that enclose views. Overhead tram infrastructure is evident from this location, drawing the eye along the streetscape. The view terminates with the form of the Bridgewater Hall, Axis Tower and the more distant development at Deansgate Square.	Channelled	440m	Medium	Medium	Medium
4	Pedestrians and visitors to Manchester Central	Photoviewpoint 4 is located at the junction of Mount Street and Windmill Street. Views towards the site are possible over an area of public open face fronting Manchester Central. There are a range of architectural styles evident in the view that are reflective of the development of the city over the years. A number of street trees fronting Windmill Street soften an otherwise urban streetscape. The focus of views is the arching form of Manchester Central which is contrasted by the vertical form of buildings such as Beetham Tower	Open	240m	Medium	Medium	Medium

5	Pedestrians and users of the Peveril of the Peak	Photoviewpoint 5 is situated opposite the Peveril of the Peak pub. As with many parts of Manchester city centre views along the streetscape of Great Bridgewater Street contain contrasting architectural style that brings a visual diversity to vistas. The breadth of architectural styles also brings a layering of buildings within the view, with the foreground consisting of buildings ranging from 2 to 6 storeys while the more contemporary taller towers evident rising above the roofscape. As with elsewhere in the city centre, street trees and other landscape elements are present although evident sporadically.	Open	210m	Medium	Medium	Medium
6	Users of Oxford Road Station	Photoviewpoint 6 is located at the entrance of Manchester Oxford Road station. Views towards the site are limited by the enclosing station buildings and those fronting Whitworth Street West. Views contain a diverse array of built form from the timber clad station building with its arched roofline to the rectilinear residential buildings on Whitworth Street West and the railway gantries.	Enclosed	355m	Low	Low	Low

7	Pedestrians and some residents on Medlock Street	Photoviewpoint is located at the junction of Medlock Street and City Road East. Views towards the site are focussed over the viaduct spanning Medlock Street a major feature of views, the contemporary form of Axis Tower and Ininside hotel framing the vista. Glimpsed views through to Manchester Central are possible over the viaduct. Built form varies in scale with lower rise buildings fronting the unseen River Medlock and the greater massing of buildings approaching the city centre.	Open	200m	Medium	Medium	Medium
8	Pedestrians using Whitworth Street West and visitors to the City Road pub	Photoviewpoint 8 is located at the junction of Whitworth Street West and Medlock Street. Although the site itself is not visible from this location views towards it include a number of buildings ranging from 4 to 6 storeys while the more contemporary taller Axis Tower is evident to the north. Larger buildings are also located fronting Whitworth Street West. The flue of the Manchester Central energy centre and viaduct spanning Great Bridgewater Street contrast to the surrounding, predominantly brick buildings. The streetscape is largely defined by the presence of road infrastructure.	Open	95m	Low	Low	Low

9	Pedestrians and road users of Whitworth Street West	Photoviewpoint 9 is situated on Whitworth Street West. Views from this location are generally aligned along the wide streetscape and defined by the presence of brick medium rise warehouse type premises to the south and the elevated brick arches of the Deansgate-Castlefield tram station to the north. The more contemporary Hacienda building and other residential buildings terminated the view. Axis Tower is a notable feature of views from this location. The streetscape is largely defined by the presence of road infrastructure with a limited number of street trees evident.	Open	200m	Low	Low	Low
10	Pedestrians using Great Bridgewater Street	Photoviewpoint 10 is situated to the west of Manchester Central. Views towards the site are focussed along the alignment of Great Bridgewater Street with Beetham Tower and the Great Northern shopping and retail building enclosing views. A former railway viaduct and associated abutments leading to Manchester Central limits some views towards the site although the tunnel beneath provides a focus for the streetscape. Although there are varied building styles and forms ranging from tall towers such as Beetham Tower to the lower form of the Great Northern Warehouse the majority are contemporary in design with the exception of the arch of the Convention Complex gable end.	Channelled	120m	Low	Low	Low

11	Visitors to Castle Field Locks	Photoviewpoint 11 is located at Lock 92 of the Rochester Canal with views eastwards towards the site. A collection of predominantly historic buildings front the canal although, a number of bridges and viaducts spanning the canal curtail long distance views along the waterway. The canalside buildings are generally low rise, some with chimneys remaining from former industrial uses in the periphery of views a number of modern developments of greater stature are evident along the skyline which include Beetham Tower, Axis Tower and Castle Wharf. There is limited vegetation evident within views, being largely contained to gardens and areas of public open space adjoining the canal.	Channelled	550m	Medium/high	Medium/high	Medium/high
12	Recreational users of Hulme Park	Photoviewpoint 12 is located close to Royce Road that bisects Hulme Park. Views towards Manchester City centre and the site are possible from areas of open grassland. Mature trees located within the park screen many views of the predominantly low rise residential development that surrounds the park. Rising above the treeline are frequent towers that have come to define the Manchester skyline including Deansgate Square, River Street Tower and Axis Tower.	Open	765m	Medium	Medium	Medium

Apex House

Accurate Visual Representations (AVR)

January 2022

AVR Viewpoint 01 - Existing View



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Viewpoint 01 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 1 (AVR1))	
OS Grid Reference	383835.19 398189.57
Ground Height (AOD)	39.36m
Viewer Height	1.65m
Distance to Site	600m
Horizontal Field of View	74° (planar projection)
Camera / Lens / Rise	Canon 5DS R / TS-e 24mm II f3.5L / 6.6°
Date / Time	17/12/2021 - 09:28
Weather Conditions	90% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: Apex House
Client:
Drawing Title: AVR Viewpoint 01 - Existing View

AVR Viewpoint 01 - Proposed View



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Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: Apex House
Client:
Drawing Title: AVR Viewpoint 01 - Proposed View



AVR Viewpoint 02 - Existing View



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Viewpoint 02 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 3 (AVR3))			
OS Grid Reference	384054.76 398070.06	Horizontal Field of View	74° (planar projection)
Ground Height (AOD)	42.87m	Camera / Lens / Rise	Canon 5DS R / TS-e 24mm f3.5L / 8.8°
Viewer Height	1.65m	Date / Time	17/12/2021 - 09:11
Distance to Site	595m	Weather Conditions	100% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 02 - Existing View**

AVR Viewpoint 02 - Proposed View



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Date: 28 January 2022
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Drawn by: MP
Checked by: AP

Project title: Apex House
Client:
Drawing Title: AVR Viewpoint 02 - Proposed View



Whitworth Street West
111003/FO/2016/C1
34 Great Jackson Street
129273/FO/2021

AVR Viewpoint 03 - Existing View



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Viewpoint 03 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 3 (AVR3))			
OS Grid Reference	383877.85 397869.5	Horizontal Field of View	74° (planar projection)
Ground Height (AOD)	39.48m	Camera / Lens / Rise	Canon 5DS R / TS-e 24mm f3.5L / 8.8°
Viewer Height	1.65m	Date / Time	17/12/2021 - 10:00
Distance to Site	325m	Weather Conditions	90% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 03 - Existing View**

AVR Viewpoint 03 - Proposed View



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Date:	28 January 2022	Project title:	Apex House
Drawing Number:	D5791/d	Client:	
Drawn by:	MP	Drawing Title:	AVR Viewpoint 03 - Proposed View
Checked by:	AP		



AVR Viewpoint 04 - Existing View



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Viewpoint 04 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 3 (AVR3))			
OS Grid Reference	383798.16 397823.89	Horizontal Field of View	74° (planar projection)
Ground Height (AOD)	39.93m	Camera / Lens / Rise	Canon 5DS R / TS-e 24mm II f3.5L / 6.6°
Viewer Height	1.65m	Date / Time	17/12/2021 - 10:10
Distance to Site	230m	Weather Conditions	85% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 04 - Existing View**

AVR Viewpoint 04 - Proposed View



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Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 04 - Proposed View**



AVR Viewpoint 05 - Existing View



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Viewpoint 05 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 1 (AVR1))			
OS Grid Reference	383922.01 397620.00	Horizontal Field of View	74° (planar projection)
Ground Height (AOD)	36.26m	Camera / Lens / Rise	Canon 5DS R / TS-e 24mm II f3.5L / 6.6°
Viewer Height	1.65m	Date / Time	17/12/2021 - 10:55
Distance to Site	225m	Weather Conditions	95% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: Apex House
Client:
Drawing Title: AVR Viewpoint 05 - Existing View

AVR Viewpoint 05 - Proposed View





AVR Viewpoint 06 - Existing View



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Viewpoint 06 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 1 (AVR1))			
OS Grid Reference	384070.44 397506.55	Horizontal Field of View	74° (planar projection)
Ground Height (AOD)	38.42m	Camera / Lens / Rise	Canon 5DS R / TS-e 24mm II f3.5L / 11.0°
Viewer Height	1.65m	Date / Time	17/12/2021 - 11:55
Distance to Site	388m	Weather Conditions	100% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: Apex House
Client:
Drawing Title: AVR Viewpoint 06 - Existing View

AVR Viewpoint 06 - Proposed View



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Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 06 - Proposed View**

The Assembly
105505/FO/2014/C1

Hotspur Press
120635/FO/2018

Manchester Central
126308/FO/2017



AVR Viewpoint 07 - Existing View



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Viewpoint 07 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 3 (AVR3))			
OS Grid Reference	383608.35 397408.69	Horizontal Field of View	74° (planar projection)
Ground Height (AOD)	32.75m	Camera / Lens / Rise	Canon 5DS R / TS-e 24mm II f3.5L / 11.0°
Viewer Height	1.65m	Date / Time	17/12/2021 - 12:37
Distance to Site	190m	Weather Conditions	90% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: Apex House
Client:
Drawing Title: AVR Viewpoint 07 - Existing View

AVR Viewpoint 07 - Proposed View



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Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 07 - Proposed View**



AVR Viewpoint 07 - Cumulative Effects

Whitworth Street West
111003/FO/2016/C1

Manchester Central
126308/FO/2017



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Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: Apex House
Client:
Drawing Title: AVR Viewpoint 07 - Cumulative Effects

AVR Viewpoint 08 - Existing View



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Viewpoint 08 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 3 (AVR3))			
OS Grid Reference	383618.24 397515.09	Horizontal Field of View	74° (planar projection)
Ground Height (AOD)	34.29m	Camera / Lens / Rise	Canon 5DS R / TS-e 24mm II f3.5L / 11.0°
Viewer Height	1.65m	Date / Time	17/12/2021 - 14:31
Distance to Site	90m	Weather Conditions	100% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 08 - Existing View**

AVR Viewpoint 08 - Proposed View



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Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 08 - Proposed View**



AVR Viewpoint 08 - Cumulative Effects

Manchester Central
126308/FO/2017



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Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 08 - Cumulative Effects**

AVR Viewpoint 09 - Existing View



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Viewpoint 09 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 3 (AVR3))			
OS Grid Reference	383431.39 397542.06	Horizontal Field of View	74° (planar projection)
Ground Height (AOD)	32.54m	Camera / Lens / Rise	Canon 5DS R / TS-e 24mm II f3.5L / 6.6°
Viewer Height	1.65m	Date / Time	16/12/2021 - 15:41
Distance to Site	230m	Weather Conditions	100% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 09 - Existing View**

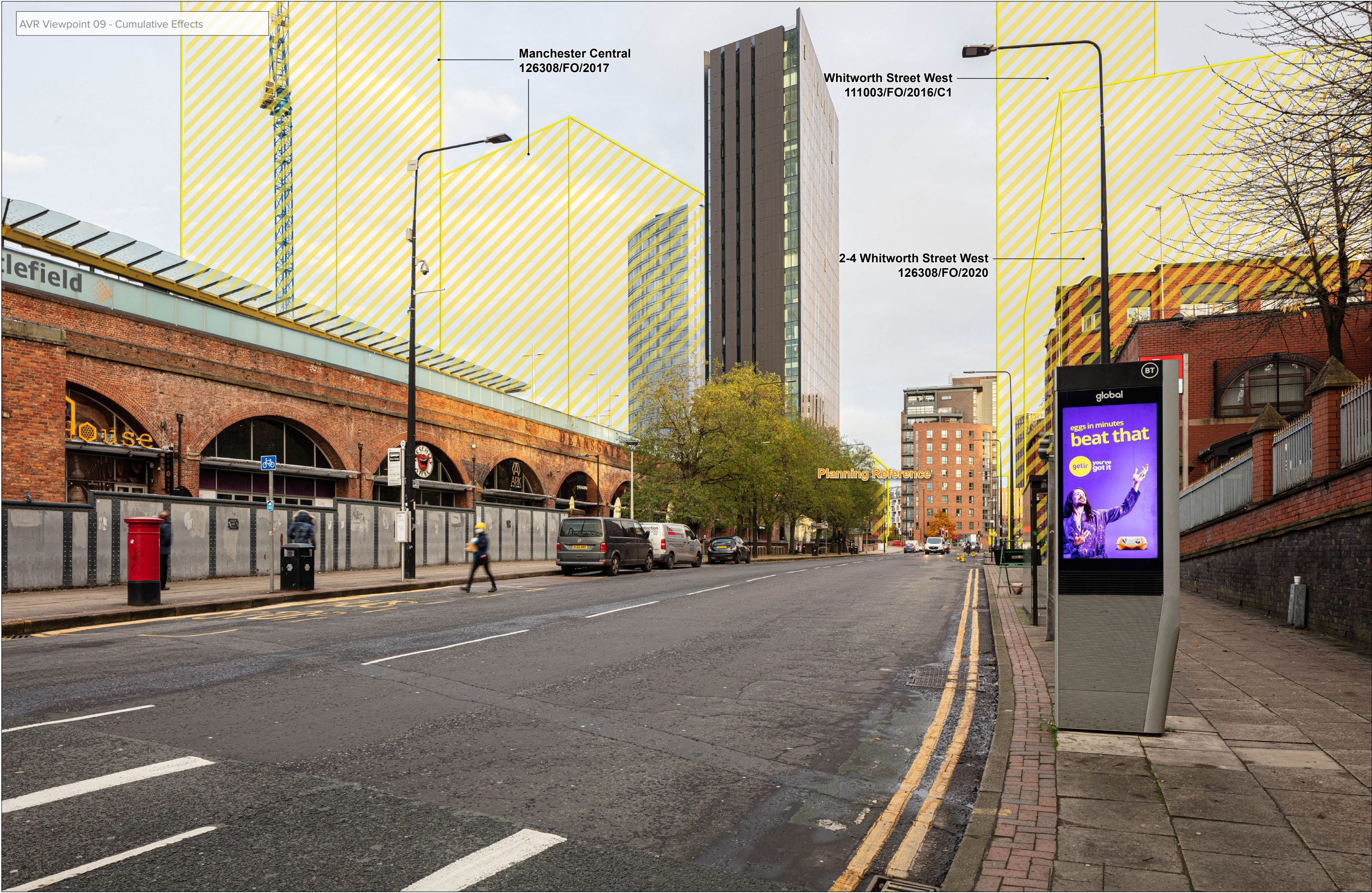
AVR Viewpoint 09 - Proposed View



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Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 09 - Proposed View**



AVR Viewpoint 09 - Cumulative Effects

Manchester Central
126308/FO/2017

Whitworth Street West
111003/FO/2016/C1

2-4 Whitworth Street West
126308/FO/2020

Planning Reference



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Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 09 - Cumulative Effects**

AVR Viewpoint 11 - Existing View



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Viewpoint 11 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 1 (AVR1))			
OS Grid Reference	383052.34 397561.35	Horizontal Field of View	74° (planar projection)
Ground Height (AOD)	29.84m	Camera / Lens / Rise	Canon 5DS R / TS-e 24mm II f3.5L / 2.2°
Viewer Height	1.65m	Date / Time	17/12/2021 - 15:26
Distance to Site	610m	Weather Conditions	100% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 11 - Existing View**

AVR Viewpoint 11 - Proposed View



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Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 11 - Proposed View**

AVR Viewpoint 11 - Cumulative Effects



AVR Viewpoint 12 - Existing View



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Viewpoint 12 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 1 (AVR1))			
OS Grid Reference	38338712 39688714	Horizontal Field of View	74° (planar projection)
Ground Height (AOD)	33.61m	Camera / Lens / Rise	Canon 5DS R / TS-e 24mm II f3.5L / 6.6°
Viewer Height	1.65m	Date / Time	17/12/2021 - 13:26
Distance to Site	760m	Weather Conditions	100% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: Apex House
Client:
Drawing Title: AVR Viewpoint 12 - Existing View

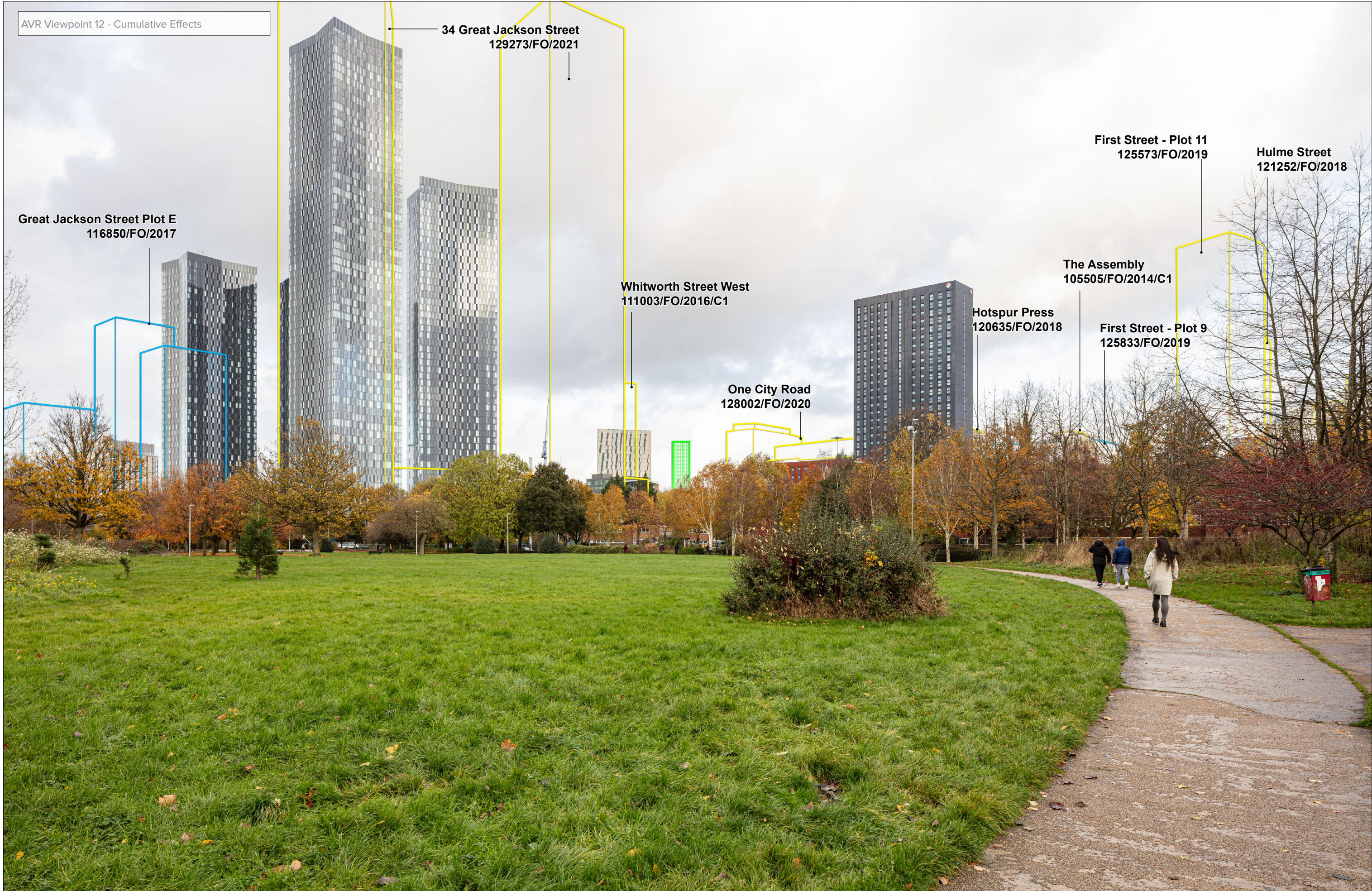
AVR Viewpoint 12 - Proposed View



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Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 12 - Proposed View**



AVR Viewpoint 13 - Existing View



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Viewpoint 13 Information (TGN 06/19 Type 4 Image (Option 1, Single image @A3), Level 1 (AVR1))			
OS Grid Reference	383466.56 397701.33	Horizontal Field of View	74° (planar projection)
Ground Height (AOD)	35.42m	Camera / Lens / Rise	Canon 5DS R / TS-e 24mm f3.5L / 11.0°
Viewer Height	1.65m	Date / Time	17/12/2021 - 16:05
Distance to Site	225m	Weather Conditions	100% cloud, good visibility

Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: Apex House
Client:
Drawing Title: AVR Viewpoint 13 - Existing View

AVR Viewpoint 13 - Proposed View



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Date: 28 January 2022
Drawing Number: D5791/d
Drawn by: MP
Checked by: AP

Project title: **Apex House**
Client:
Drawing Title: **AVR Viewpoint 13 - Proposed View**



Apex House
Appendix A: AVR Methodology

January 2022

Overview

The process of generating verified views (also referred to as accurate visual representations (AVR)) for the Proposed Development of Apex House, Manchester was carried out in conjunction with Troopers Hill (THL).

High quality/resolution photographs were taken from the agreed locations by Troopers Hill. An adequate number of visible features were subsequently surveyed, including the precise location and bearing of the camera. A geo-referenced development model was constructed to OSGB36. With a known camera position and orientation, photographic and surveyed existing visible features, the development model was accurately aligned to the photograph.

The AVRs produced have an estimated accuracy tolerance of +/-10cm.

The pages in this document should be printed at their intended size and not be scaled to fit smaller page sizes. Pages should be printed on A3 landscape paper (297mmx420mm), and viewed at a constant distance of 500mm.

Site visit

Troopers Hill visited the site on the 16th and 17th November 2021 to obtain viewpoint photography. The view positions were marked with paint and documented using photography of the exact positions. A survey was completed on the same day to record the precise co-ordinates of camera and control points.

Technical Methodology

This section explains in detail the processes involved in the preparation of Accurate Visual Representations (AVR) The following procedures set out an efficient, consistently accurate, robust, repeatable and traceable approach to achieve a high level of accuracy.

Verified photomontages, also referred to as Accurate Visual Representations (AVR) or Visually Verified Montages (VVM), are the ‘top level’ in terms of accuracy and documentation. Verified imagery is relied upon at public inquiry and in support of contentious planning applications/appeals and must therefore be robust and free from erroneous/ambiguous information. From the outset, a project where verified photomontages are required MUST be approached with the intention of absolute precision and will be based upon a traceable data set.

Standards

The work fully complies with the following guidance:

- 1. The Landscape Institute/IEEMA Guidelines for Landscape and Visual Impact Assessment (3rd edition 2013);
- 2. The Landscape Institute TGN 6/19 Visual representation of development proposals
- 3. The SPG London View Management Framework (March 2012).

Preparation

Following a formal instruction from the client, the scope of the project was agreed. The client identified a number of viewpoints and supplied a map of required view locations.

Focal length, image format, required content and context and AVR was agreed prior to the site visit. The photographer was familiar with the scope of the project and read any relevant information that was made available by the client.

Photography

The site visit was done on the 16th and 17th November 2021, and consideration was made to:

- 1. Forecast weather conditions
- 2. Shot itinerary based on sun position/time of day
- 3. Access / distance to site / duration of journey to site and required time on site
- 4. Suitable parking

Equipment used (see Appendix B for specification):

- 1. Camera, in working order with charged batteries (Canon EOS 5DS R)
- 2. Empty CF cards, at least 3x32Gb cards and 128Gb across additional cards in various capacities in case of failure
- 3. Battery charger
- 4. Canon TS-e 24mm f/3.5LII
- 5. Lens cloth
- 6. Remote cabled shutter release
- 7. Tripod with indexed/panoramic head (Manfrotto 303)
- 8. Tripod head levelling base (Manfrotto 438)
- 9. Small magnetic spirit level
- 10. Plumb bob
- 11. Spray paint (upside down street marking paint)
- 12. Hilti nails / pegs and hammer
- 13. Tape measure

Lens Selection Criteria

In consideration of the townscape setting of the views and in order to capture appropriate and relevant context, it was agreed that a 24mm lens was the most appropriate lens for the localised nature of the views.

On site procedure

- 1. Based on the order of viewpoints on the itinerary, each view location was visited. The tripod was erected and camera attached, along with the 24mm lens, shutter release, spirit level and plumb bob. The bob was hung from the bottom of central tripod assembly after a nodal point adjustment had been made.
- 2. The height of the lens’ central axis above ground level was measured and set to 1.60m using the tape measure.
- 3. A spray paint mark was used directly below the plumb bob to mark the location for the surveyor to measure.
- 4. Using a camera phone 4 shots (n,e,s,w) were taken of the assembled tripod, camera and bob in situ over the marker. A shot of the marker was also captured.
- 5. The following camera settings were used:
 - Manual ‘M’ mode
 - Bracket set to +/- 0.75 stops
 - Aperture at f8 to ensure wide depth of field and minimal diffraction.
 - ISO <100
 - Auto White Balance (AWB)
 - Evaluative metering
 - RAW capture only to avoid loss of dynamic range and image quality degradation associated with 8bit jpeg format
 - Enabled highlight warning
 - Check that TS-E lens is not ‘tilted’ or shifted if in use
 - Used ‘Live View’ and zoom function to fix and verify focus on the site, This also enables ‘mirror lockup’ and therefore less camera shake.
 - Evaluative metering
- 6. A sufficient horizontal field of view was determined to include the site and sufficient relevant context, vertical field of view was also considered based on height of the proposals and proximity to the site.
- 7. The tripod was levelled using the tripod mounted level. Following this the tripod head was levelled using the levelling base. The levelling base was micro-adjusted by partially engaging the clamp. Using the digital level built in to the camera, pitch and yaw angles were adjusted to achieve level.
- 8. With the camera centred on the site, ‘live view’ and x10 magnification was enabled and an appropriate point was identified to focus on.
- 9. Once focused, and accounting for conditions, the correct exposure was achieved by adjusting the shutter speed.
- 10. Three bracketed shots were taken at -0.75 0.00 +0.75.
- 11. Shots were previewed to check the quality, focus, highlight warning and histogram for the shots to ensure that a well exposed usable set of photographs had been captured.
- 12. ETR (expose to the right) method was used to achieve noise free shots - using the histogram and bracketing the shutter speed was adjusted to achieve an over exposed (but not clipped) +0.75 bracket shot.

Photography Post Processing

RAW files were processed in Adobe Camera Raw after shot approval in Adobe Bridge. The processed RAW files were then taken into Adobe Photoshop to be saved as full resolution TIF files. The process was as follows:

Downloading and Reviewing:

- 1. Downloaded *.CR2 RAW files from CF card using a CF card reader. The files were saved to the appropriate project folder on the network.
- 2. The tripod and marker shots were downloaded to the same location and deposited in a ‘documentation’ folder.
- 3. Shots were reviewed with Adobe Bridge, and selections were made based on sharpness, composition, suitability for stitching and exposure.

Processing:

- 4. Using Adobe Camera Raw, simple and standard digital photo processing techniques were applied ie sharpening, noise reduction and chromatic aberration correction. Settings were adjusted as necessary to achieve the best exposure, shadow detail and clarity.
- 5. Using Adobe Photoshop, the processed RAW files were saved as a baseline 8bit tiff file.

AVR Control (Survey)

The AVR control survey was carried out 16th and 17th November 2021.

Survey Methodology

Survey Equipment Required (see Appendix B for specification)

- Leica 1200 series GPS Smartnet enabled dual receiver (GPS and GLONASS)
- Leica Total Station (1201 or TS16) 1' accuracy with 1000m reflectorless laser

Field Survey Methodology

- **Camera locations:** where possible, the camera position was used as a setup point for the total station, enabling the re-creation of the view as seen in the imagery and reducing the risk of incorrect interpretation of detail. Connection was via GPS Smartnet derived control points in OSGB datum and grid. 3-4 control stations were used, to ensure long distance accuracies and to identify possible outliers.
- Reference points visible in the photography were measured with reflectorless means from the total station. Where long distance views had suitable detail too far from the camera station, further setups were used closer to the detail. Common visible detail points were observed from different setup points to check and increase accuracy achieved.
- Using realtime correction (RTK) accuracies of camera positions are to the low centimetre, while accuracies of surveyed detail vary due to setup geometry and distance, but will be usually in the low centimetre range and always below 30 centimetres.

Data Processing & Delivery

Data was processed using industry standard software (Leica GeoOffice and TerraModel) to create points listings. Digital photos were taken by the survey Total Station to aid identification of points. All points are to OSGB36 grid and datum, to allow the use of common Ordnance Survey products and industry standard site surveys.

AVR Production

Modelling of the Proposals

A model of the proposed development was provided by the project Architect. CAD siteplans, floorplans and elevations were also provided in order to confirm accuracy of the model and accurate placement of the model.

Autodesk 3DS MAX 2019 was used to bring together the proposed scheme model, site plans and survey data to generate a master 3D environment.

Autodesk 3DS Max has poor floating point performance and requires that OSGB36 coordinate based drawings and models need to be reprojected nearer to scene origin (0,0). A project global shift value (x and y axis) was designated when modelling was imported. This value was a coordinate for the centre of the site. All drawings were corrected by the global shift value.

Importing of AVR Control Survey Data

The point data provided by the surveyor for control points and camera location was in e,n,z format and delivered as a *.csv. This data was imported in to 3DS Max using a script and was also corrected to the global shift value. When imported virtual cameras were created where specified in the data, and all control points were positioned where specified in the data.

Aligning the 3D Scene to the Baseline Photography

3DS MAX was used to generate high resolution *renders from the virtual cameras set up in the 3D environment

**Rendering is the process of generating an image from a model (or models in what collectively could be called the 3D environment), by means of computer programs - specifically, in this case Chaos Group V-Ray Next for Autodesk 3Ds Max 2019.*

The virtual camera was configured to match the same field of view and bearing to that of the baseline photograph.

The render from each camera shows each control point as a red cross. In order for the render to match the planar projection of the photograph it was necessary to render the points to a planar projection (using the default camera projection in V-Ray Next by specifying exact horizontal and vertical field of view parameters)

This render of the control points was taken into Adobe Photoshop converted to a smart object and overlayed on to the baseline photograph. The smart object was scaled (uniformly) so that the control point markers aligned to the same objects measured by the surveyor. The position of the smart object was locked so that it could not be moved accidentally.

The baseline photography was then effectively aligned to the 3D environment, and when the proposed model was rendered (in planar projection) from this environment and placed in to the smart object it was therefore automatically correctly positioned in the photograph.

Output of the finished AVR

The style of AVR was discussed with the client and it was agreed that a mix of fully rendered and wireframe visualisations were required.

Realistic materials were applied to the model and a daylight lighting system that replicates the position of the sun in the baseline photograph was set up. A render was generated from the 3D model and subsequently inserted in to the aligned smart object. Masks were applied to the smart object to hide aspects of the proposed scheme that are hidden by existing features. Minor colour balance and levels adjustments were applied to the smart object so that it matched the appearance of the lighting in the baseline photograph. A similar approach was employed to produce the wireframes, however lighting and materials were disregarded. Linework was applied to the render to illustrate the mass extent and architectural form.

Using Adobe InDesign, each completed AVR was presented in a document that conforms with the relevant guidance.

Mitchell Peacock



On behalf of Troopers Hill Limited
Braeside, Cotswold Close
Bourne
Brimscombe
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Appendix B:
Equipment Specification

Camera: Canon 5DSR



Image sensor type	CMOS sensor	
Image sensor size	Approx. 36.0 x 24.0 mm	
Processor	Dual DIGIC 6	
Effective pixels	Approx. 50.6 megapixels	
Max resolution	8688 x 5792 pixels	
Lens mount	Canon EF mount	
Image type	JPEG, RAW (14-bit Canon original), RAW+JPEG simultaneous recording possible	
Crop/aspect ratio	Full-frame / Approx. 1.3x [crop] / Approx. 1.6x [crop] / 1:1 [aspect ratio] / 4:3 [aspect ratio] / 16:9 [aspect ratio]	
LCD Monitor-type	TFT color, liquid-crystal monitor	
Monitor size and dots	3.2-in [3.2] with approx. 1.04 million dots	
AF points	61 [up to 41 cross-type points]	
Focus operation	One-Shot AF, AI Servo AF, AI Focus AF, Manual Focusing (MF)	
AF fine adjustment	AF Micro adjustment [All lenses by the same amount, Adjust by lens]	
Exposure Metering mode	Approx. 150,000-pixel RGB+IR metering sensor and 252-zone TTL metering at max. aperture EOS iSA [Intelligent Subject Analysis] system	
ISO speed	100 ~ 6400 [expandable to 50 and 12800]	
Exposure compensation	±5 [at 1/3 EV, 1/2 EV steps]	
AE Bracketing	±3 stops in 1/3- or 1/2-stop increments [can be combined with manual exposure compensation]	
Anti-flicker	Possible	
Interval timer	Shooting interval and shot count settable	
Bulb timer	Bulb exposure time settable	
HDR Shooting - Dynamic range adjustment	Auto, ±1, ±2, ±3	
Multiple exposures -Shooting method	Function/control priority, Continuous shooting priority	
Number of multiple exposures	2 to 9 exposures	
Multiple-exposures control	Additive, Average, Bright, Dark	
Shutter speed	1/8000 sec. to 30 sec. Bulb, X-sync at 1/200 sec.	
Continuous shooting speed	Approx. 5 frames-per-second	
Max. burst [With full-frame]*	JPEG Large/Fine : Approx. 31 shots [approx. 510 shots] RAW : Approx. 12 shots [approx. 14 shots] RAW+JPEG Large/Fine : Approx. 12 shots [approx. 12 shots]	
Compatible Speedlites	EX-series Speedlites	
Flash metering	E-TTL II autofocus	
Flash exposure compensation	±3 stops in 1/3- or 1/2-stop increments	
PC terminal	Provided	
Live view shooting - focus method	Contrast-detection AF system [Face+Tracking, FlexiZone-Single] Manual focus [approx. 6x and 16x magnified view possible for focus check]	
Continuous AF	Provided	
Recording format	MOV	
Movie	MPEG-4 AVC / H.264 Variable (average) bit rate	
Audio	Linear PCM	
Recording size and frame rate	Full HD (1920x1080) : 29.97p/25.00p/23.98p HD (1280x720) : 59.94p/50.00p VGA (640x480) : 29.97p/25.00p	
Dimensions [W x H x D]:	Approx. 152.0 x 116.4 x 76.4mm / 5.98 x 4.58 x 3.01 in.	
Weight:	Approx. 930 g / 32.80 oz. [Based on CIPA Guidelines] Approx. 845 g / 29.80 oz. [Body only]	

Lens: Canon TS-E 24mm 3.5L II



Angle of view (horzntl, vertl, diagnl)	74°, 53°, 84°
Lens construction (elements/groups)	16/11
No. of diaphragm blades	8
Minimum aperture	22
Closest focusing distance (m)	0.21
Maximum magnification (x)	0.34
Distance information	Yes
Filter diameter (mm)	82
Max. diameter x length (mm)	88.5 x 106.9
Weight (g)	780

Tripod Head: Manfrotto 303PIUS Panoramic
Head + 300N Rotation Unit



- sliding plates for nodal point positioning
- Elbow bracket to allow camera to be mounted in either portrait or landscape orientation

Survey GPS: Leica 1200



Receiver	GX1230
Type	Dual frequency
Channels	12 L1 + 12 L2 / WAAS / EGNOS
RTK	Yes
Power consumption	5.2W (receiver + controller + antenna)
Batteries	Two Li-Ion 3.8Ah/7.2V mini batteries
	Power receiver + controller + antenna for about 15 hours (static mode)
	Power receiver + controller + antenna + radio for about 10 hours (RTK mode)
External supply	Nominal 12V DC (10.5 to 28V allowed)
Weight	1.20kg
Temperature	Operation: -40 to +65 C, Storage: -40 to 80 C
RTK Accuracy	Horizontal: 10mm + 1ppm, Vertical: 20mm + 1ppm (kinematic)
Post-Processed	Horizontal: 5mm + 0.5ppm, Vertical: 10mm + 0.5ppm (static)
Data logging	Compact Flash cards: 256Mb, typical spec:- About 4,400 hours L1+L2 logging at 15 sec rate About 17,600 hours L1+L2 logging at 60 sec rate About 360,000 RTK points with codes
Controller	RX1210T
Display	High contrast 1/4 VGA touch screen, 11 lines x 32 characters
Keypad	Full illuminated QWERTY keypad with user definable keys
Weight	0.48kg
Temperature	Operation: -30 to +65 C, Storage: -40 to 80 C
Antenna	SmartTrack AX1202
Weight	0.44kg
Temperature	Operation: -40 to +70 C, Storage: -55 to 85 C

Survey Total Station: Leica TPS 1201+



Angle measurement		Type 1201+	Type 1202+	Type 1203+	Type 1205+
Accuracy (std.dev., ISO 17123-3)	Hz, V	1" (0.3 mgon)	2" (0.6 mgon)	3" (1 mgon)	5" (1.5 mgon)
	Display resolution:	0.1" (0.1 mgon)	0.1" (0.1 mgon)	0.1" (0.1 mgon)	0.1" (0.1 mgon)
Method	absolute, continuous, diametrical				
Compensator	Working range:	4' (0.07 gon)	4' (0.07 gon)	4' (0.07 gon)	4' (0.07 gon)
	Setting accuracy:	0.5" (0.2 mgon)	0.5" (0.2 mgon)	1.0" (0.3 mgon)	1.5" (0.5 mgon)
	Method:	centralized dual axis compensator			
Distance measurement (IR-Mode)					
Range (average atmospheric conditions)	Round prism (GPR1):	3000 m			
	360° reflector (GR24):	1500 m			
	Mini prism (GMP101):	1200 m			
	Reflective tape (60 mm x 60mm)	250 m			
	Shortest measurable distance:	1.5 m			
Accuracy / Measurement time (standard deviation, ISO 17123-4)	Standard mode:	1 mm + 1.5 ppm / typ. 2.4 s			
	Fast mode:	3 mm + 1.5 ppm / typ. 0.8 s			
	Tracking mode:	3 mm + 1.5 ppm / typ. <0.15 s			
	Display resolution:	0.1 mm			
Method	Special phase shift analyzer (coaxial, visible red laser)				
PinPoint R400/R1000 reflectorless distance measurement (RL-Mode)					
Range (average atmospheric conditions)	PinPoint R400:	400 m / 200 m (Kodak Gray Card: 90% reflective / 18% reflective)			
	PinPoint R1000:	1000 m / 500 m (Kodak Gray Card: 90% reflective / 18% reflective)			
	Shortest measurable distance:	1.5 m			
Accuracy / Measurement time (standard deviation, ISO 17123-4) (object in shade, sky overcast)	Long Range to round prism (GPR1):	1000 m ~ 7500 m			
	Reflectorless < 500 m:	2 mm + 2 ppm / typ. 3 ~ 6 s, max. 12 s			
	Reflectorless > 500 m:	4 mm + 2 ppm / typ. 3 ~ 6 s, max. 12 s			
	Long Range:	5 mm + 2 ppm / typ. 2.5 s, max. 12 s			
Laser dot size	At 30 m:	approx. 7 mm x 10 mm			
	At 50 m:	approx. 8 mm x 20 mm			
Method	PinPoint R400 / R1000:	System analyzer (coaxial, visible red laser)			