

Rochdale Station Square

Rochdale

Design and Access Statement



Disclaimer

The information in this document is based upon publicly available information and reflects prevailing conditions and the views of Broadway Malyan as of the date of the document, all of which are accordingly subject to change. In preparing this document, Broadway Malyan has relied upon and assumed, without independent verification the accuracy and completeness of the information presented and that upon which the document is based, including that available from public sources.

© Broadway Malyan

Contents

Project Name	1	Vision	34
Contents	3	Derisking Activity	40
Introduction	4	Design Objectives	44
Design Team	7	Design Statement	46
Site & Analysis	8	Sections	48
Constraints and Opportunities	24	Activity Diagrams	52
SWOT Analysis	30	Appendix	62

Introduction

This Design & Access Statement has been prepared in support of a detailed Planning Application for the redevelopment of Station Square, Rochdale. The project intends to deliver an attractive and appealing publicly accessible scheme. The document contents are based on the CABE guidance 'Design and access statements: How to write, read and use them'

In summary, the Statement:

- Assesses the context of the site & relevant planning policies.
- Identifies the opportunities and constraints that influence the principle of the proposal.
- Explains how the proposal responds to the opportunities and constraints and also how it relates to the amount, layout, scale, appearance and access of the scheme.



Site Location Plan

Rochdale Station



Design Team

Owner, Occupier



Landscape Architect – Broadway Malyan

BroadwayMalyan^{BM}

Consultant Project Management



Planning Consultant



Civil & Structural Engineer



Transport and Highways



Cost Consultant & Quality Survey



Site & Analysis

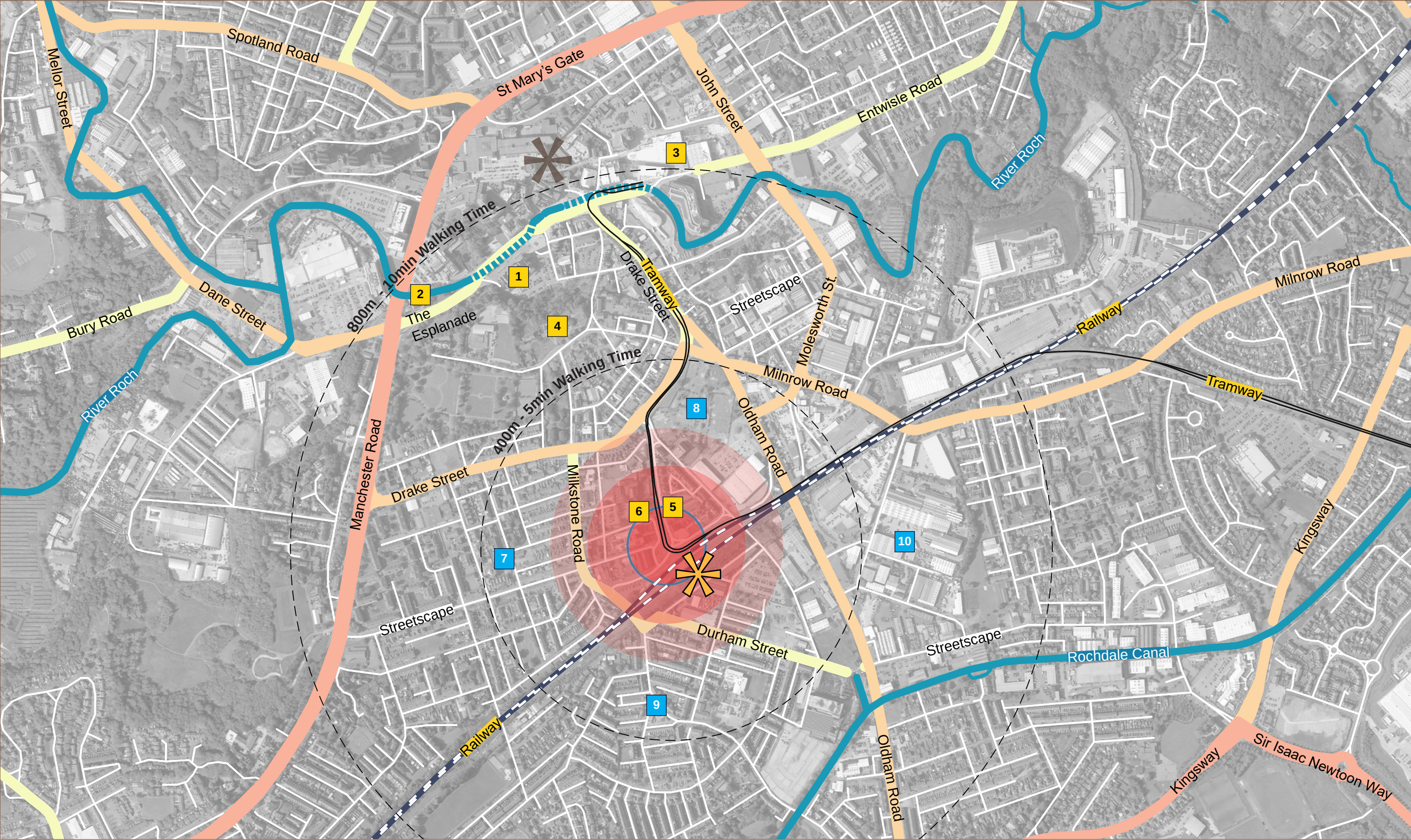
Before the design approach is considered, it is important to carry out a context and site analysis. This analysis should then inform the design concept to provide a bespoke solution.

Aspects that are considered include:

- Location, Orientation, neighbouring buildings, noise.
- Topography & levels.
- Historic Context.
- Building Uses, Vehicular & pedestrian routes, local transport links.
- Findings/recommendations are illustrated within the Constraints and Opportunities section of this report



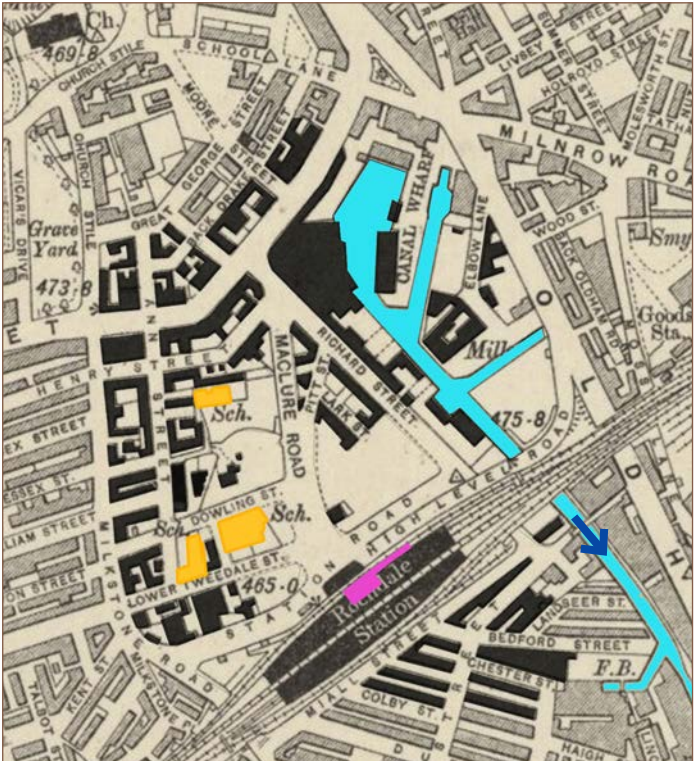
Site & Analysis . Urban context



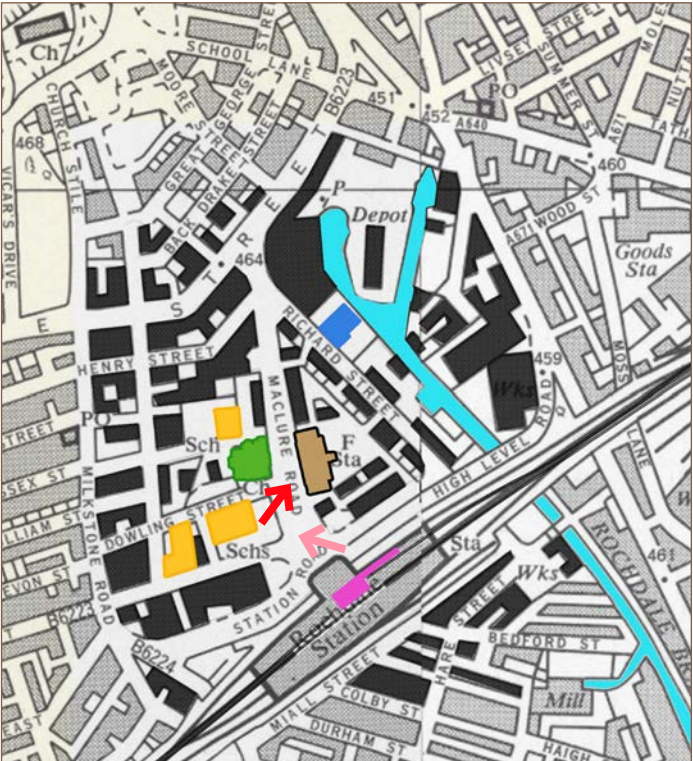
Key:

Community Square	Rochdale Station	Touchstones Rochdale	Saint Chad's the Town's Parish	Roman Catholic of St John the Batiste	Milkstone	Deeplish
Town Centre	Rochdale Town Hall	Rochdale Riverside Ph1	Greater Manchester Fire Service Museum	Retail Park Site	Scotts Industrial Park	

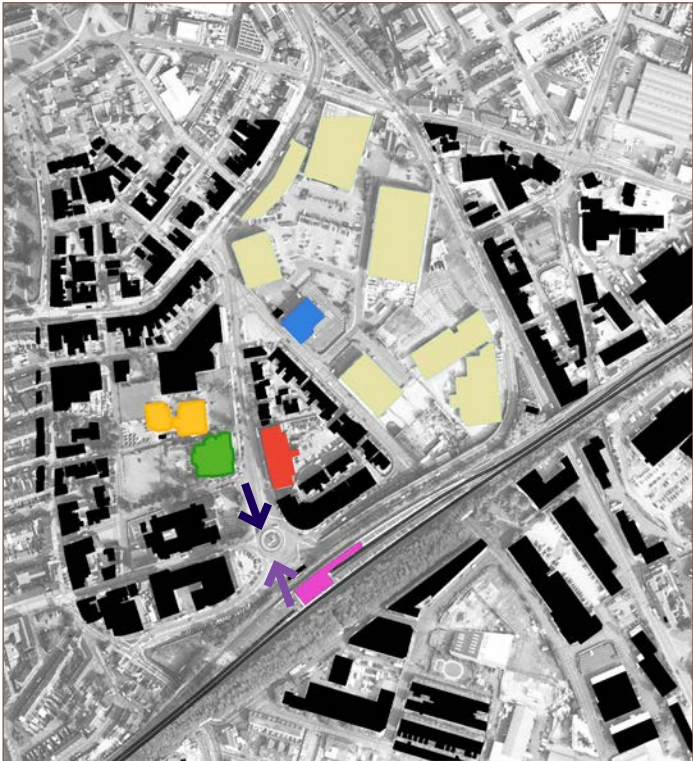
Site & Analysis . Historic Mapping



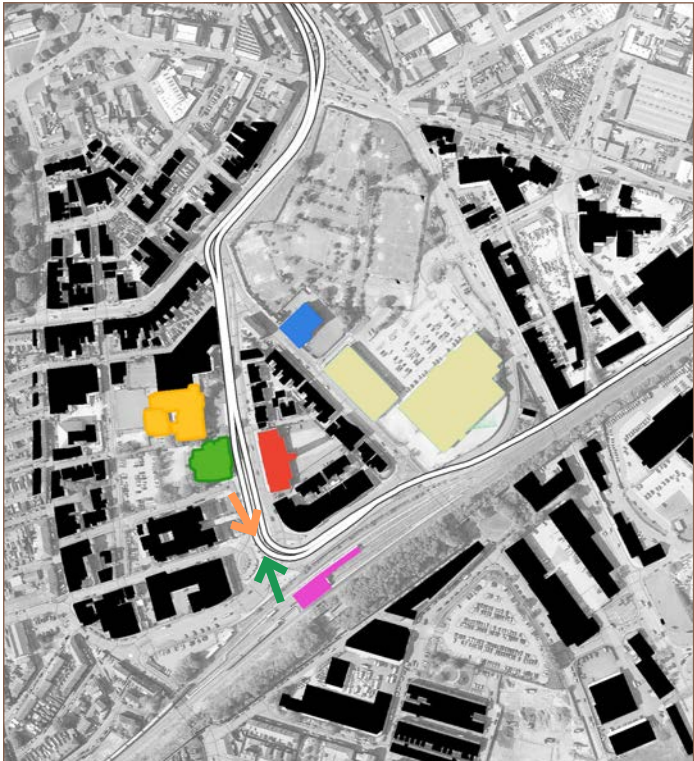
1888 - 1913



1949 - 1969



> 2000



> 2020

Map Year

View
→



Halfpenny Bridge,
Rochdale Branch Canal



Parish Church
Schools



Timeline

1804

Rochdale Branch Canal

1839

Rochdale Railway Station

1uuu

Schools

1925-1927

Roman Catholic of St
John the Baptist

1926

Rochdale Masonic Hall

1933

Rochdale Fire

19uu

Central Retail Park

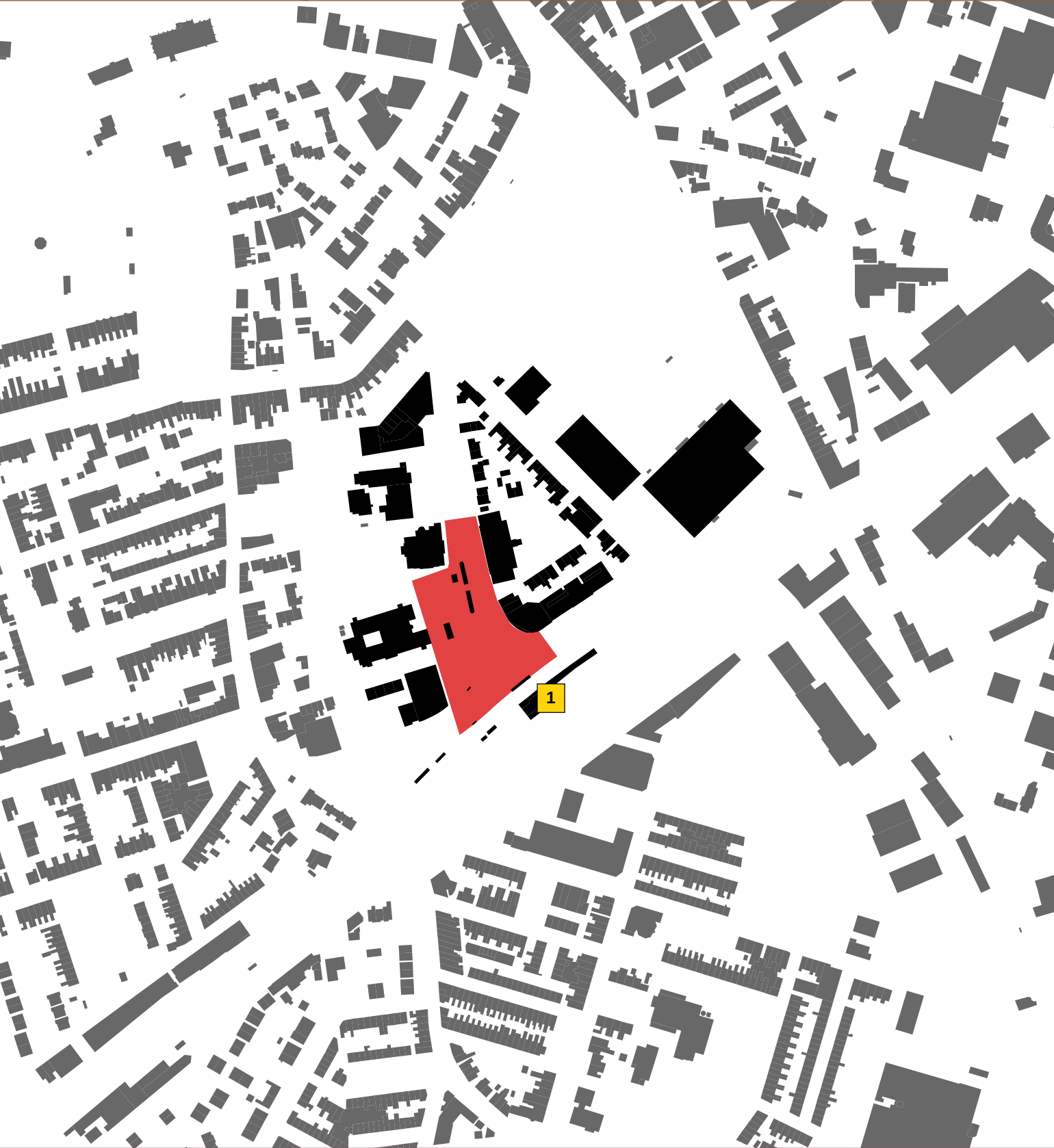
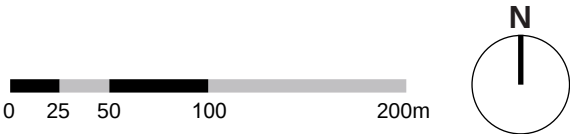
1983

Greater Manchester Fire
Service Museum

2013

Metrolink Tramway

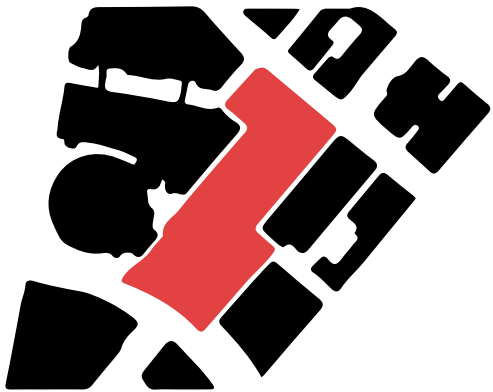
Site & Analysis . Urban Grain and Spatial Comparisons



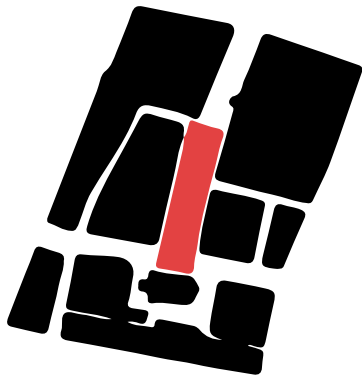
- Key:
- Community Square 8270 m2
 - 1 Rochdale Station



Albert Square, Manchester 8415 m2



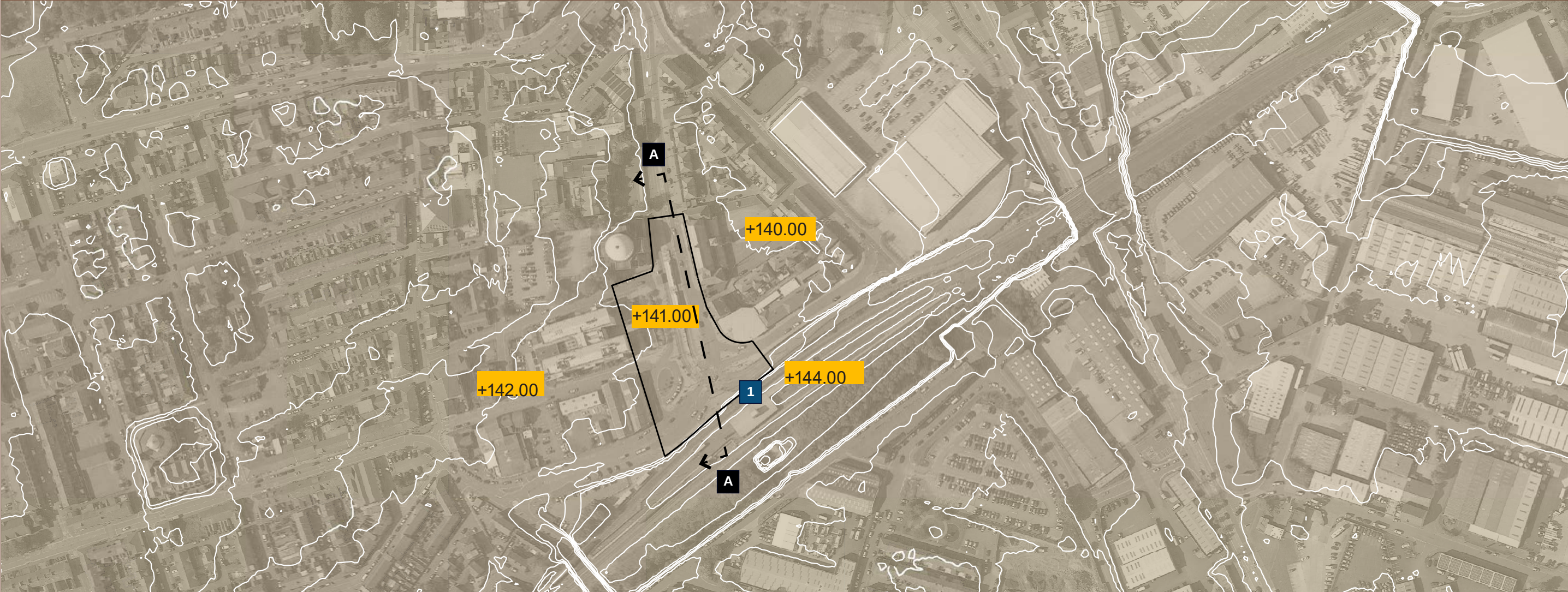
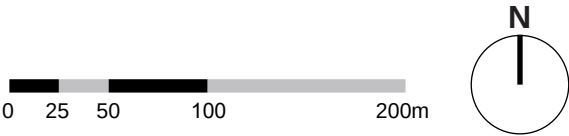
St. Peter's Square, Manchester 11,595 m2



St. Ann's Square, Manchester 2940 m2



Site & Analysis . Topography



Key:

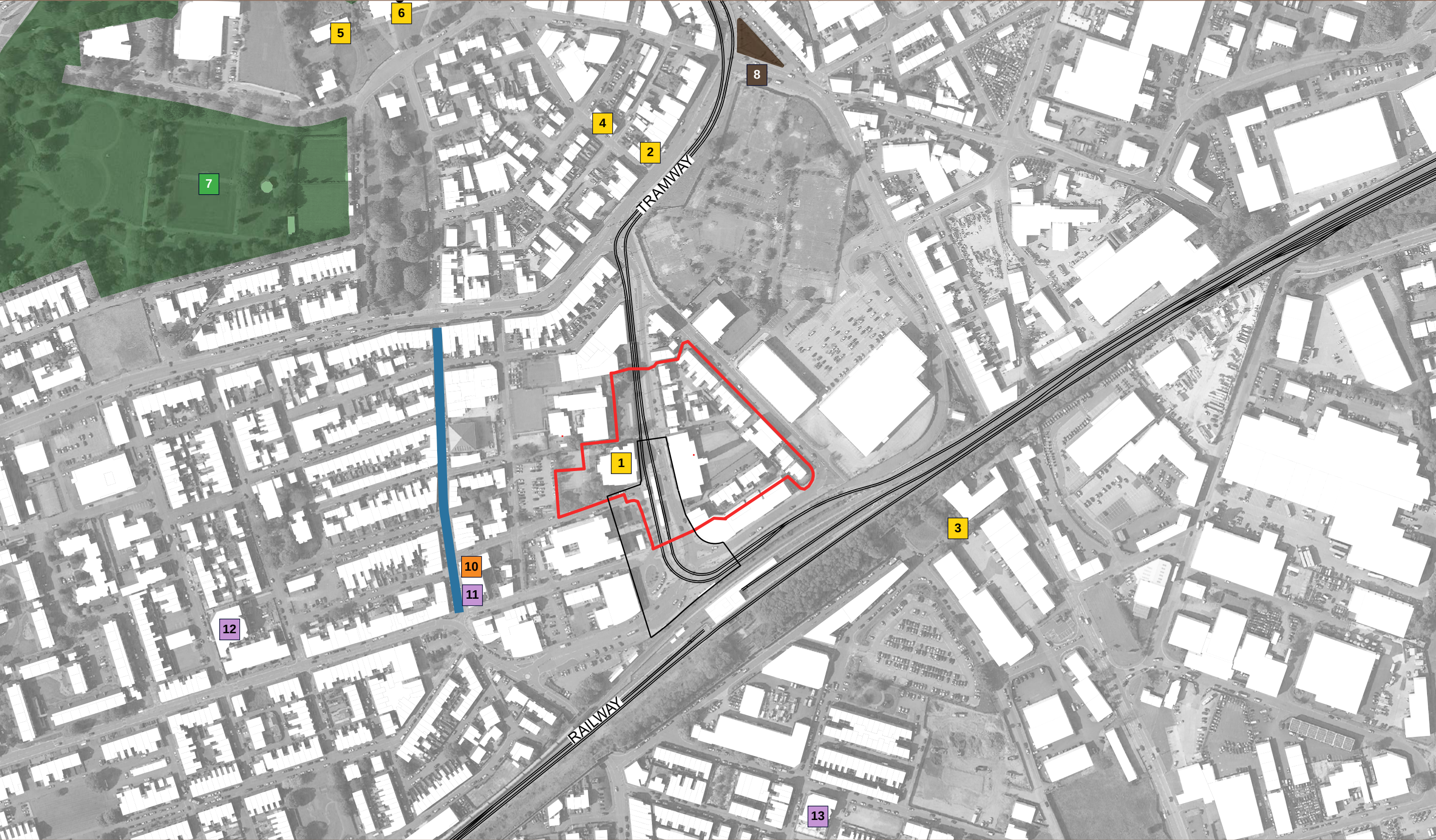
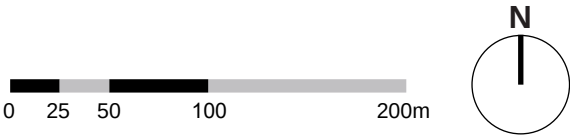
 Community Square

 1 Rochdale Station

 Contour Lines

 +141.00 Levels

Site & Analysis . Culture and Heritage



Key:

- Community Square
- Maclure Road Conservation Area
- Local Food Culture (Milkstone Road)

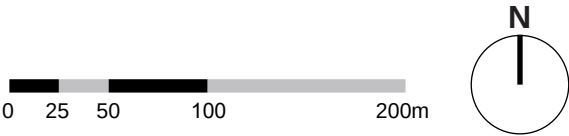
- 1** Listed Building - Roman Catholic of St John the Batiste
- 2** Listed Building -132, Drake Street
- 3** Listed Building - Rochdale Canal Branch Arm Halfpenny Bridge

- 4** Listed Building - Congregational Church
- 5** Listed Building - Rochdale Museum The Old Vicarage
- 6** Listed Building - Church of Saint Chad

- 7** Registered Parks&Gardens Broadfield
- 8** Rochdale Council Land&Buildings Assets - Wet Rake Gardens
- 10** The Curtain Theatre

- 11** Jamia Masjid Chishtia
- 12** Central Mosque Rochdale
- 13** Neeli Mosque

Site & Analysis . Green Infrastructure



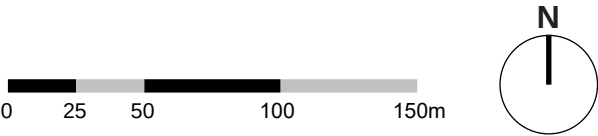
Key:

 Community Square

 Green Infrastructure

 1 Rochdale Station

Site & Analysis . Adopted Public Highway Boundaries

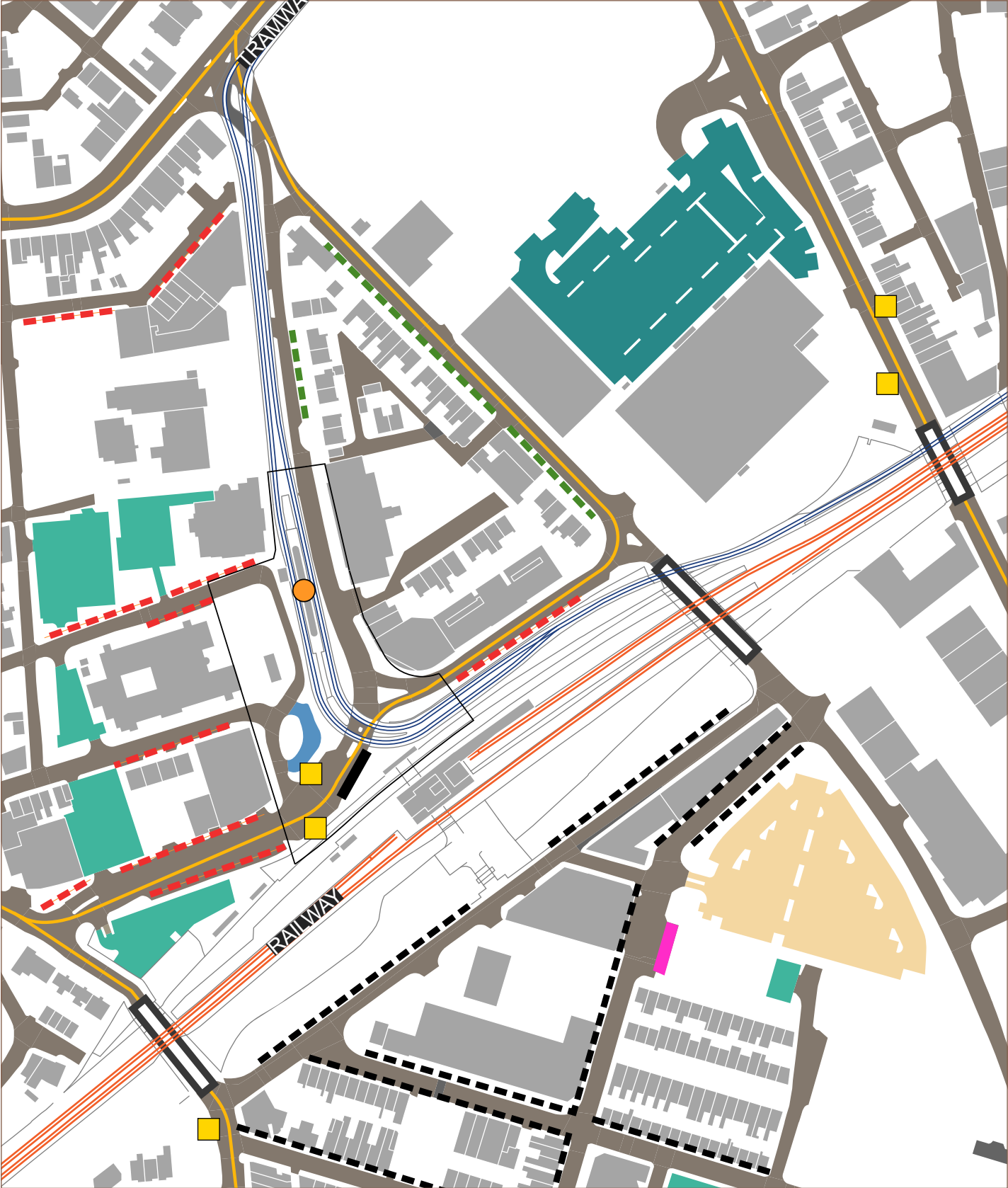
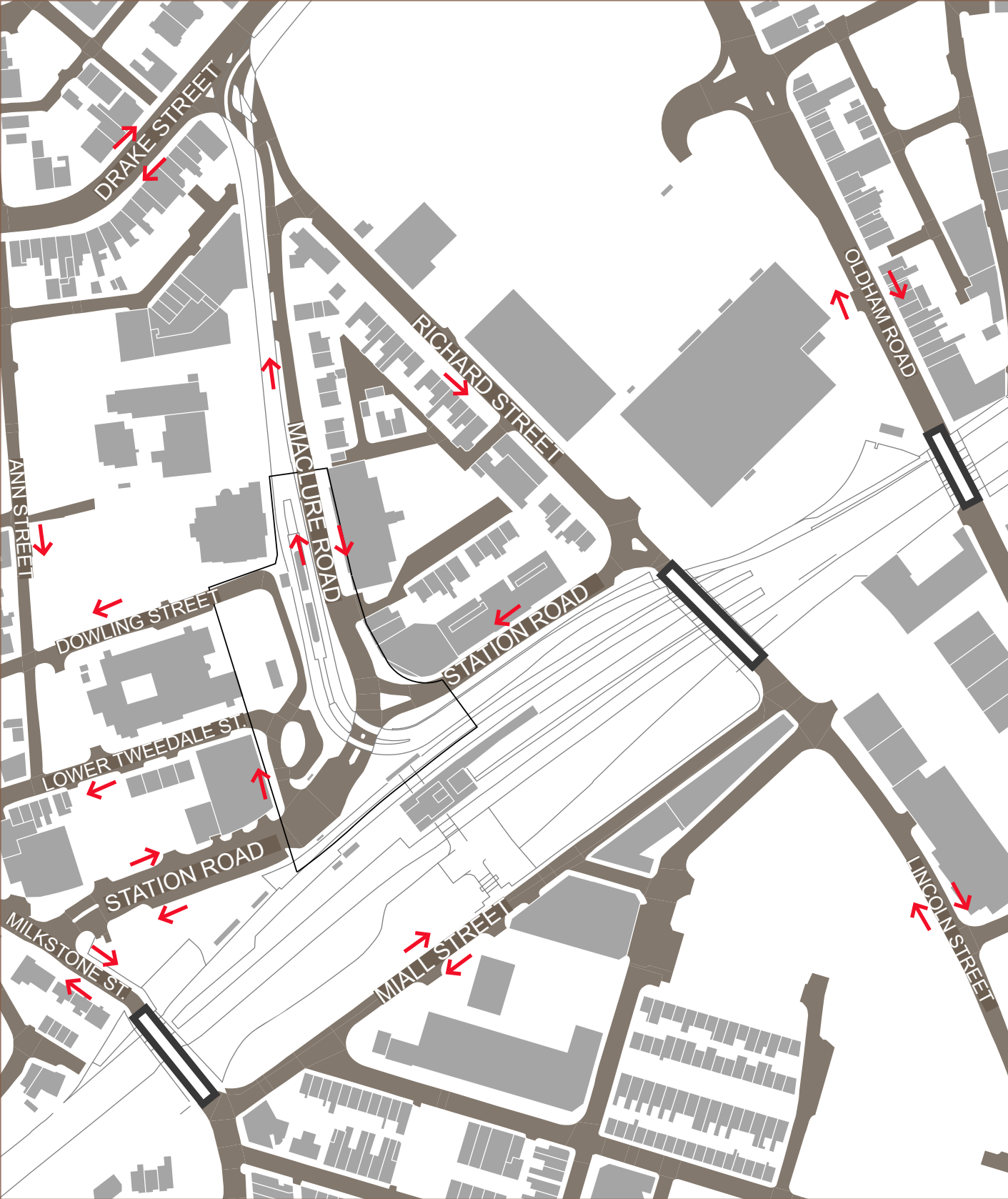


Key:

 Community Square

 Adopted Public Highway Boundaries

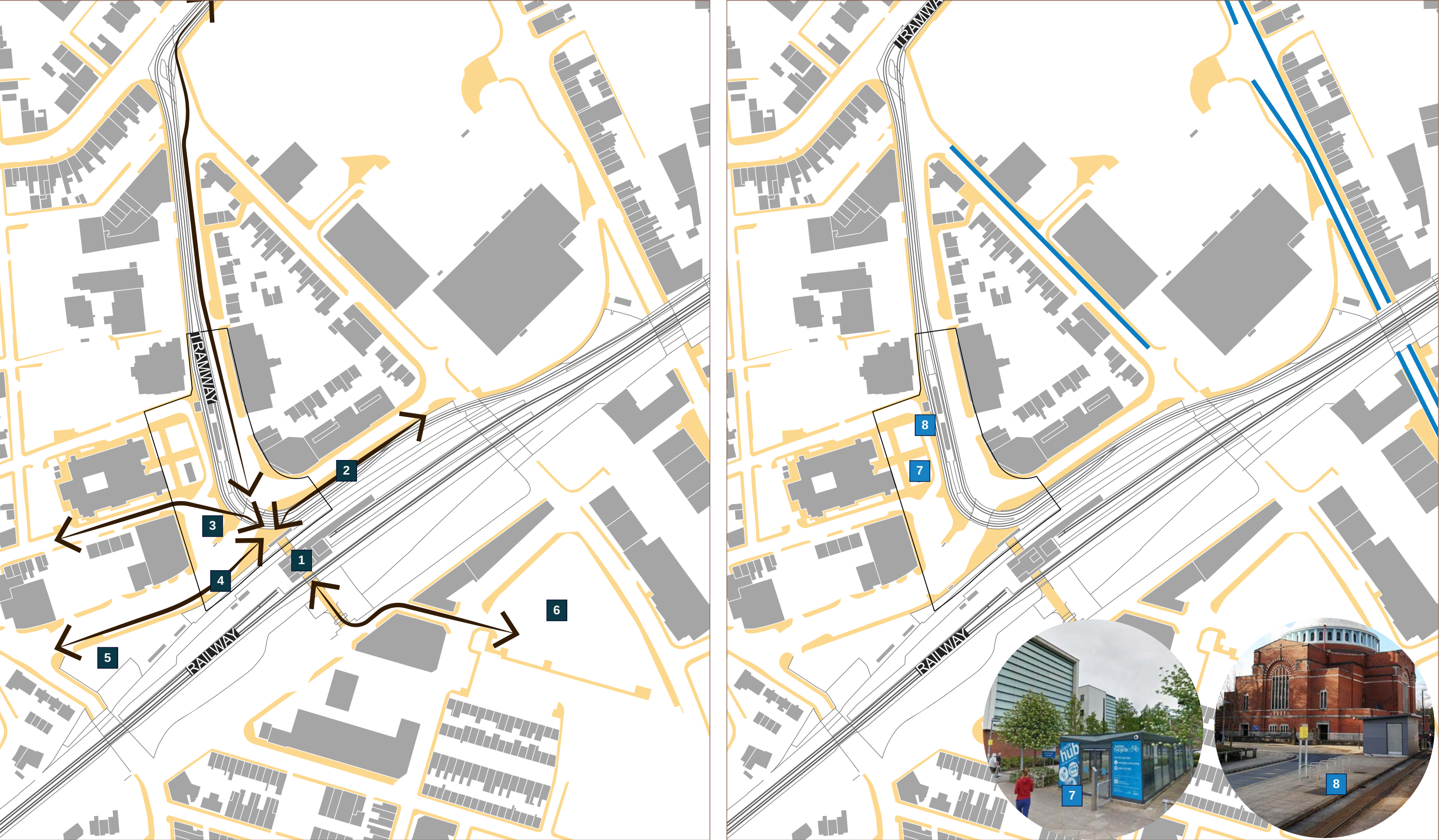
Site & Analysis . Vehicular Movement



Key:

Community Square	Urban Fabric	Taxi Rank	Off Street Park - Public	Retail Car Parking	Free Parallel Parking
Lanes and Directions	Road Underpasses	Bus Routes	Network Rail Loading Bay	Off Street Park - Private	Residential Parking
Roadway	Tram Station	Bus Stops		Park and Ride	Limited Parking Time

Site & Analysis . Pedestrian and Cycle Movement



Key:

Community Square	Sidewalk	1 Rochdale Railway	3 Taxi Rank	5 Car Parking	Cycle Lane	8 Cycle Rack
Urban Fabric	Key Pedestrian Movements	2 Drop off / Pick up	4 Bus Stops	6 Park and Ride	7 Cycle Hub	

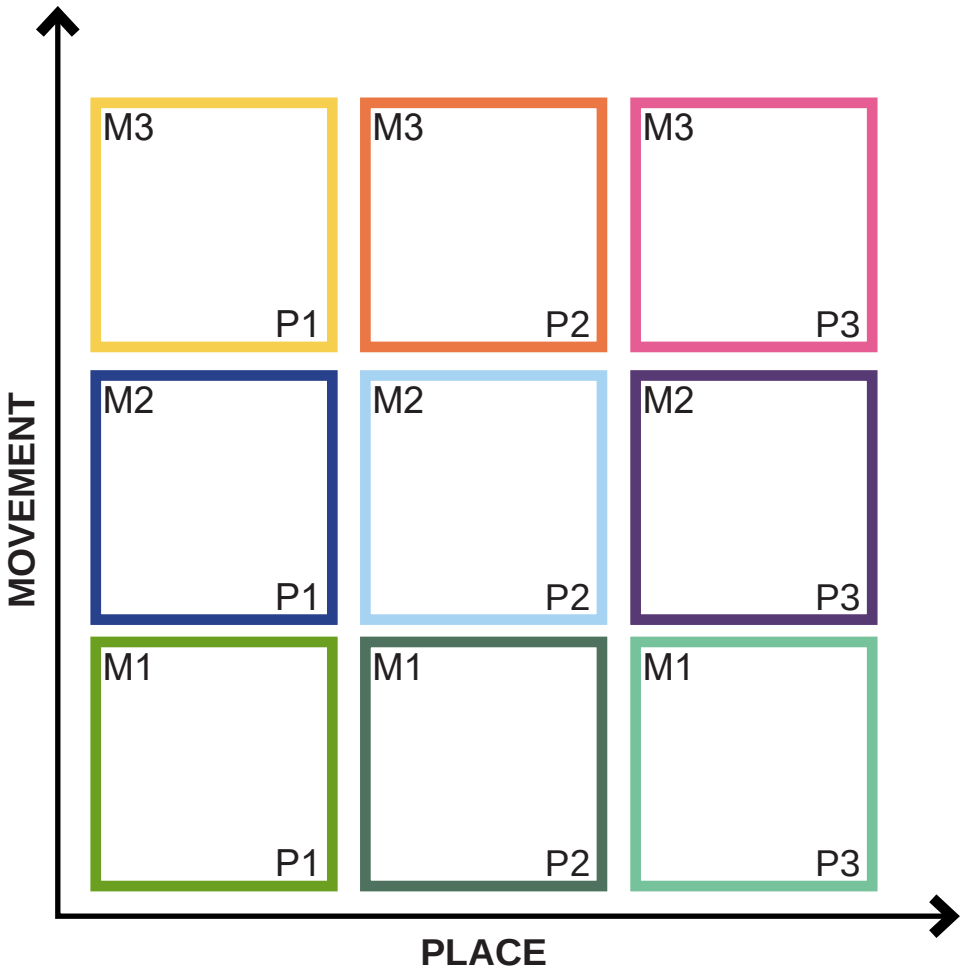
Site & Analysis . Movement and Place



Key:

 Community Square

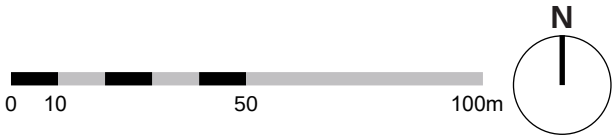
 Urban Fabric



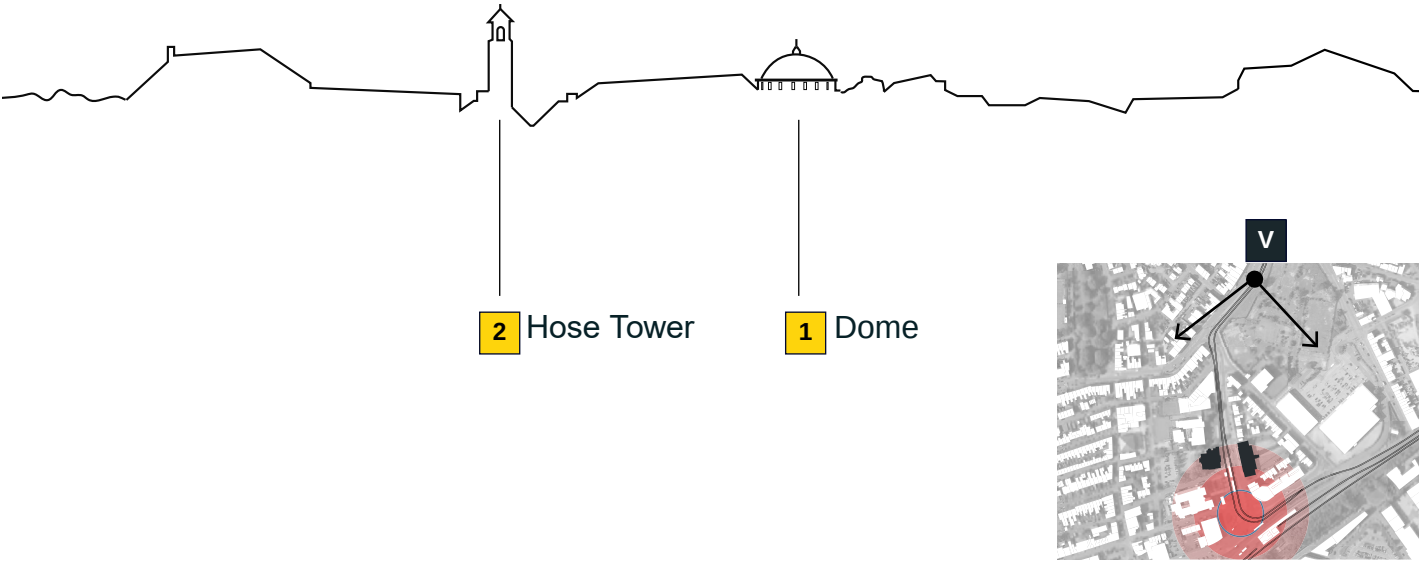
Place / Movement Criteria

Place Function	Movement Function
P3: Attracts National, Regional, non-adjacent District to District Visitors	M3: Connects local destinations to ensure people and goods can move freely and/or high levels of slower mode movements
P2: Attracts visitors from within the settlements and from Adjacent settlements (City, Town)	M2: Local access by people walking, cycling, using public transport & deliveries
P1: Predominantly local function/negligible attraction	M1: Local access only by people walking, cycling & deliveries

Site & Analysis . Landmarks and Key Views

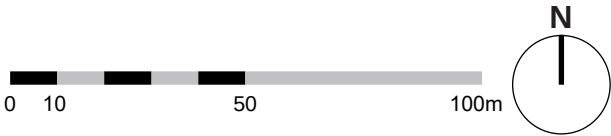


- Key:
- Community Square
 - Urban Fabric
 - Roadway
 - Sidewalk
 - Landmark - Roman Catholic of St John the Batiste Dome
 - Landmark - Greater Manchester Fire Service Museum Hose Tower



- Key Views
- View From Drake Street

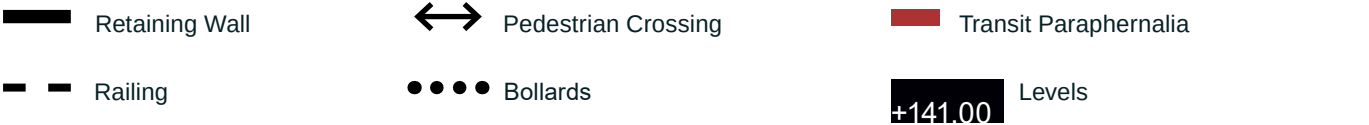
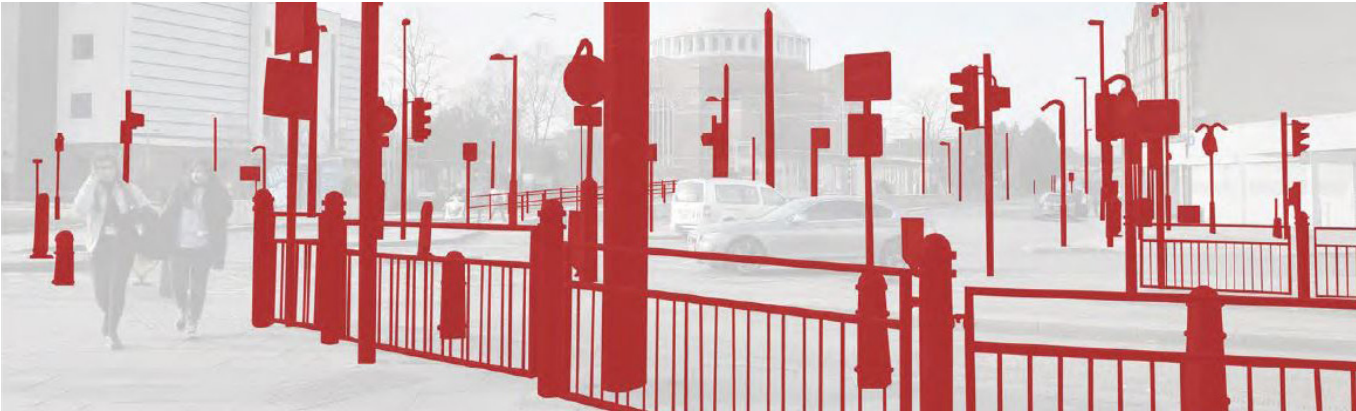
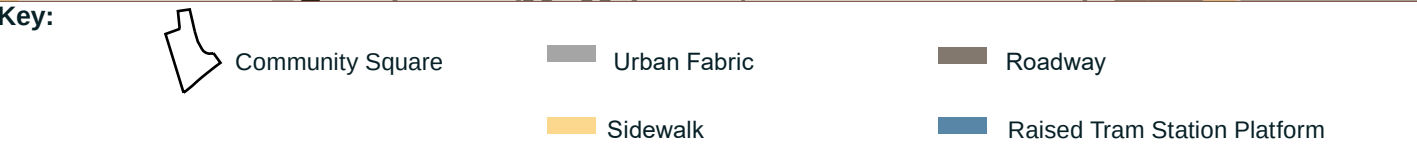
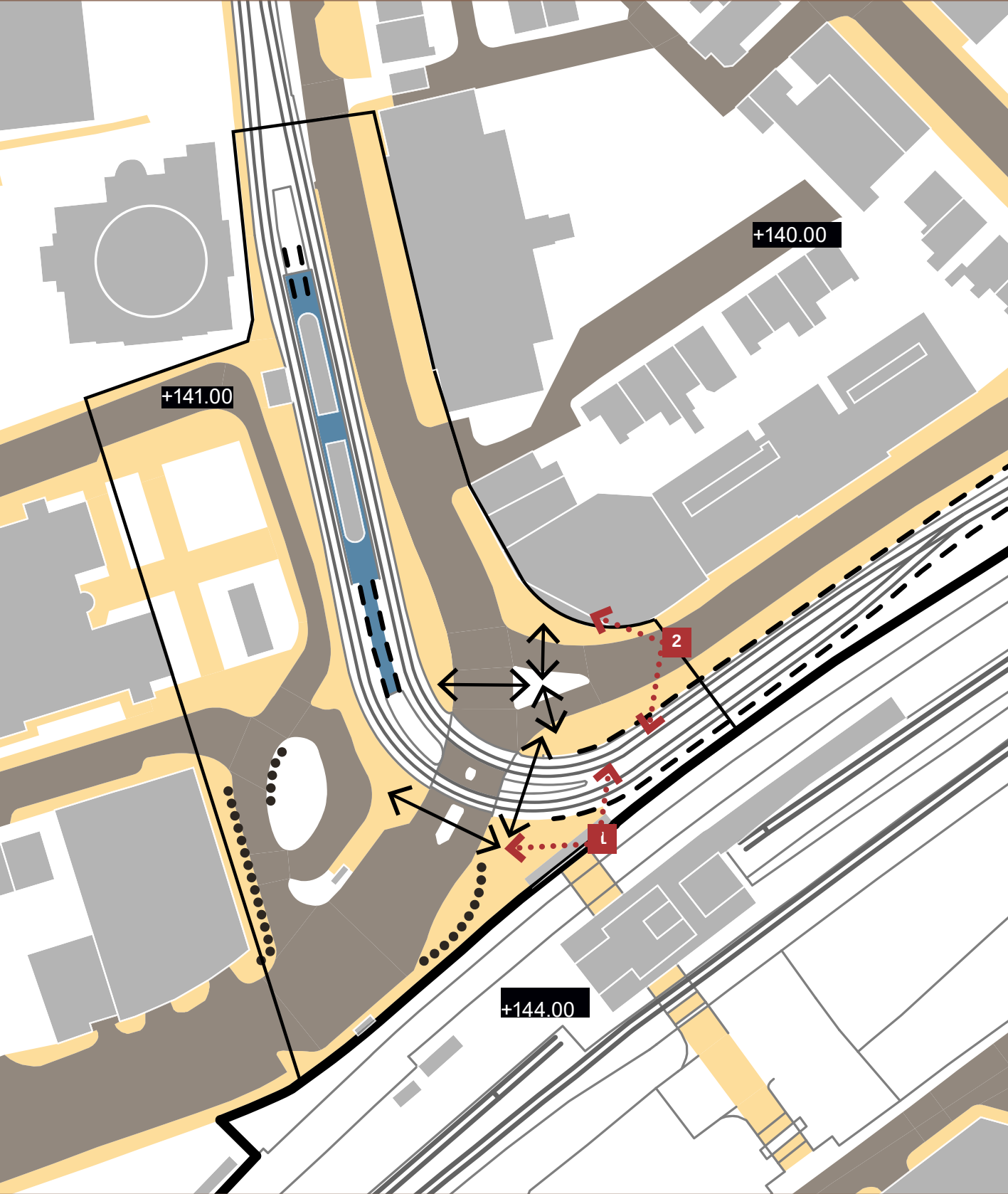
Site & Analysis . Key Buildings, Uses and Active Frontage



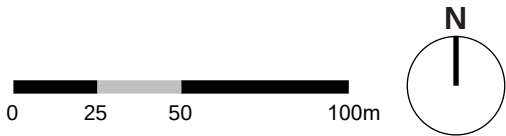
- Key:**
- | | | | | | | |
|------------------|---|---|--|---------------------|--------------------|---------------------------|
| Community Square | 0 St John's Roman Catholic Primary School | 1 Roman Catholic of St John the Batiste Church - Key Building | 3 Pennine Care NHS Rochdale - Key Building | 5 Haji Cash & Carry | 7 Vacant Buildings | 9 Regenerative Substation |
| Urban Fabric | Active Frontages | 2 Greater Manchester Fire Service Museum - Key Building | 4 Rochdale Station | 6 Residential | 8 Cycle Hub | |



Site & Analysis . Public Realm Comfort & Safety and Street Clutter



Site & Analysis . Public Realm Comfort and Safety



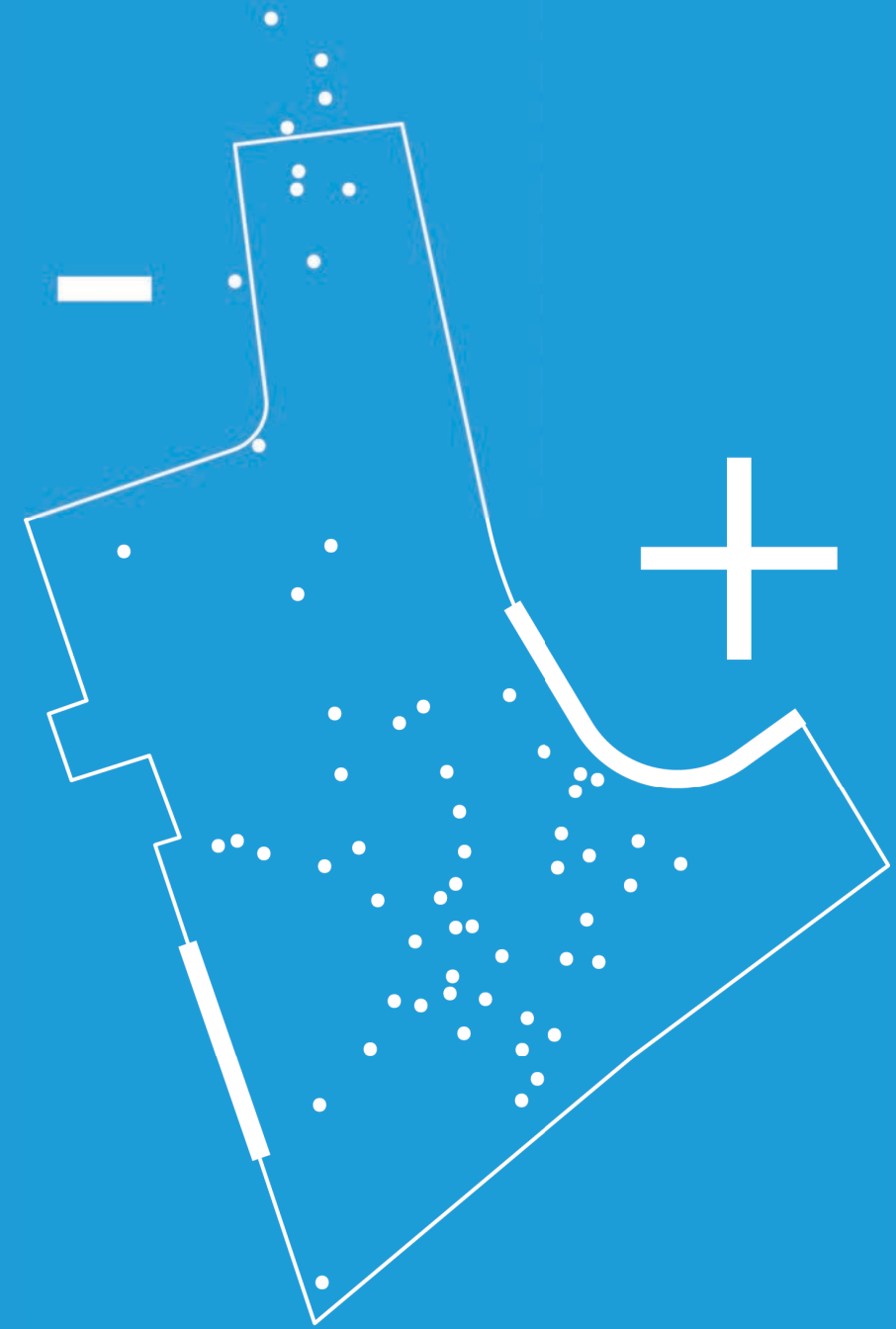
Key:

- Community Square
- Urban Fabric

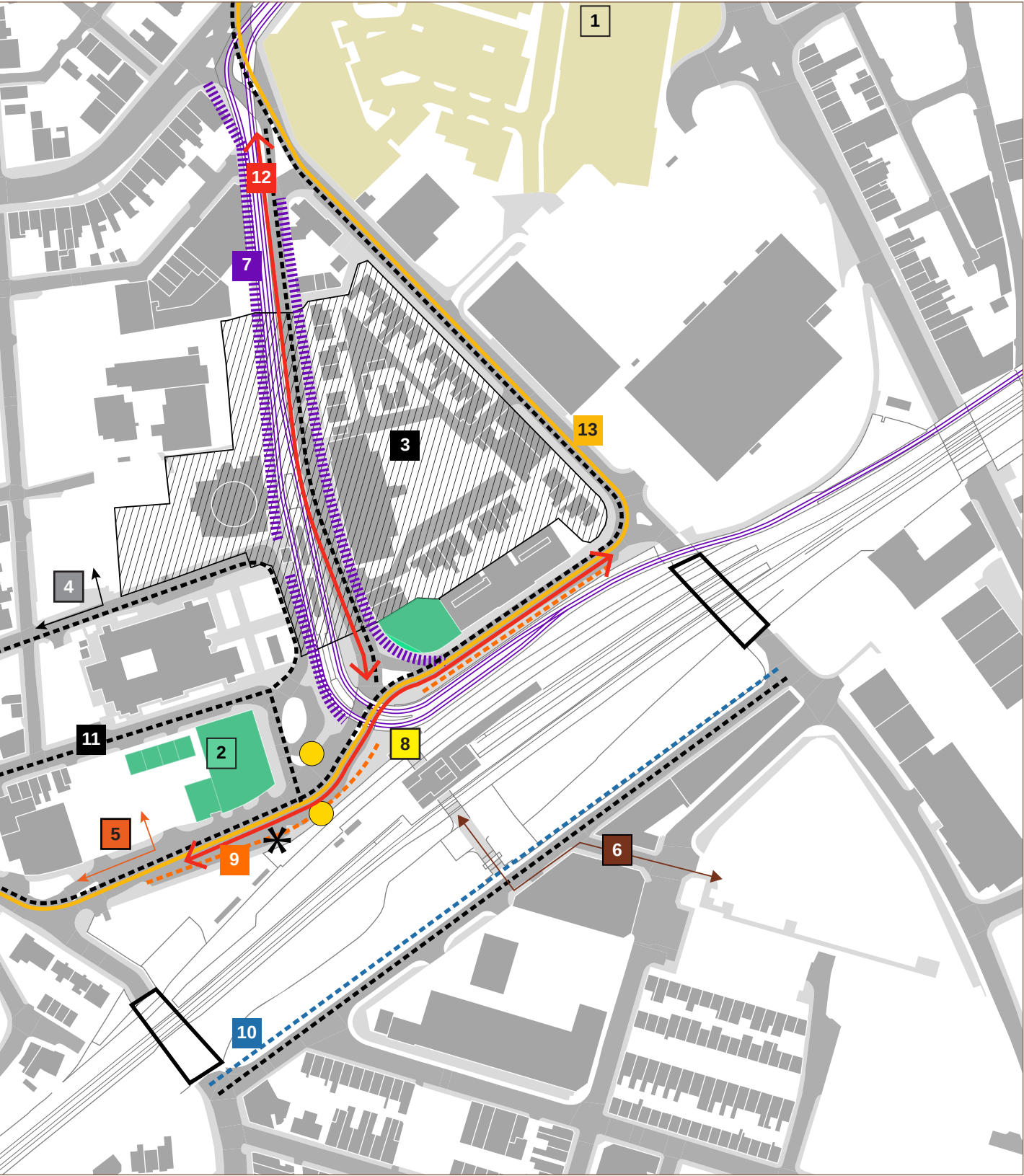
General feeling is of an unsafe / unpleasant / uncomfortable environment

- Emotive heat mapping records users perceptions of a street/ place against an established criteria of emotional responses:
- Feels Unsafe / Unpleasant / Physically Difficult to cross
 - Can be uncomfortable / feels safe away from conflict points
 - Feels safe & comfortable
 - Pleasurable / Attractive Environment
 - High quality / Destination - Space is a draw in itself

Constraints and Opportunities

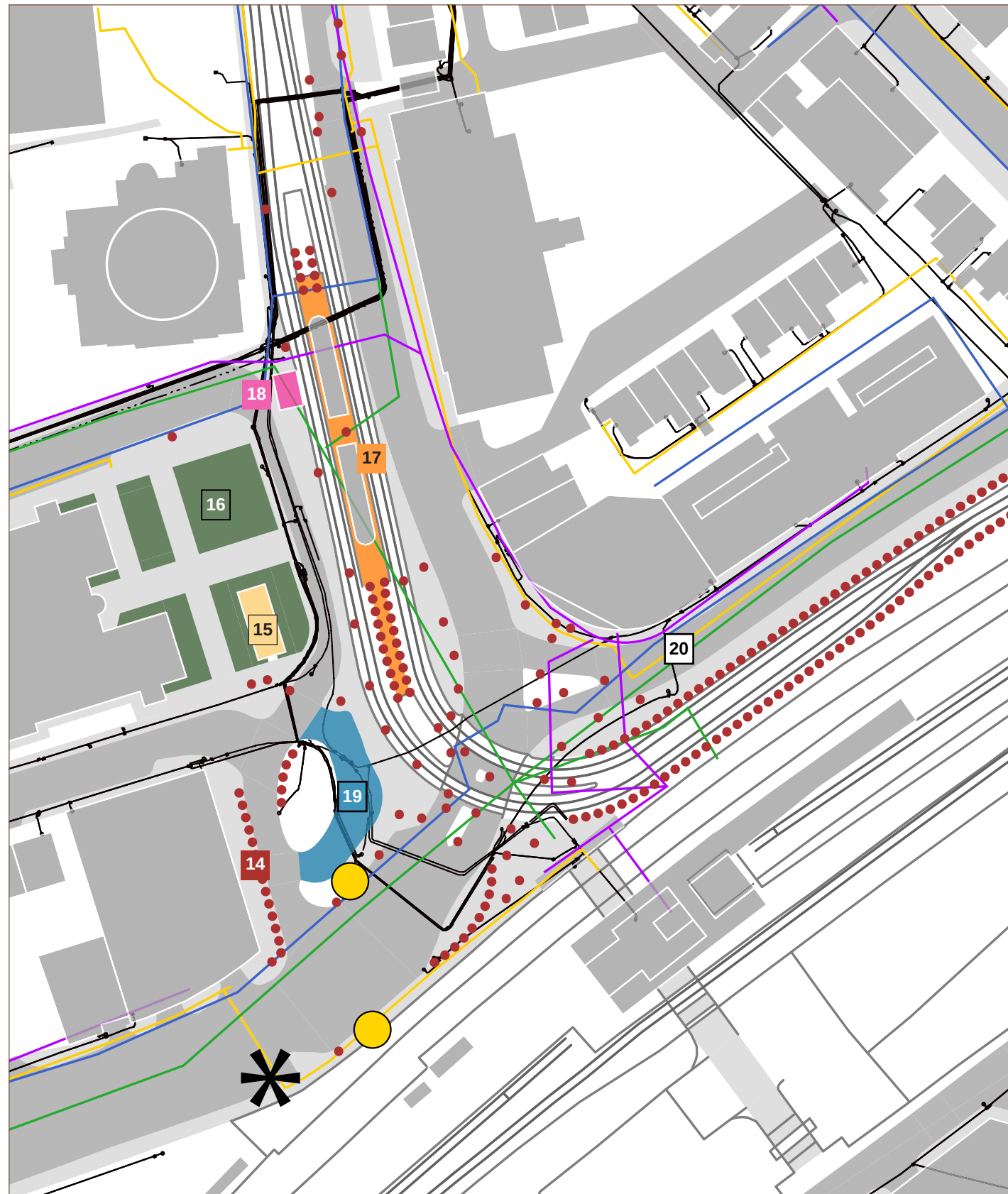


Site & Analysis . Constraints Analysis 1/2



- 1** Derelict site provides poor visitor arrival experience when coming from/to the railway station
- 2** Poor urban morphology and vacant buildings provides a lack of urban fabric value and an unsafe perception
- 3** Maclure Road Conservation Area. Inappropriate setting from buildings
- 4** Provide access to Nye Bevan House parking on Dowling Street
- 5** Retain access for businesses on the Worldwide Foods/Haji block
- 6** Poor pedestrian route to park and ride facility
- 7** Tramway track results in a poor East/West pedestrian connectivity including segments of segregated right-of-way
- 8** Rochdale Station provides poor arrival/ departure experience
- 9** Poor quality of vehicular drop off / pick up
- 10** Miall Street - narrow road with vehicles mounting kerbs
- 11** Lack of road hierarchy. Vehicular access with poor-quality space and layout. The road network is narrow and combine driveway with parallel car parking. Existing vehicular access inadequate to new uses
- 12** Lack of natural navigation and wayfinding from/to town centre and local communities
- 13** 471 Bus route and Bus Stops
- Low Bridges
- 3 x disabled car parking spaces

Site & Analysis . Constraints Analysis 2/2



14 Street Clutter - Transit paraphernalia with visual impact and potential pedestrian hazards



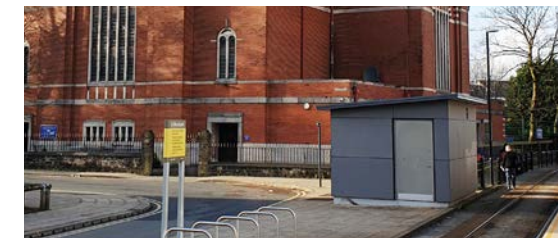
15 Cycle Hub location and separation from Station

16 Establish public realm with trees

17 Raised tram station platform and access ramp blocking pedestrian flow

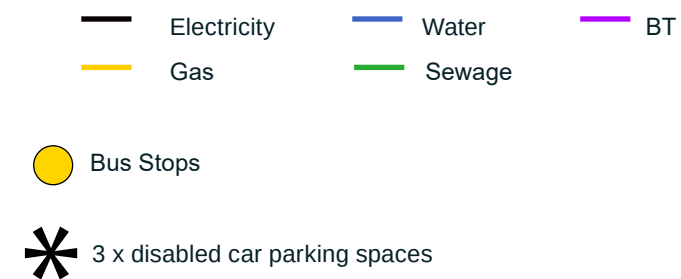


18 Substation location and visual impact

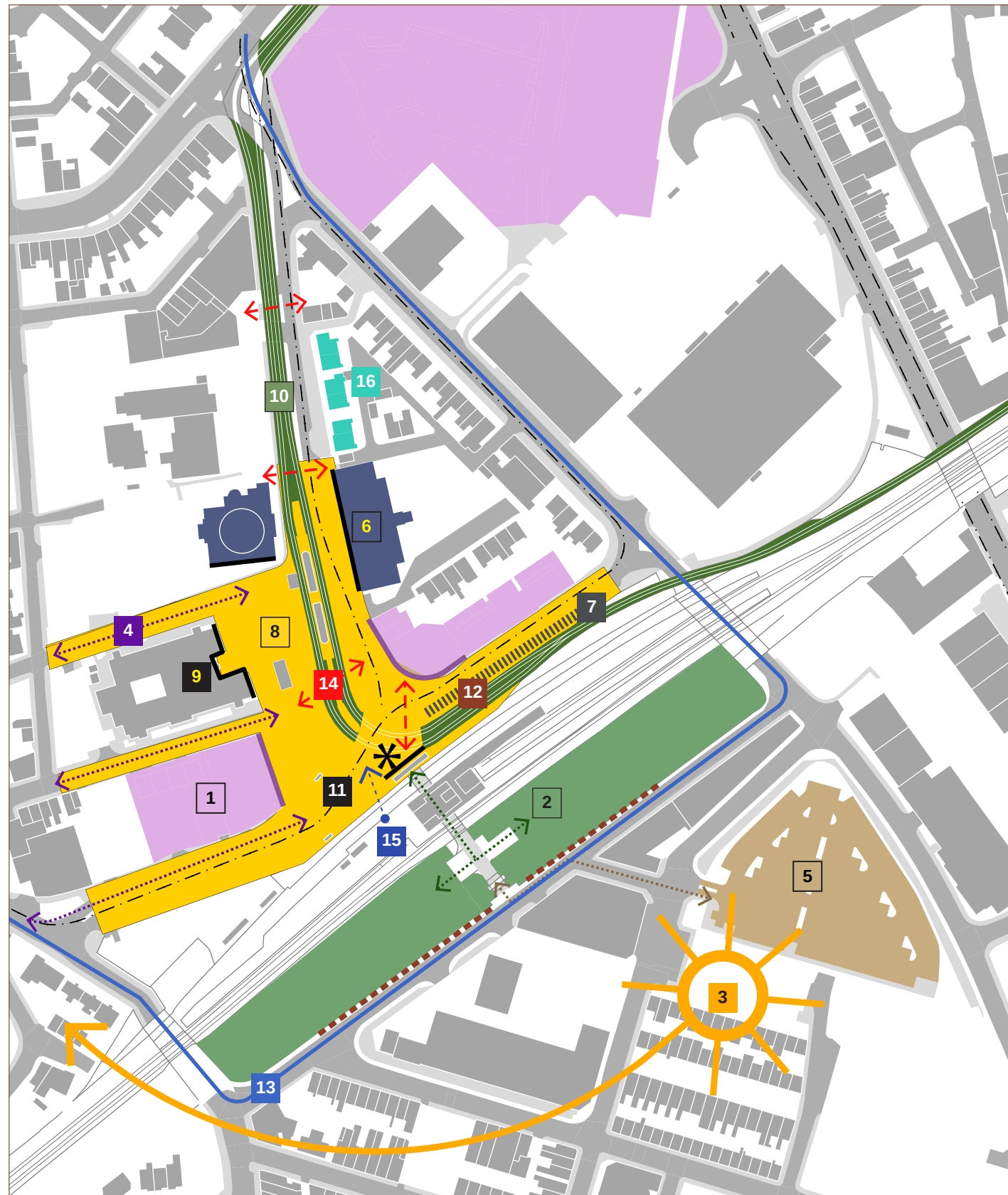


19 Taxi Drop-off - Segregated traffic mode

20 Existing Utilities Network:



Site & Analysis . Opportunities



- 1** Development opportunities. Improve urban fabric uses and active frontages
- 2** Existing self seeded woodland to be retained and enhanced. Opportunity to give access to public and facility to community
- 3** Sun-path exposure. Find the hot spots
- 4** Opportunity to reconnect and establish a physical and psychological link with Milkstone community
- 5** Improve connectivity and “safety” to Park and Ride
- 6** Opportunity to celebrate historic buildings and provide appropriate setting
- 7** ■■■■ Opportunity to transfer/relocate disabled car parking. To Station Road [East] or Park and ride instead?
- 8** Opportunity/Indicative multi-use community square. Opportunity for a new vehicular free traffic model
- 9** Opportunity to improve and enhance existing active frontages
- 10** Opportunity to improve the sustainability and aesthetic of the tramway. At the same supporting and enhance the lack of green spaces/corridors
- 11** Opportunity to improve and enhance pedestrian / cycle way network natural navigation / wayfinding
- 12** Opportunity to relocate taxi rank, pick-up & drop-off and Bus Stops to North Sattion Road
- 13** Opportunity to divert 471 Bus route towards Miall Street.
- 14** Opportunity to improve and increase East/West connectivities and pedestrian safety
- 15** Maintain and enhance views towards Museum Hose Tower and St John the Bastille Church
- 16** Rochdale non-designated heritage assets
- *** Opportunity to improve station sense of arrival and gateway experience

SWOT Analysis



SWOT Analysis

Strengths

1. Footfall from station provides activation
2. Listed buildings and conservation area provides high quality setting
3. Church/Fire station tower as landmarks
4. Community facility neighbours– Health centre / School / Church
5. Established interchange (Bus/METRO/Train) facility
6. Council landownership of some adjacent future development plots
7. Existing engagement with Historic England/Officers/MSA
8. Longer views to surrounding countryside
9. Local community offer: Food/Theatre
10. View from station
11. Increased footfall on local rail service

Opportunities

1. Create more space and comfort for pedestrians and cyclists
2. Enable places to stop - face to face interactions for local community
3. Create a gateway to the town
4. Provide an appropriate setting for the heritage assets
5. New museum attracts broader demographic from across GM
6. Encourage active travel through a 'streets for all' approach
7. Create a flexible space for events and activity
8. Masterplan proposals: new residents / community growth / local spend /employment
9. Square as a platform for events and activity to enliven the space
10. Co-design with local communities/stakeholders
11. Incorporate community food/theatre offer into place
12. High quality public realm will increase land values and development viability of plots around the square

Weaknesses

1. Extremely poor arrival experience - street clutter a particular issue
2. Disjointed and low quality public realm - lack of coherent character in streetscape
3. Segregated modes create complex/severed urban realm
4. Vehicles dominate the space – issues of safety and air quality a place to pass through
5. Navigation and wayfinding is poor
6. Very low levels of green spaces and green infrastructure
7. Low bridges limit options to relocate buses

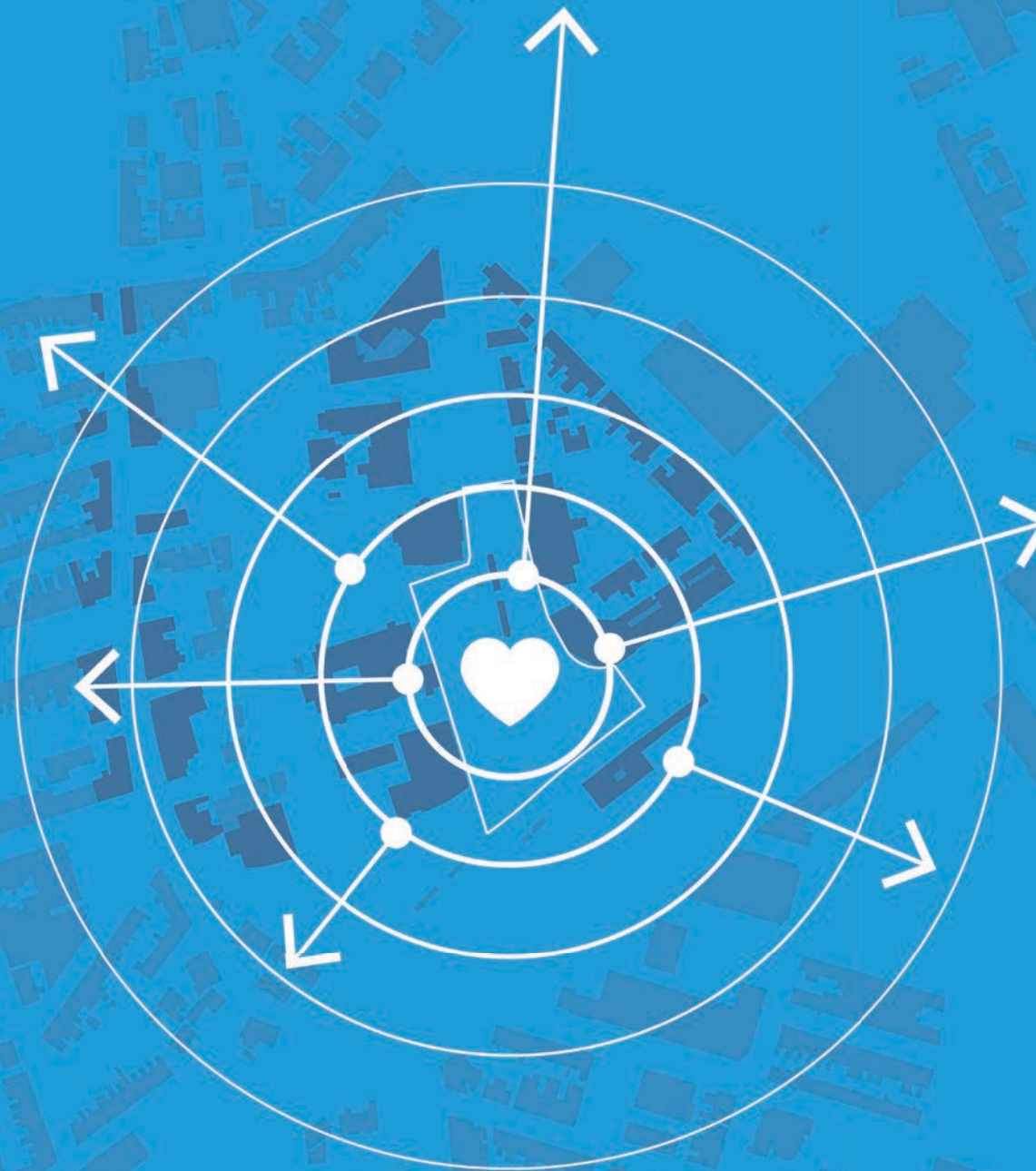
Threats

1. Funding for delivery of change
2. Non 'buy in' from community – engagement is key
3. Complexity of relocation of bus routes/stops / taxi ranking / pickup
4. Incorporation of CTU requirements
5. Restrictive working around Metrolink

Vision

Vision

Create a distinct, attractive and appealing community environment that provides a modern identity, exceptional gateway experience and setting for adjacent heritage assets. Beyond a high quality public realm, utilise the square as a catalyst for growth within the Station / Milkstone neighbourhoods.

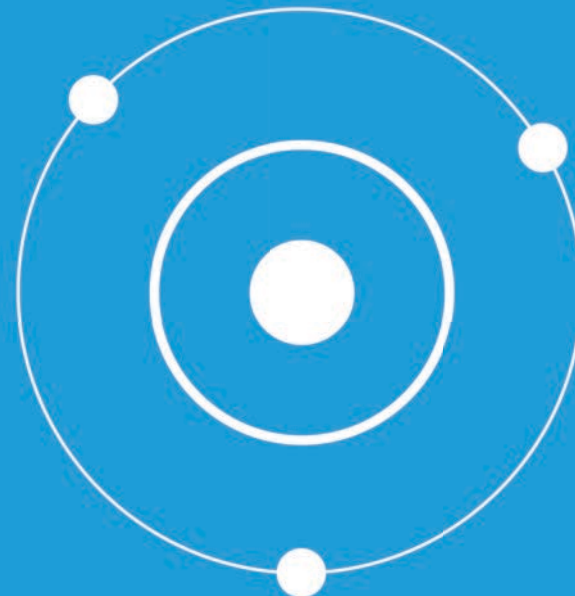


Vision . Project Aims



Movement

Establish a clear hierarchy of movement & access to support a 'Streets for All' approach



Place

Ensure a 'Place led' and contextual approach



Climate

Promote sustainability across all aspects of the design

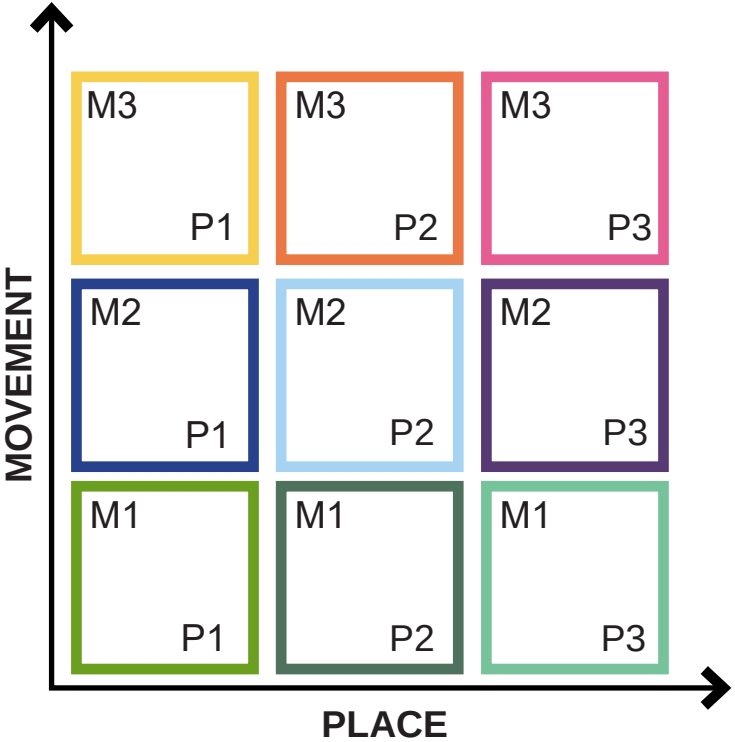
Vision . Project Drivers

1. Provide seamless physical links to the town centre and adjacent communities (existing/ new residents). Stimulate pride through ownership referencing local narratives
2. Create a people first space - Reduce movement conflicts. Consolidate parking/pick up and drop off facilities. Promote active travel
3. Create a space with a strong sense of purpose - a canvas for activity, vibrancy and community, accommodating places for events and to dwell
4. Promote station square area as a Gateway experience for the town and region
5. Ensure an adaptable and 'loose fit' approach to accommodate programming change/use flexibility
6. Enable connectivity. Create a place that facilitates natural navigation through design.
7. Celebrate and provide attractive and vibrant setting for existing heritage assets
8. Provide a green infrastructure hub that can connect into a network of public green spaces
9. Mitigate climate emergency through design
10. Recognise requirements for health and wellbeing

Vision . Movement and Places Aspirational



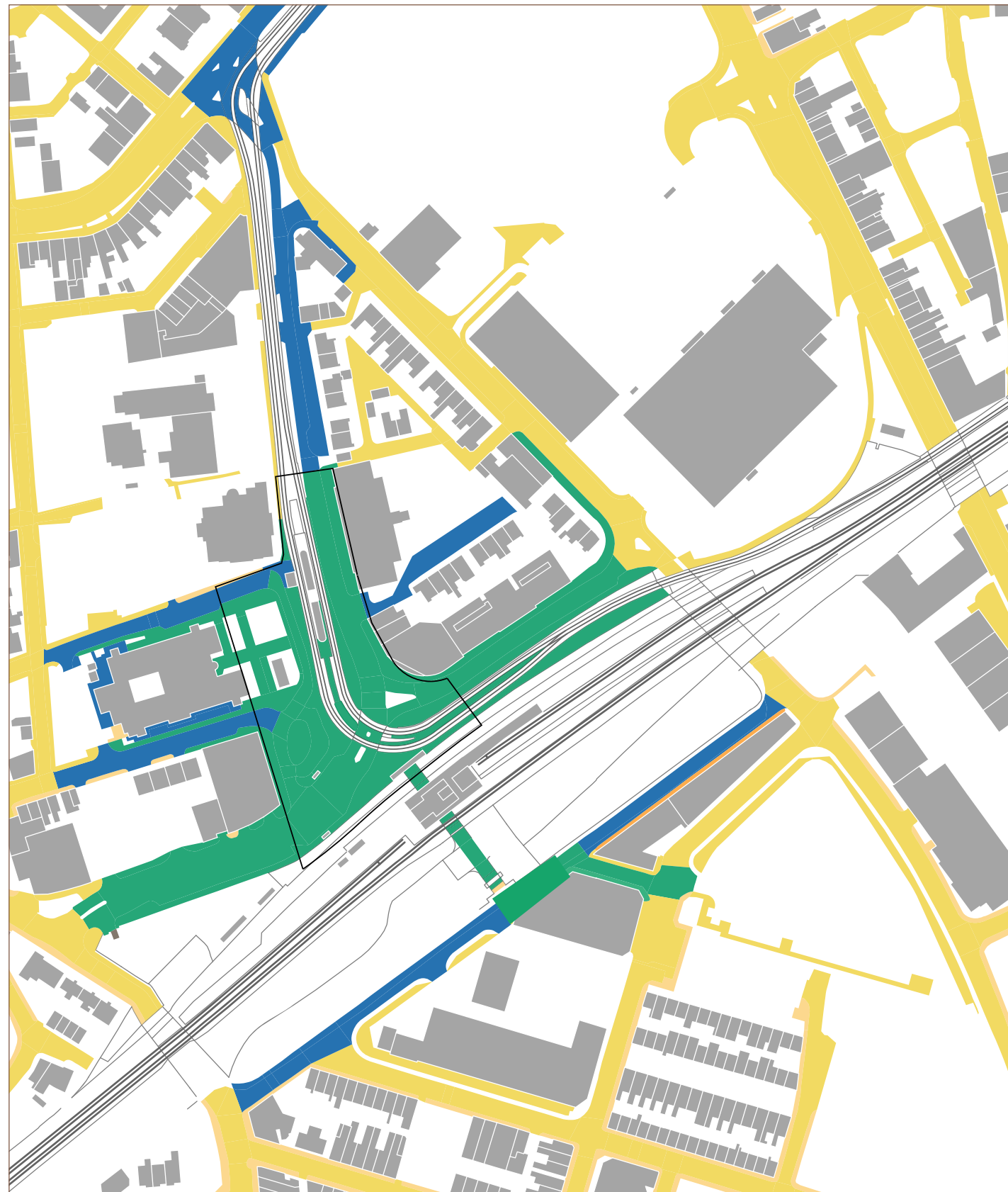
Movement and Place Today



Place / Movement Criteria

Place Function	Movement Function
P3: Attracts National, Regional, non-adjacent District to District Visitors	M3: Connects local destinations to ensure people and goods can move freely and/or high levels of slower mode movements
P2: Attracts visitors from within the settlements and from Adjacent settlements (City, Town)	M2: Local access by people walking, cycling, using public transport & deliveries
P1: Predominantly local function/negligible attraction	M1: Local access only by people walking, cycling & deliveries

Vision . Public Realm Comfort & Safety Aspirational



Key:

- Community Square
- Urban Fabric



Public Realm Comfort & Safety Today

General feeling is of an unsafe / unpleasant / uncomfortable environment

Emotive heat mapping records users perceptions of a street/ place against an established criteria of emotional responses:

- Feels Unsafe / Unpleasant / Physically Difficult to cross
- Can be uncomfortable / feels safe away from conflict points
- Feels safe & comfortable
- Pleasurable / Attractive Environment
- High quality / Destination - Space is a draw in itself

Derisking Activity

Derisking Activity . Summary

02 De-risking Utilities Constraints



North end of Rochdale Station tram stop

- ENW 6-6.6kV Cables
- ENW LV Cables
- UU Water Main
- Cadent Low Pressure Gas Main
- UU Surface water Sewer 300mm
- Abandoned UU sewer

The Western section of this hot-spot is directly underneath tram tracks.

The Eastern side of this hotspot is within the footpath fronting on to the old fire station building - issues with working near residential properties and on pedestrian routes.

Appropriate traffic management for Maclure Road will apply.

Immediately north of Rochdale Railway Station

- ENW LV Cables
- Cadent Low Pressure Mains
- Openreach
- UU Combined sewers: 300mm, 450mm & 525mm
- UU water main

Consider metrolink working safely guidelines for any works within tram track area.

Appropriate traffic management for junction between Maclure Road and Station Road will be required in the event of any works being carried out.

Proximity to the northern entrance to Rochdale Railway station (access to Rochdale town centre 0.5 miles to the north). High foot traffic will have to be considered prior to any works.

Hot Spots Identified - note to avoid intrusive works in key areas i.e. tree planting/water features/public realm structures/ foundation

RISK

02 De-risking Stakeholder Consultation

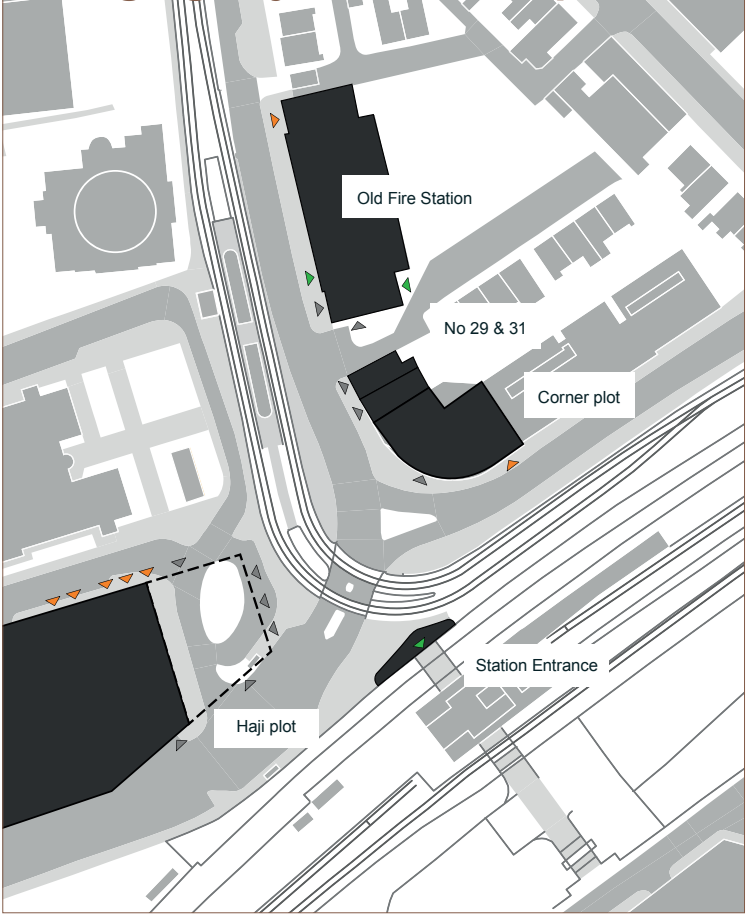
- ✓ Lead Members
- ✓ Rochdale Officers
- ✓ Historic England
- ✓ TfGM
- Local Community Leaders
- ✓ Metrolink
- ✓ Network Rail
- ✓ Utility companies / Statutory Undertakers
- NHS - Nye Bevan House
- Tenant and property owners
- Key Landowners

02 De-risking Stakeholder Responses

- Space for a piece of public art.
- Potential for fountain/water feature
- Higher quality environment/finishes
- Use railway viaduct for interactive artworks.
- Demonstrate the benefits for the local community
- Maintain vehicular access for residents in Fire Station Yard or create alternative
- Space for rail replacement buses
- Maintain vehicular access for resident car parking at top of Maclure Road or create alternative
- Space for Fire Station spill out and exhibitions
- Good positive feedback
- Important to commence dialogue with community in next stage of works to establish local needs and potential public realm features/activities/etc.
- Continuous engagement with key stakeholders

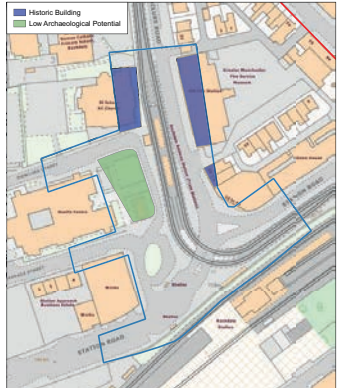
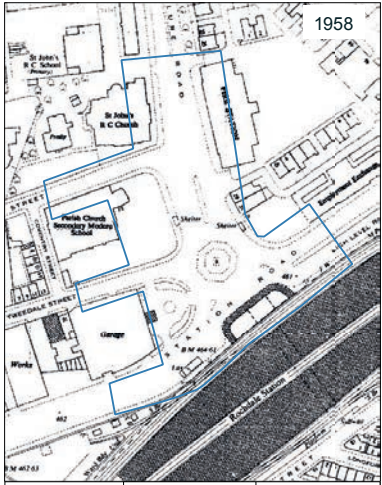
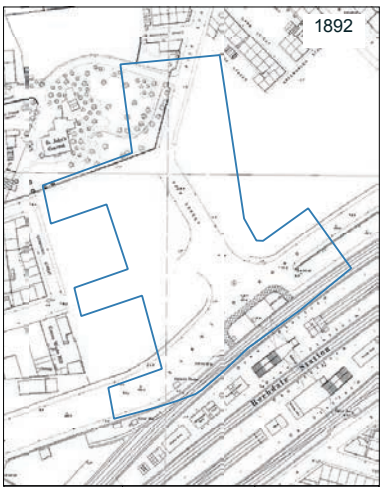
RISK

02 De-risking Emerging adjacent developments



- Ongoing two way dialogue with development plot designers essential to ensure opportunities are maximised for all parties
- Positive enclosure of the square to the West and East
- Framing views of the Fire Station and St John the Baptist Church
- Potential change of building footprints
- Increase of residential uses - footfall
- Square to be overlooked by new residents
- Active frontages to the square provide activation
- New access/parking/loading layouts may be required
- New station arrival / departure experience

RISK



- No significant show stoppers in study area
- Be aware of some sensitive buried elements and historic buildings within the study area
- Review report outputs to weave historical narrative into the story of the square

RISK

Framework . Overlay - Heritage Assets Setting and Key Views



Key:

 Key Views

 Historic Landmarks

 Heritage Assets

 Urban Fabric

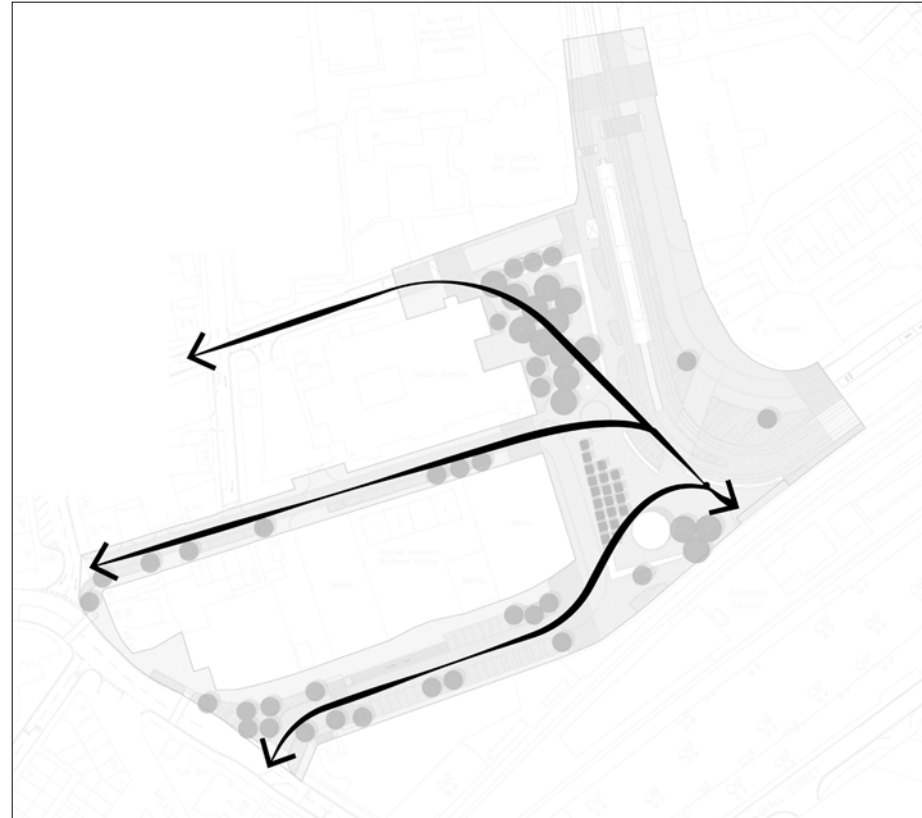
NOTE: Stage 1 Framework Plan with Heritage recommendations

Attributes of heritage assets and their physical surroundings considered:

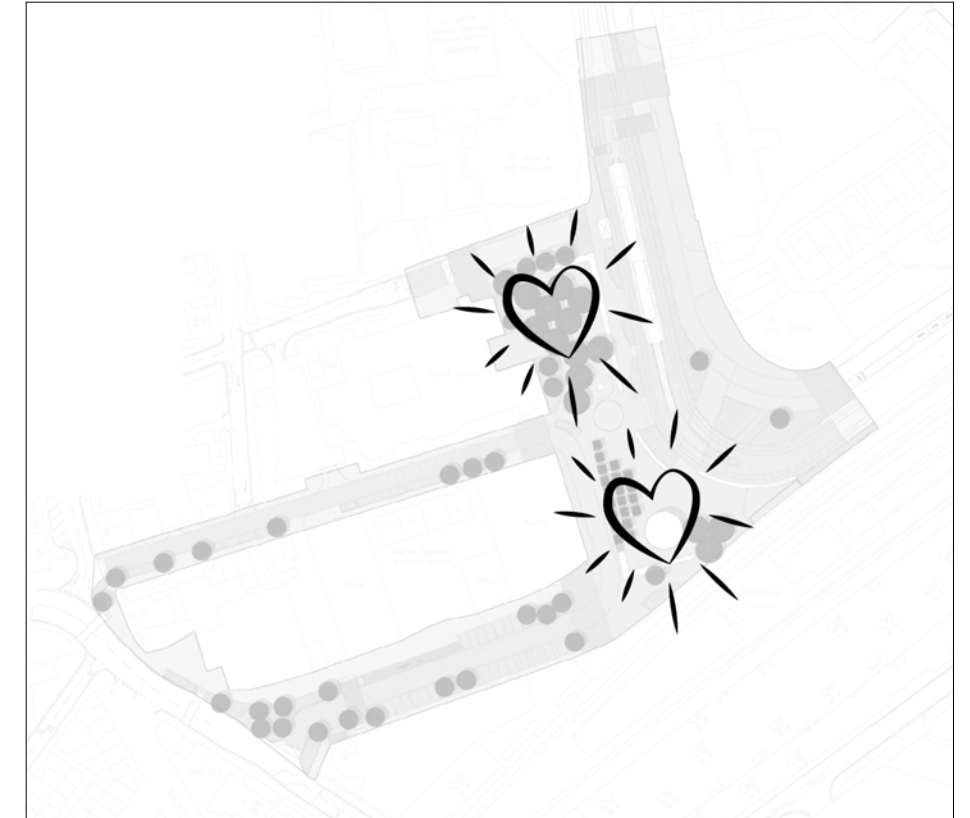
- Location and siting of asset e.g. position in relation to key views, facade orientation, elevation of asset feature e.g. hose tower and dome
- Form and appearance of Station Square proposals
- Wider effects of Station Gateway Masterplan
- Permanence of Station Square proposals

Enhancement of heritage assets and their setting to be achieved by:

- Assembly of heritage assets along the northern and eastern enclosure of the square contribute to positive pedestrian experience, especially while connecting to Rochdale town centre via Maclure Road. Proposed public realm components and historic facades act as landmarks to guide pedestrians.
- De-cluttering and revealing the facades/features of heritage assets as a sequence of framed views on a journey through the square an integral part of the Framework design.
- Removal of vehicular traffic allows better/ considered appreciation of heritage assets by residents and visitors.
- Opportunity to enhance curtilage with sympathetic and quality surfacing materials.
- Enabling new experience of heritage assets by activating frontages e.g. business/museum spillout and the placing of public realm components e.g. seating.



Reconnect & establish physical and psychological links with shops and business in the wider Milkstone community



The multi-use Plazas as the new heart for community business and recreation

Design Objectives

Station Square will provide a series of key design objectives.

These are described in this section add:

Reconnect establish a physical and psychological link with shops and business in the wider Milkstone community;

The multi-use Squares as the new heart for the community business and recreation;

Sense of arrival and welcome gateways to new Square;

Visual focal points design;

Celebrate and new sense of arrival on Rochdale Station;

Drop off and Pick up spaces around the Station;

Features inform movement and define spaces;

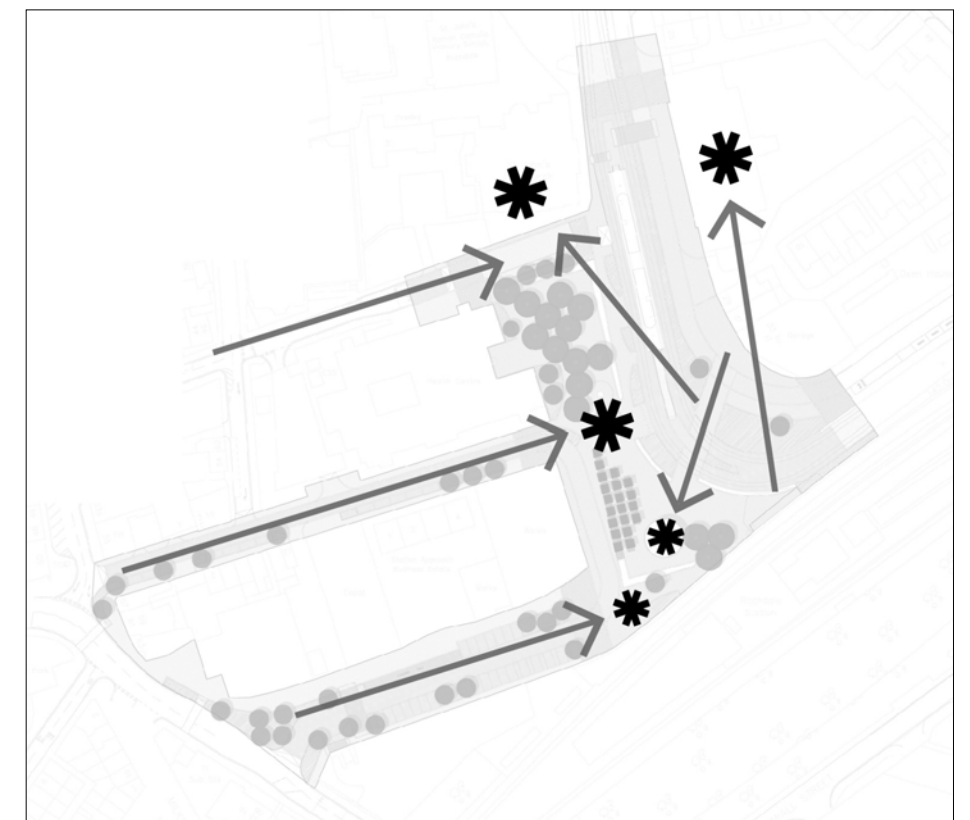
Walking friendly street design;

Improve and increase North&South and East&West connectivity and pedestrian priority and

Involving public space and squares with formal and informal nature. Tree planting to achieve, open and enclosure spaces , human scale and improve GI and sustainability.

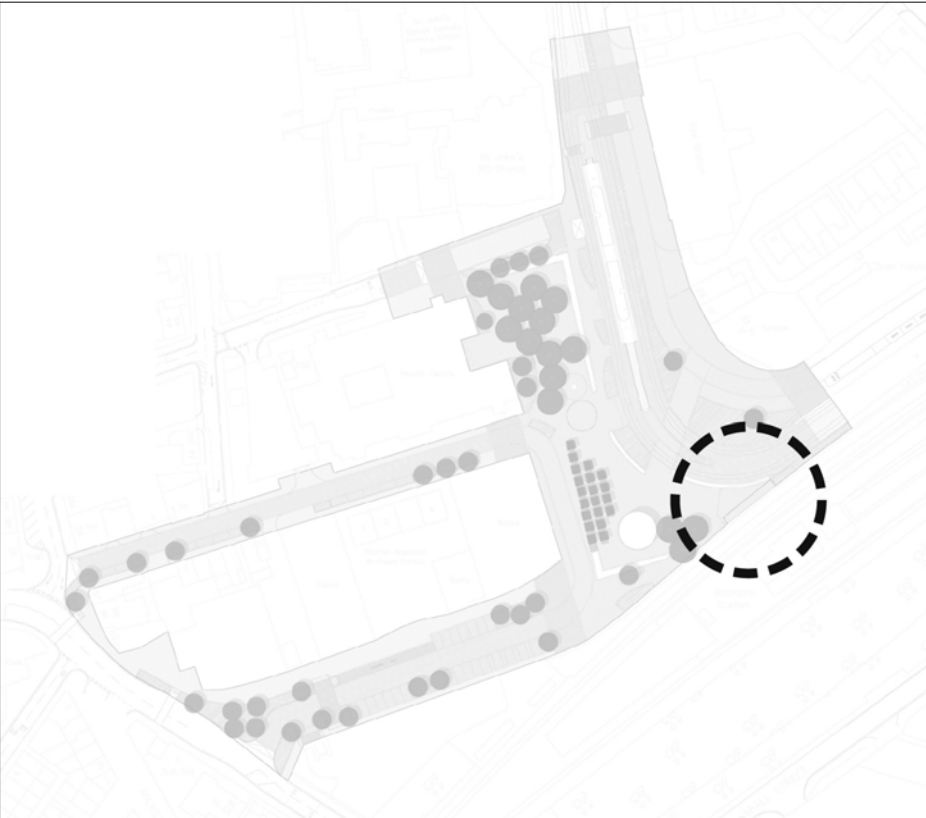


Sense of arrival and welcome gateways to new Square

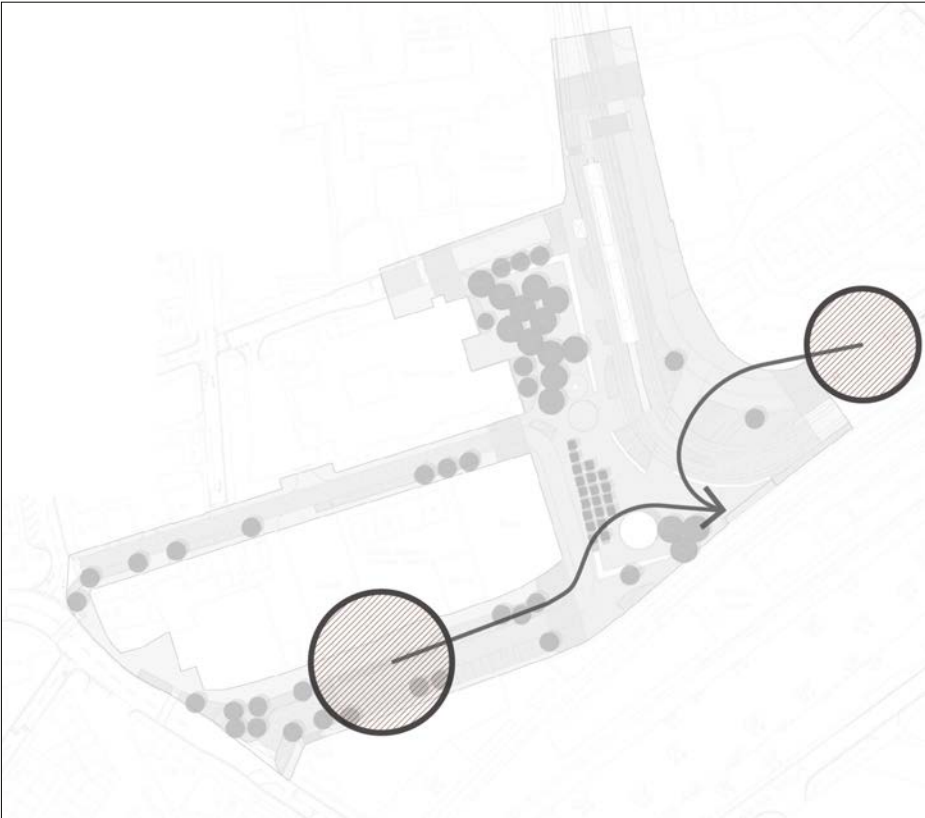


Visual focal points design

Design Objectives



Celebrate a new sense of arrival at Rochdale Station;



Drop off and Pick up spaces around the Station



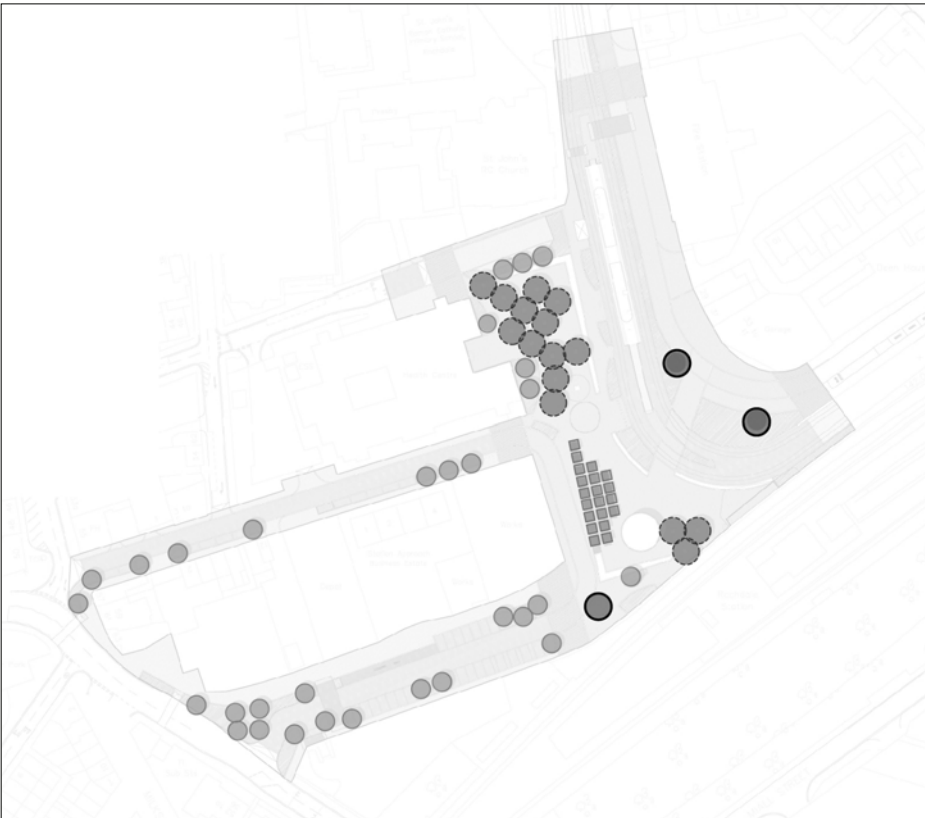
Features inform movement and define spaces



Walking friendly street design



Improve and increase North&South and East&West connectivity and pedestrian priority



Involving public space and squares with formal and informal nature. Tree planting to achieve, open and enclosure spaces , human scale and improve GI and sustainability

Design Statement

Station Square will provide an important and much needed space for local communities and is an exciting opportunity to develop a new civic space to the north of the railway station that can create an enhanced gateway experience to the town, act as a catalyst for investment in the station area, and support the wider regeneration strategy of the town and borough.

The scheme is made up of 2 distinctive character typologies:

- Streets and;
- Square

Streets

These will be pedestrian prioritised routes with and traffic calmed through design. Low kerbs, narrowed carriageways, widened footways and clear movement routes are proposed. High quality block materials, tree planting and integrated Sustainable

Urban Drainage (SUDs) in the form of rain gardens will create decluttered green corridors connecting the Milkstone community to the space. Vehicle parking, loading, access and circulation is incorporated into the design. Taxi ranking is relocated to Station Road (east) as is the bus stop. Thresholds between the streets/Square create a transition point to mark the changing character and emphasise arrival within the square.

Square

The space hosts both activity and movement.

Movements are simplified, reducing conflict points and prioritising pedestrians. Navigation is clear with natural wayfinding driving layout and design. A controlled access and bus route is incorporated within the square along Maclure Rd. Materials are small scale block units and coloured/ textured poured materials that provide a pedestrian character to the square.

Tree Planting/Greening helps to separate modes, adds SUDs and provides sustainability/environmental/biodiversity value.

A plaza is divided in to parts supporting both passive and formal activity. Bespoke furniture clearly defines the space, protecting and controlling movement flows. These provide unique, distinctive and strong features within the space. Outside Nye Bevin house a community garden provides space for informal dwell, meeting friends and health exercise. The space provides a positive heritage setting. Next to the station a more open, flexible area provide a stage for events and activation.. Tree planting humanises scale, creates natural sculpture and seasonal interest.

Design Features:

Viaduct

The Viaduct walls provide a canvas for local street art and green wall panels

which connect the platform park to the square physically and visually.

Surface Materials

Paving materials used to replace the current surface treatments, providing a cohesion across the square that promotes a pedestrian-first environment and community focus, whilst integrating the Metrolink and reflecting the local heritage

Tranquil Green Space

Located in the existing landscaped area outside Nye Bevan House, increased community use, providing a positive heritage setting

Proposed Tree Planting

Tree planting to help define the spaces within the Square, assist with the wayfinding and navigation, humanise the scale, integrating and expanding biodiversity and ecology. Existing trees

will be translocated into the new scheme where possible

Activated Edges and Active Space

Ground floor space immediately outside existing and proposed developments, opportunity to activate space and create a sense of ownership by businesses, provide on-going activity in the Square, maximising sunny spots

Street Furniture & Structures

The provision of street furniture that not only facilitates the interaction of communities, but also assists with wayfinding and navigation, further define the spaces for activity and screening where required, be part of the public art strategy

Special Features

Public art is incorporated within a fulcrum feature along the axis of Lower Tweedale St. An urban feature integrated into the

Key	
0	Rochdale Station
1	Station Square Canopy
2	Bike Storage Canopy
3	Existing self seeded woodland
4	Raised Tram Station Platform
5	New Rochdale Station Square
6	Outddor Coffee Zone
7	Proposed SUDS & Mix Ornamental Planting
8	Art Installation & Key Point Landmark
9	Possible Pop up Commercial Space
10	Bespoke Bench Features
11	Spill out zone under green canopy
12	Sitting Steps
13	Proposed Trees

materials (surface treatments / street furniture / signs), special lighting or public art, will assist in creating a special place, that provides distinction and contributes to town gateway experience, respectful of the heritage assets and local community.

Heritage Assets

Setting and Key View Points De-cluttering and revealing the façades/ features of heritage assets, removal of vehicles allows a more considered appreciation of heritage assets, opportunity to enhance curtilage with sympathetic and quality surfacing materials, enabling new experience of heritage assets by activating frontages.

Designing Within Constraints - Utilities

Recognition of the location and type of utilities that are located within the Square in order to minimise the need to undertake diversions.



St John's Roman Catholic Primary School

Roman Catholic of St John the Batiste Church

Greater Manchester Fire Service Museum

Pennine Care NHS Rochdale

The Curtain Theatre

Dowling St

Lower Tweedale St

Station Rd

Measure Rd

Station Rd

0 10 20 50m



6

5

12

8

4

7

11

5

1

9

2

10

0

13

3

3

Masteplan . Section AA



St John the Batiste Church Square

Rochdale Station Square

Masteplan . Section BB



Art Installations Zone

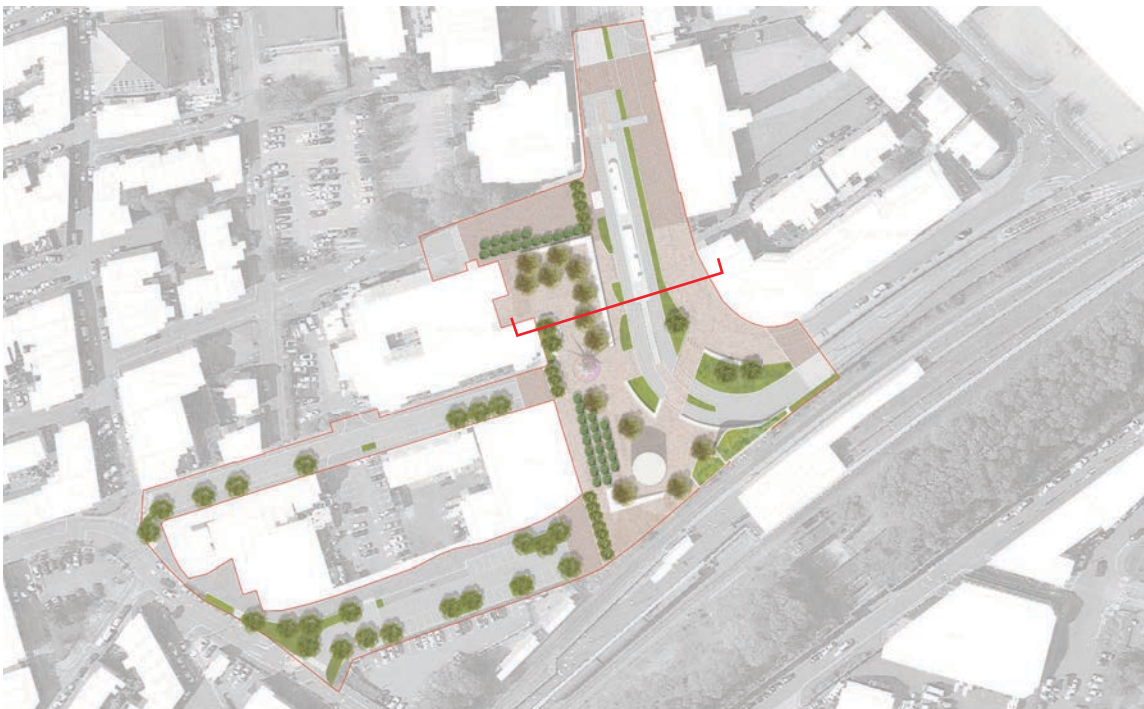
Rochdale Station Square

Pop up Commercial Space

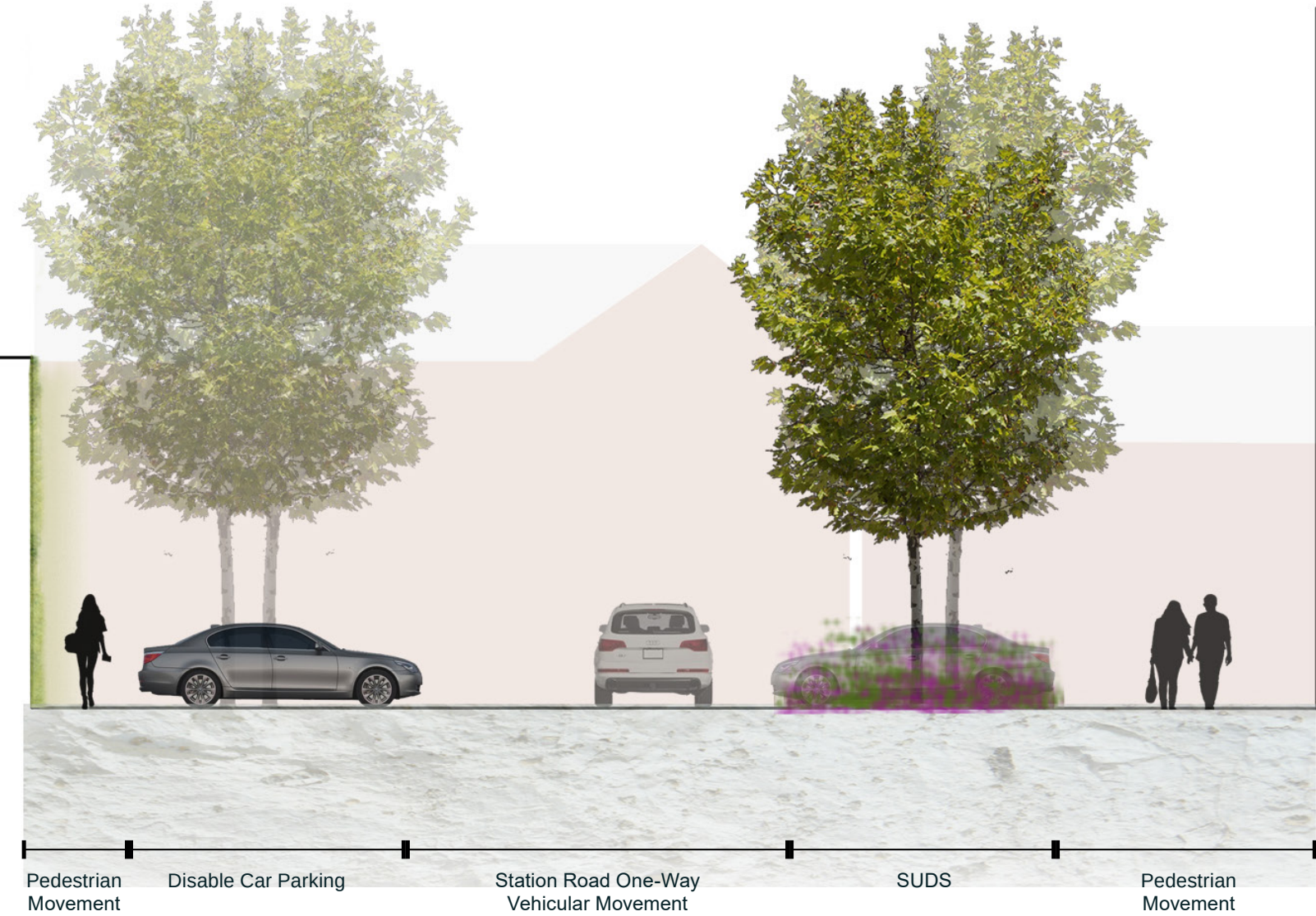
Sitting Zone

The Wall Multi use zone

Masteplan . Section BB



Masteplan . Section CC



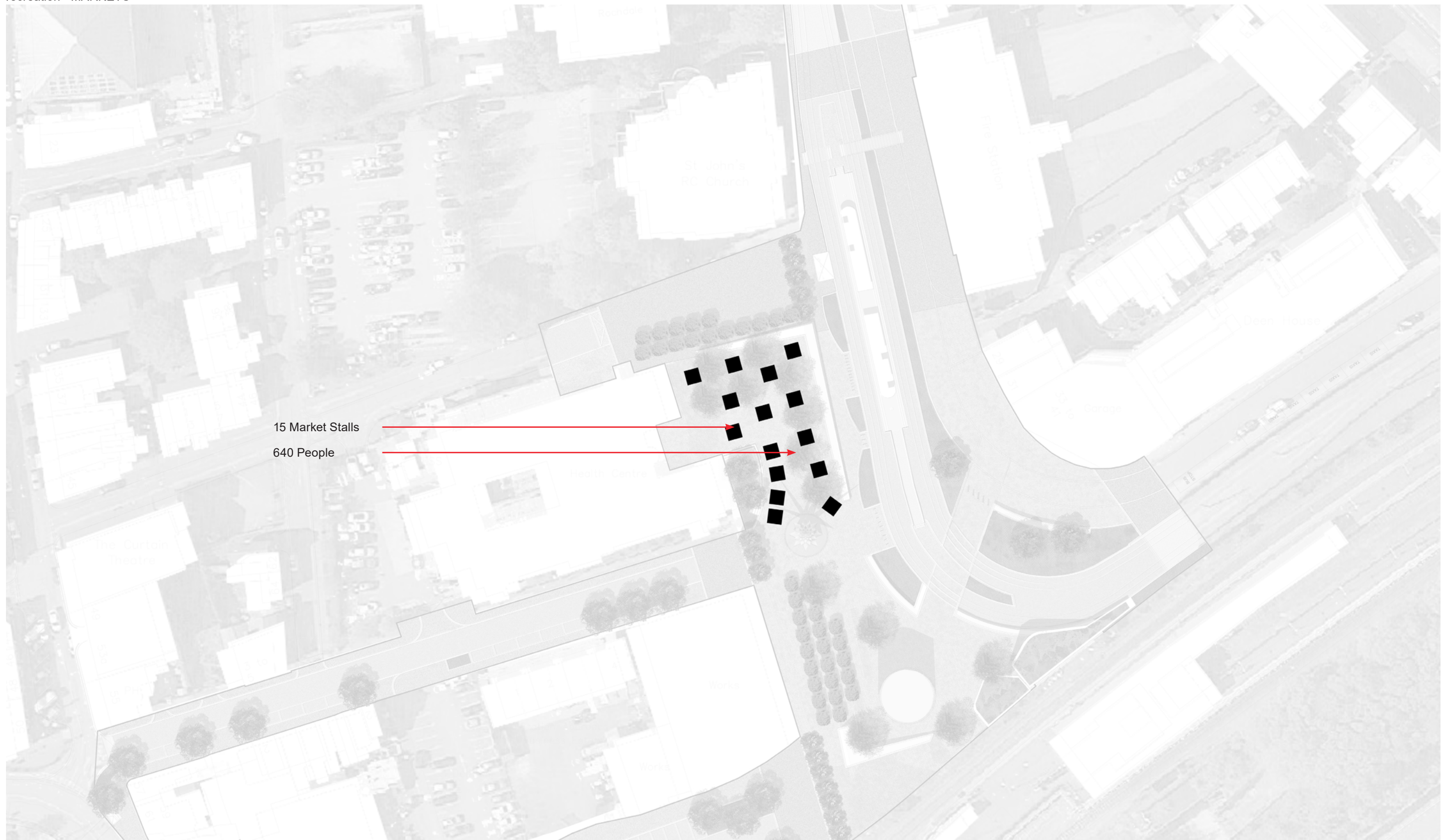
Activity Diagrams

The following diagrams explore the spatial requirements of possible use activities for the square.



Activity Diagrams . Squares

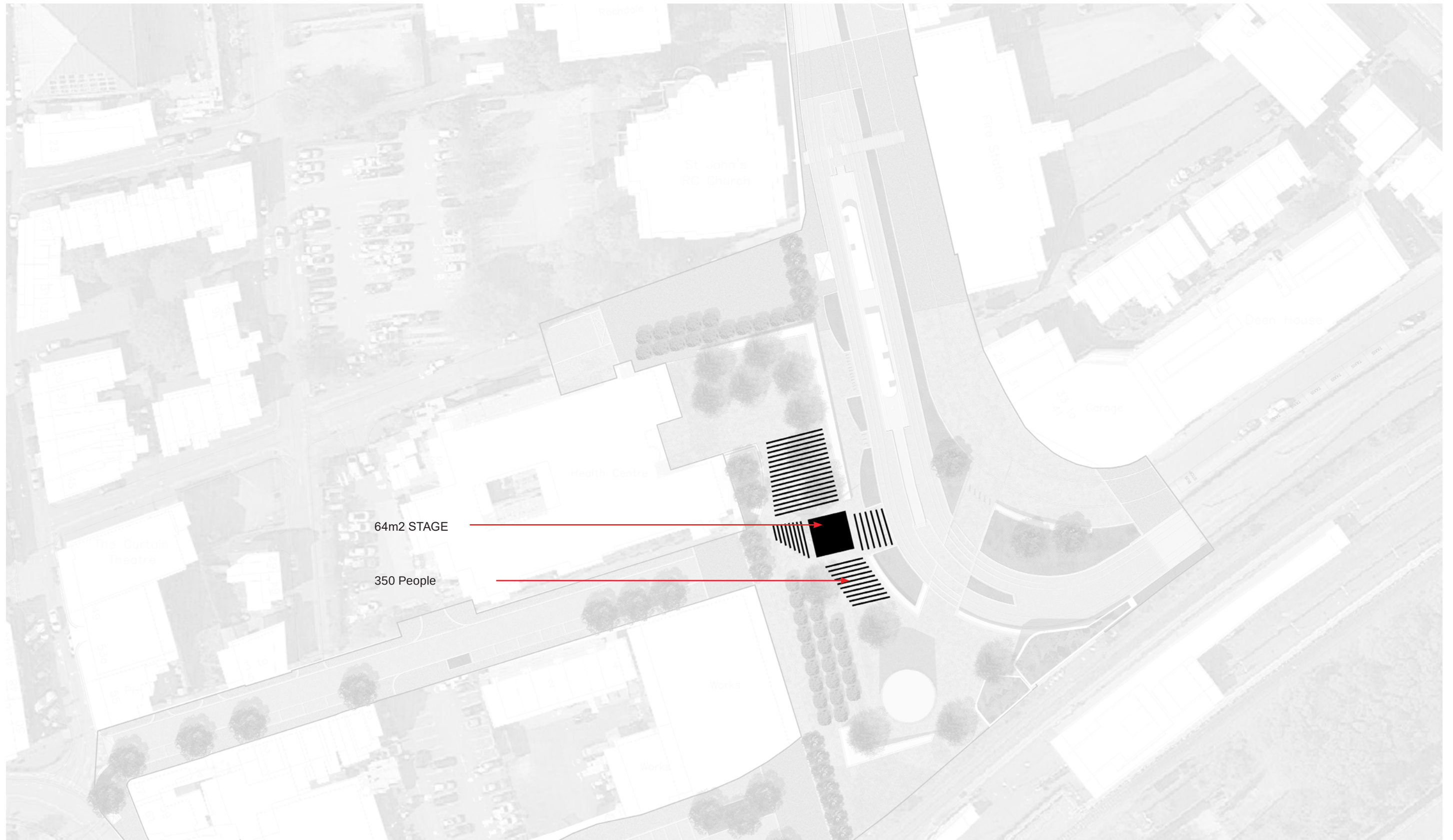
The multi-use Squares as the new
Heart of the community business and
recreation - MARKETS





Activity Diagrams . Squares

The multi-use Squares as the new
Heart of the community business and
recreation - PERFORMANCE STAGE





Activity Diagrams . Squares

The multi-use Squares as the new
Heart of the community business and
recreation - OUTDOOR EXHIBITIONS





Activity Diagrams . Spill Out

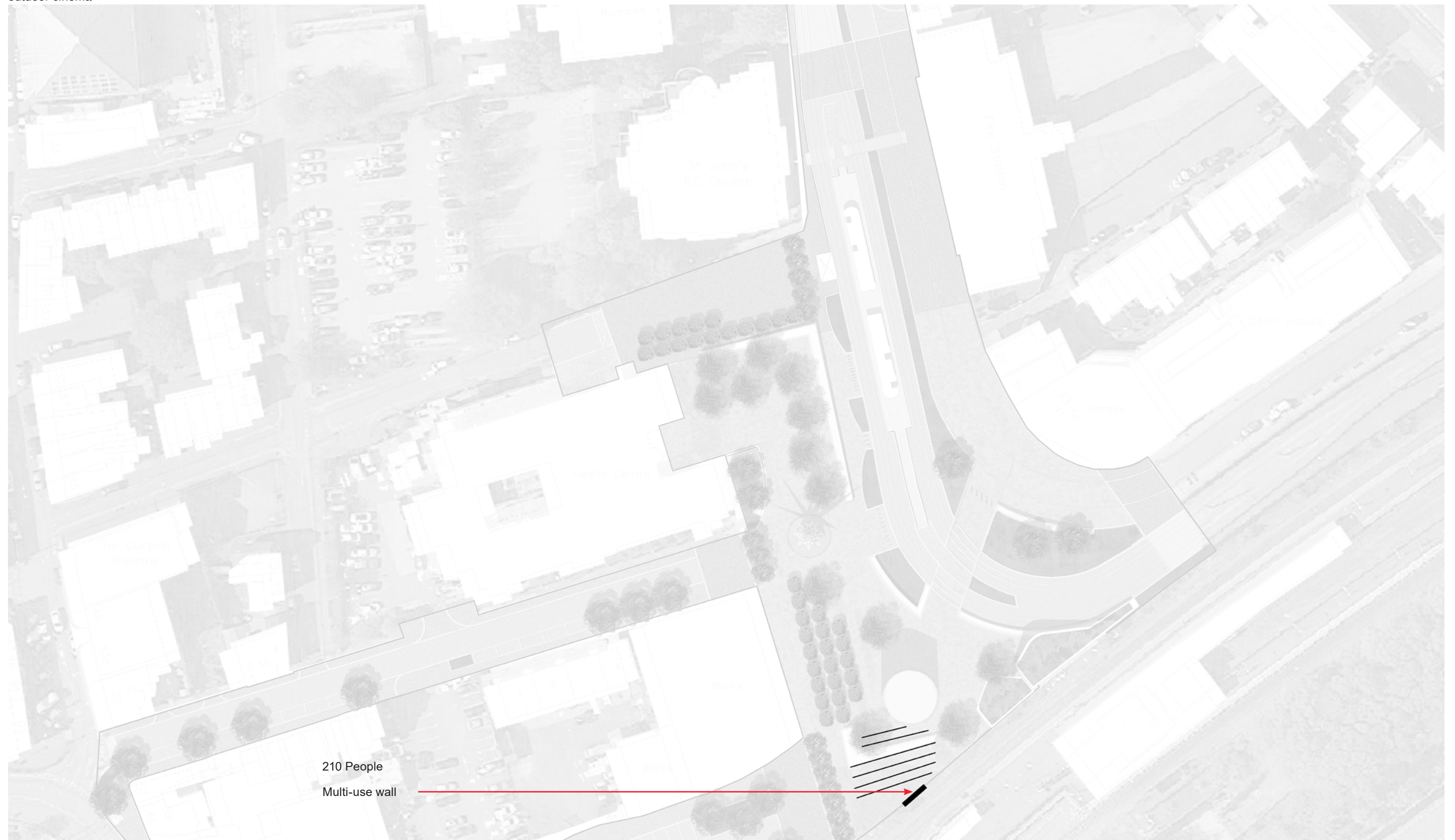
Cafe and restaurant spill out and outdoor museum





Activity Diagrams . The Wall

Multi-use area for temporary art exhibition, seasonal green wall and outdoor cinema





Landscape Design Detailing

The following pages illustrate landscape details for surface materials, street furniture and planting

Landscape Design Principles . Surface Materials

Paving

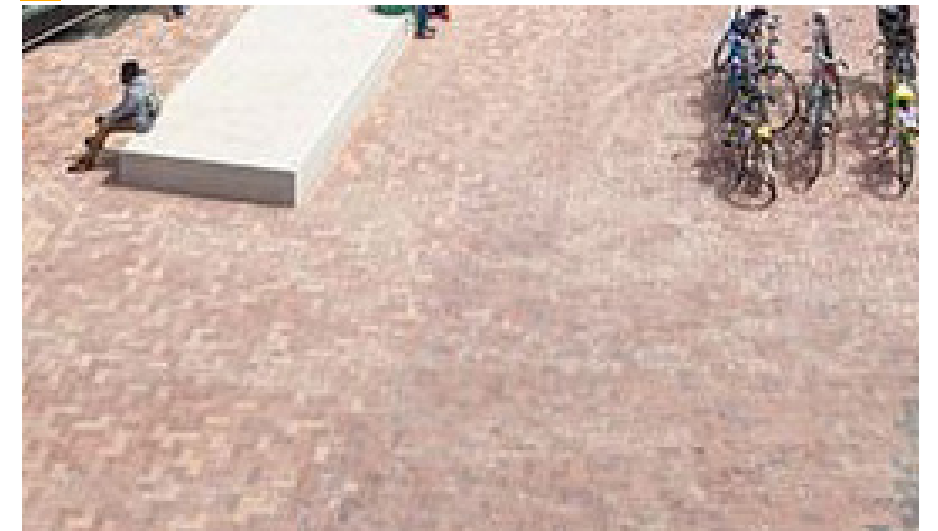
- Man-made hardscape pallet that complements existing colour tones
- Contemporary materials
- Robust and hard wearing



1 Mix slabs 300x200 - Grey dominant



2 Mix setts - 200x200 Red dominant



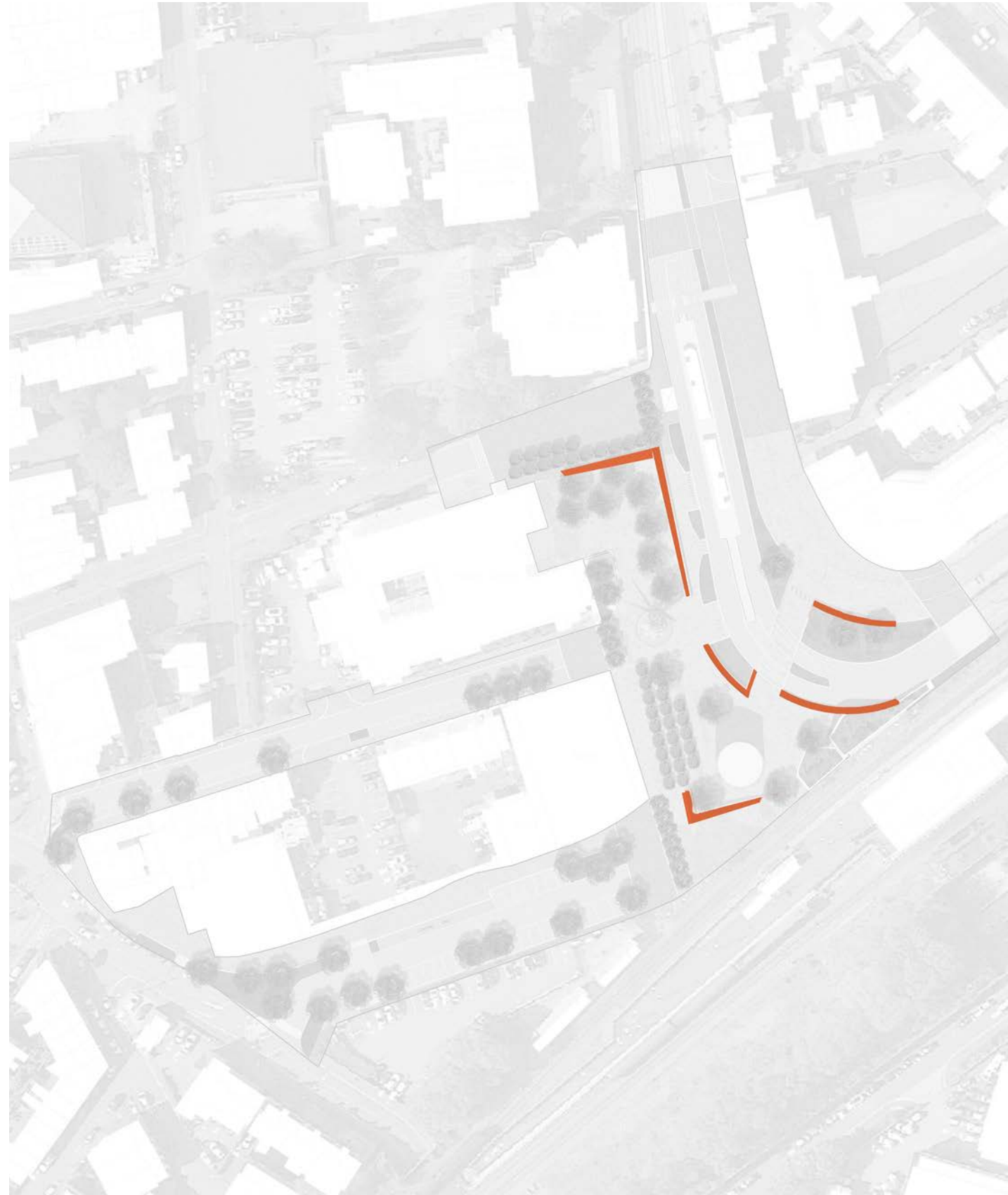
3 Mix setts - 100x100 Brown dominant



Landscape Design Principles . Street Furniture

Seating

- Flexible and robust design
- Provide stopping and resting places within square for all users



1 Bespoke concrete benches

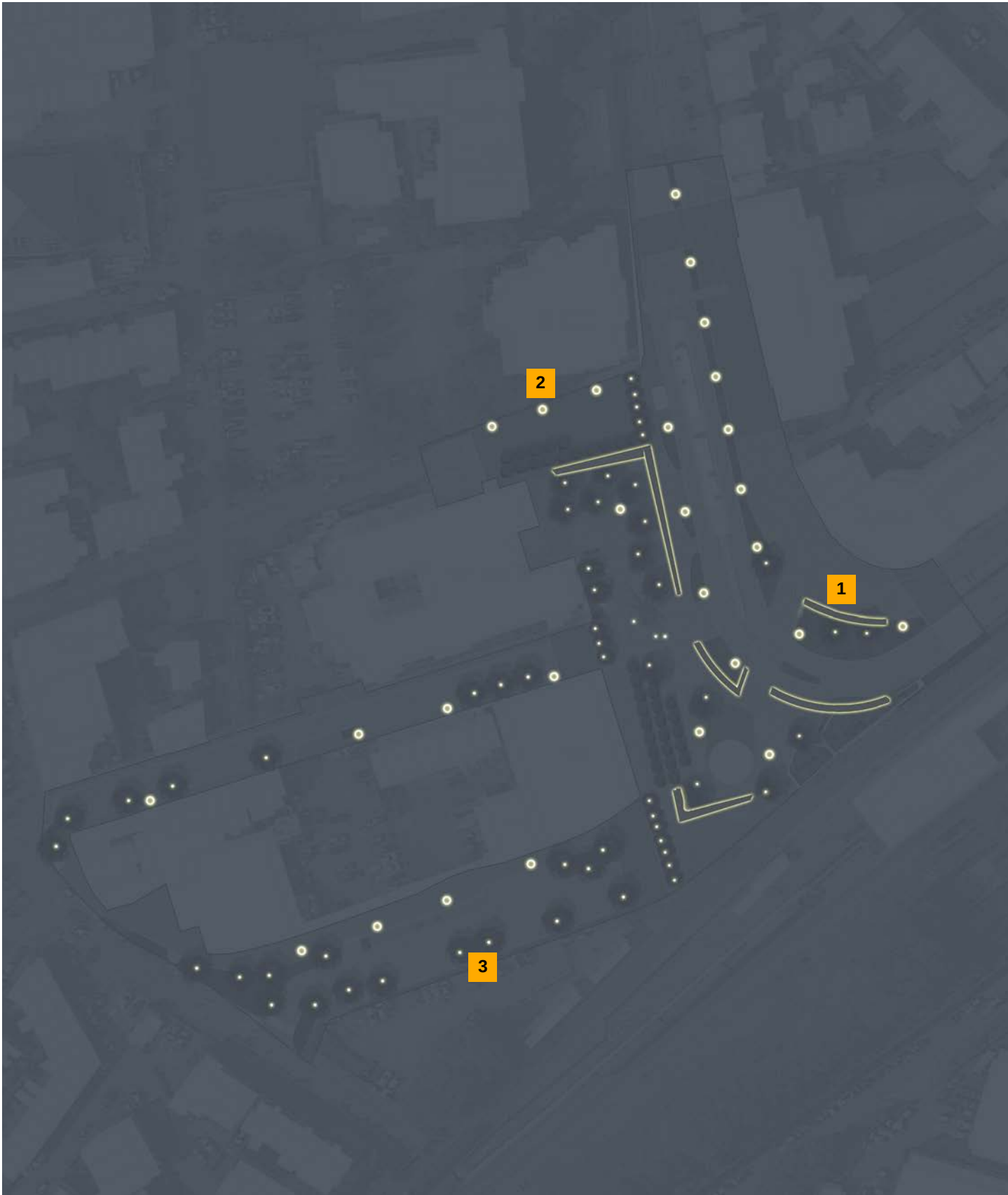


Landscape Design Principles . Street Furniture

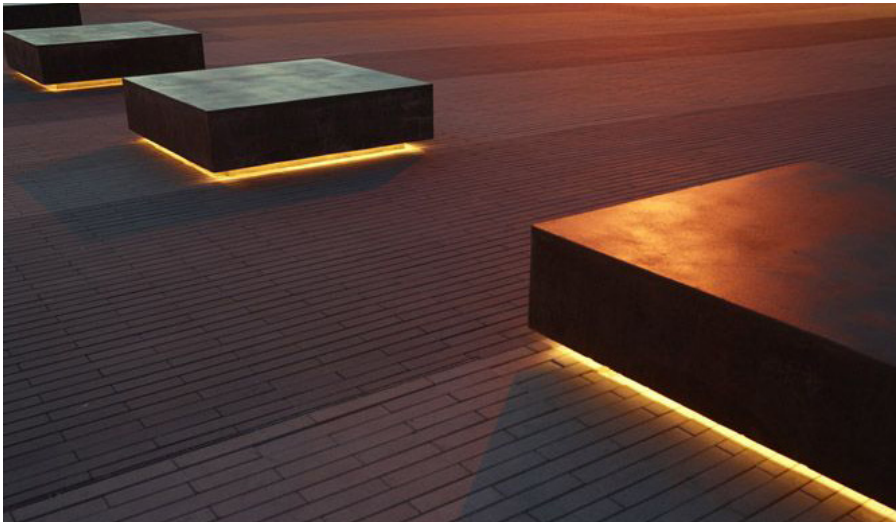
Lighting

Note: Indicative lightning strategy subject to technical appraisal

- Simple and elegant materials



1 Indirect lighting



2 Light poles multi directions



3 Trees and Plinth sculpture up lighting



Landscape Design Principles . Street Furniture

Cycle Parking

- Simple and elegant materials
- Flexible and robust design

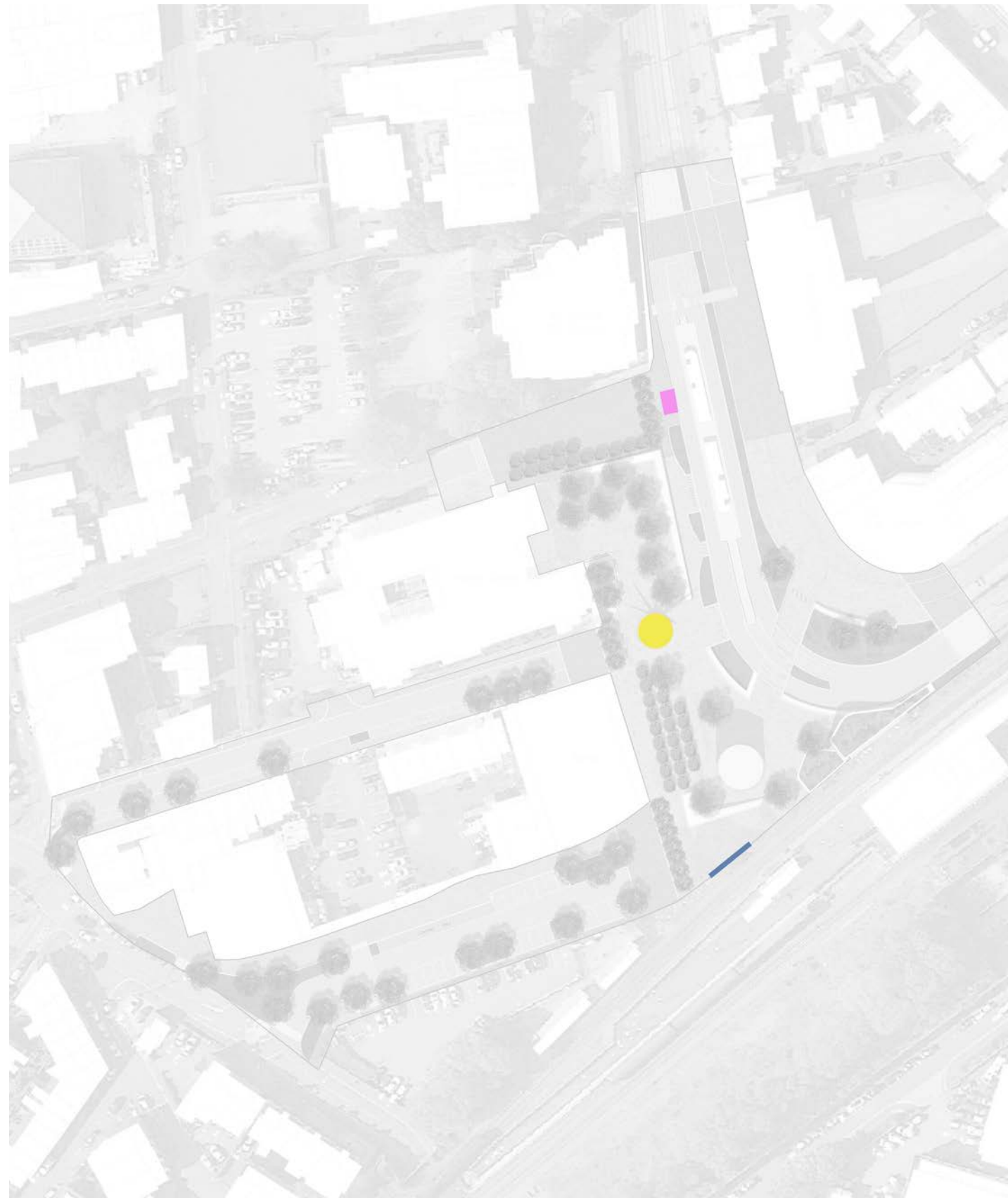
- Bike Racks
- Bike Storage



Landscape Design Principles . Street Furniture

Art

- Plinth with succession of temporary works
- Regenerative Substation art street work
- Wall temporary art exhibition



1 Plinth



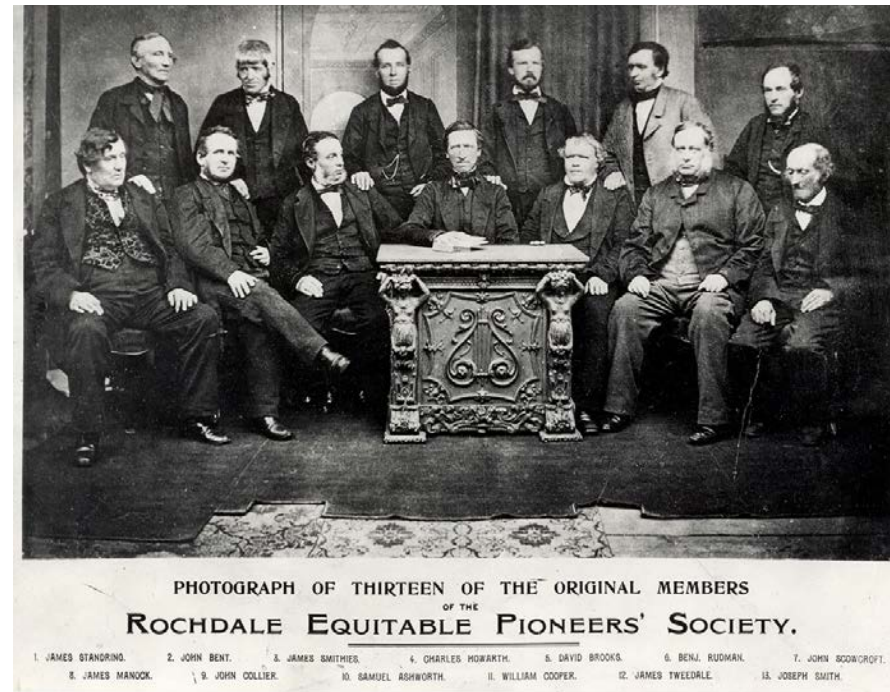
2 Regenerative Substation



3 Wall



Landscape Design Principles . Street Furniture



Identity

The motivations and reward for the cooperative movement are core to successful and sustainable community. These could form the basis of an annual arts programme acting as themes.

This is to be developed internally through council cultural offer.

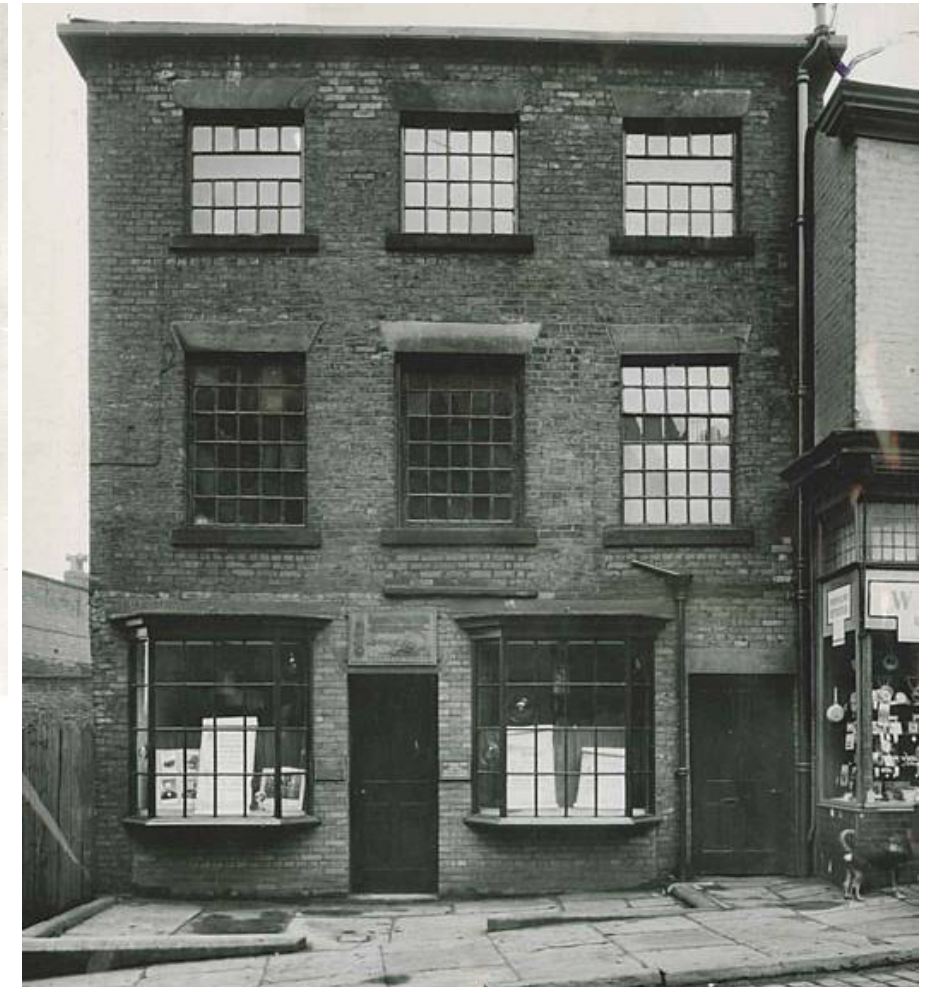
Motivations and rewards

Given the voluntary nature of co-operatives, members need reasons to participate. Each person's motivations will be unique and will vary from one co-operative to another, but they will often be a combination of the following:

- *Financial – Some co-operatives are able to provide members with financial benefits.*
- *Quality of life – Serving the community through a co-operative because doing service makes one's own life better is perhaps the most significant motivation for*

volunteering. Included here would be the benefits people get from being with other people, staying active, and above all having a sense of the value of ourselves in society that may not be as clear in other areas of life.

- *Giving back – Many people have in some way benefited from the work of a co-operative and volunteer to give back.*
- *Altruism – Some volunteer for the benefit of others.*
- *A sense of duty – Some see participation in community as a responsibility that comes with citizenship. In this case, they may not describe themselves as volunteers.*
- *Career experience – Volunteering offers experiences that can add to career prospects.*



Landscape Design Principles . Planting Palette

Trees

Existing trees to be retained and relocated.

Proposed trees:

- Promote biodiversity and pollination
- Ornamental and air quality
- Dense crown for cooling
- 3m+ clear stem



Liquidambar styraciflua



Langestromeica indica



Sorbus torminalis



Ginkgo biloba



Tilia cordata Boxhead



Koelreuteria paniculata

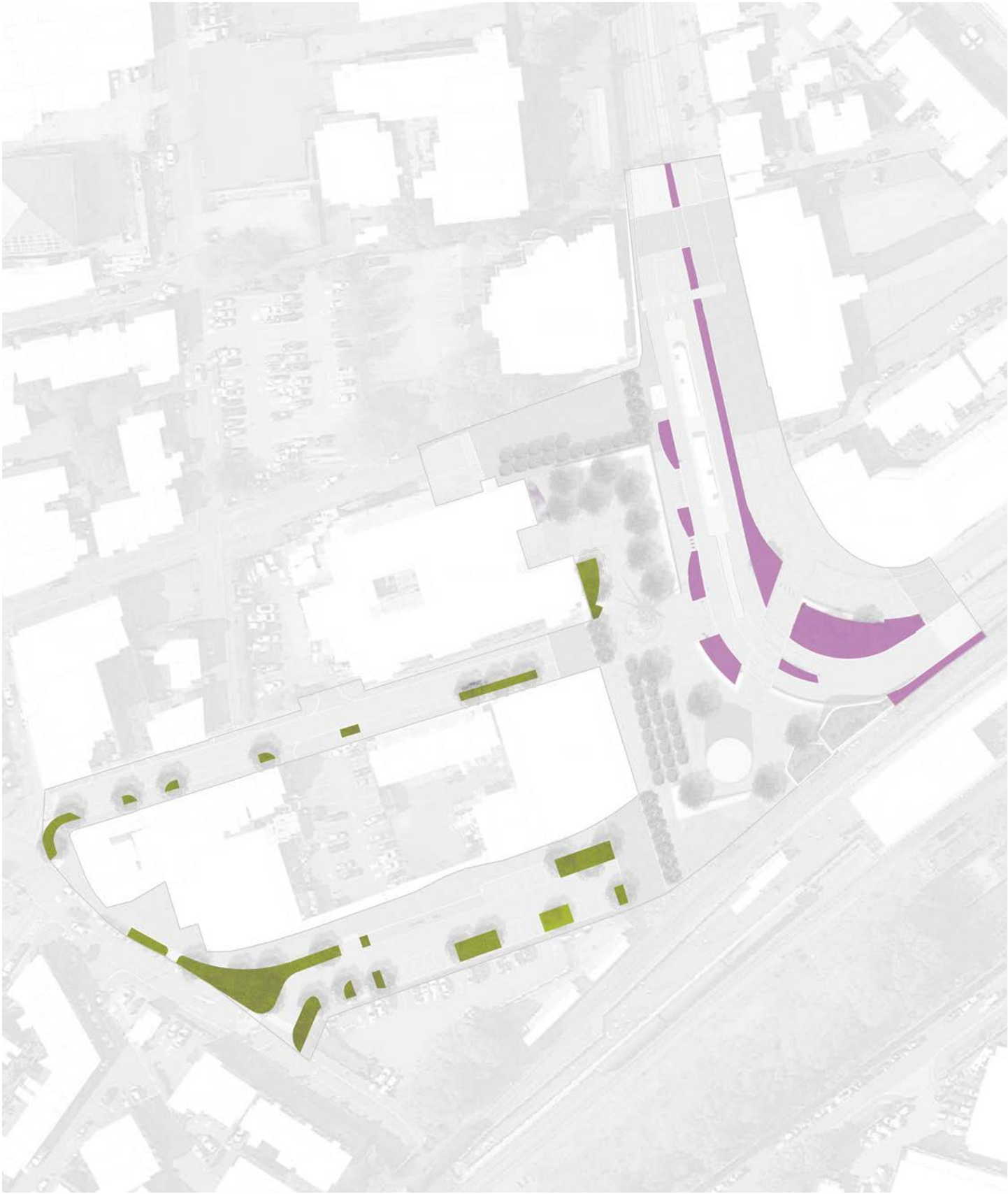


Landscape Design Principles . Planting Palette

Ornamental & Rain Garden Species

- Proposed ornamental and rain garden species:
- Promote biodiversity and pollination
 - Ornamental and air quality
 - Flood mitigation

Ornamental species
Rain garden species



Rosmarinus officinalis



Lavandula angustifolia



Myrtus communis



Viburnum tinus



Allium ursinum



Iris pseudacorus



Stachys palustris



Lycopus europaeus



Myosotis scorpioides



Mentha aquatica



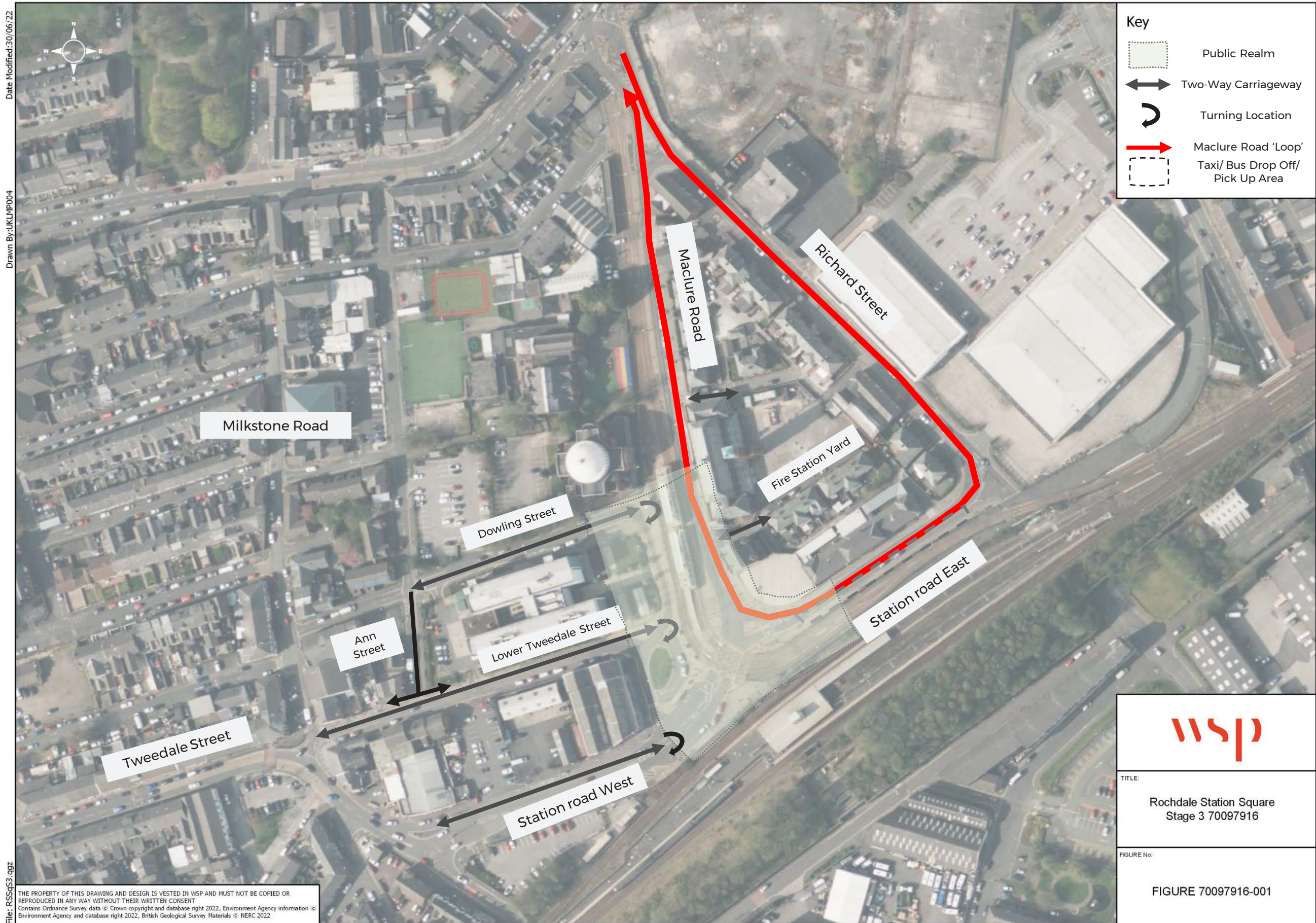
Calamagrostis sp



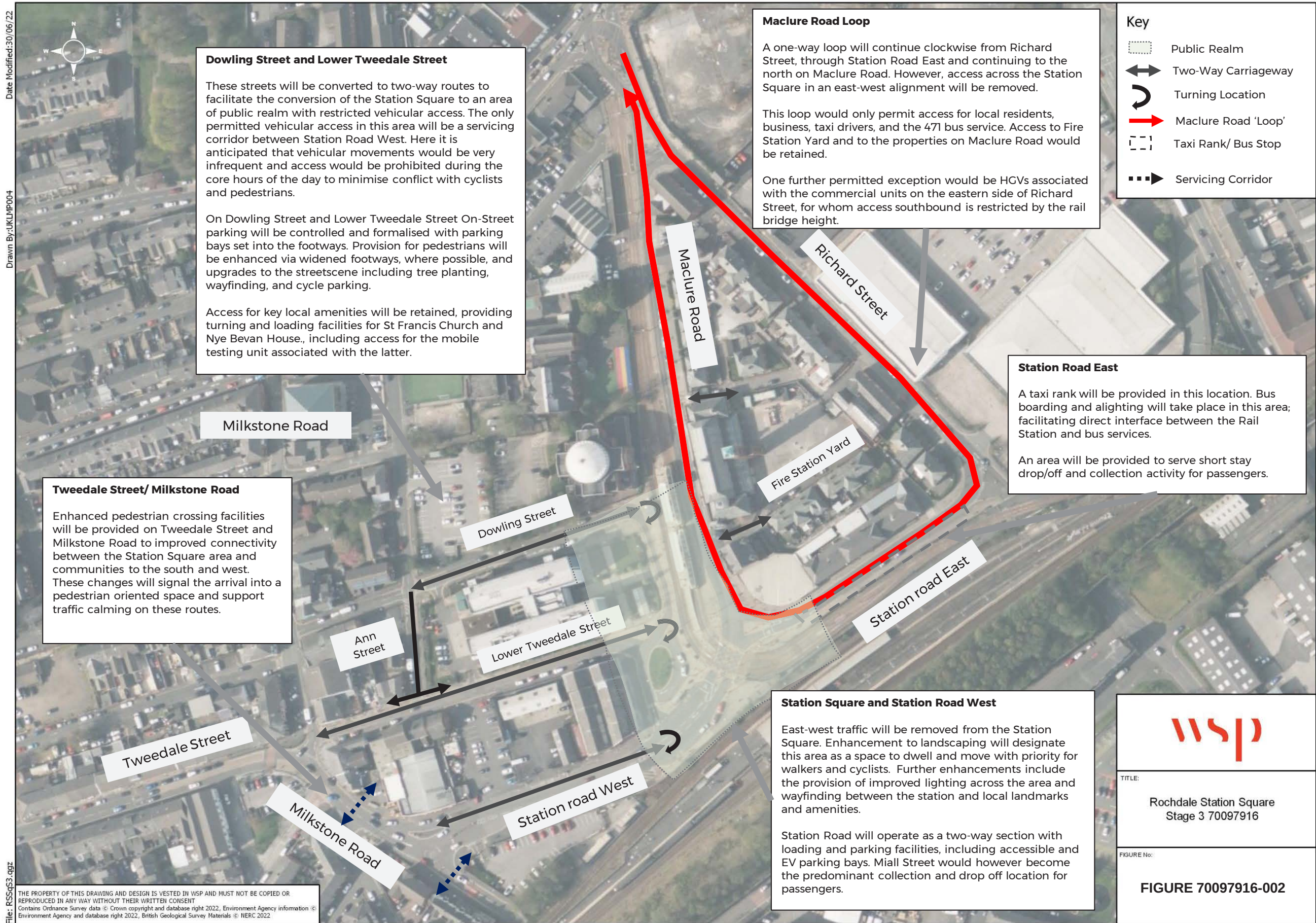
Engineering Design Strategies

The following written strategies/diagrams
illustrate: movement and access
proposals for the square along with early
SUDs options

Engineering Design Strategies . Vehicular Movement



Engineering Design Strategies . Vehicular Movement



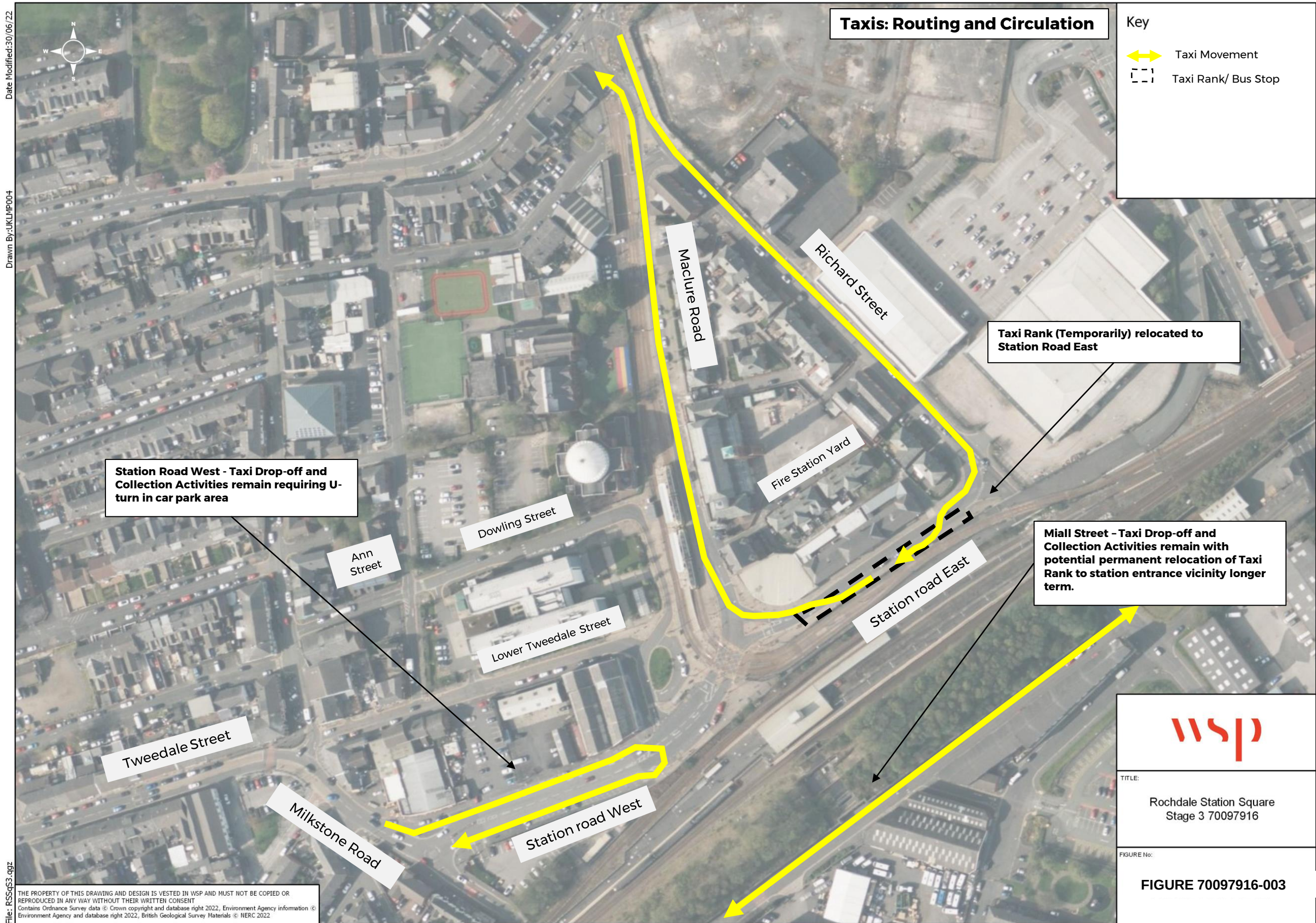
TITLE:

Rochdale Station Square
Stage 3 70097916

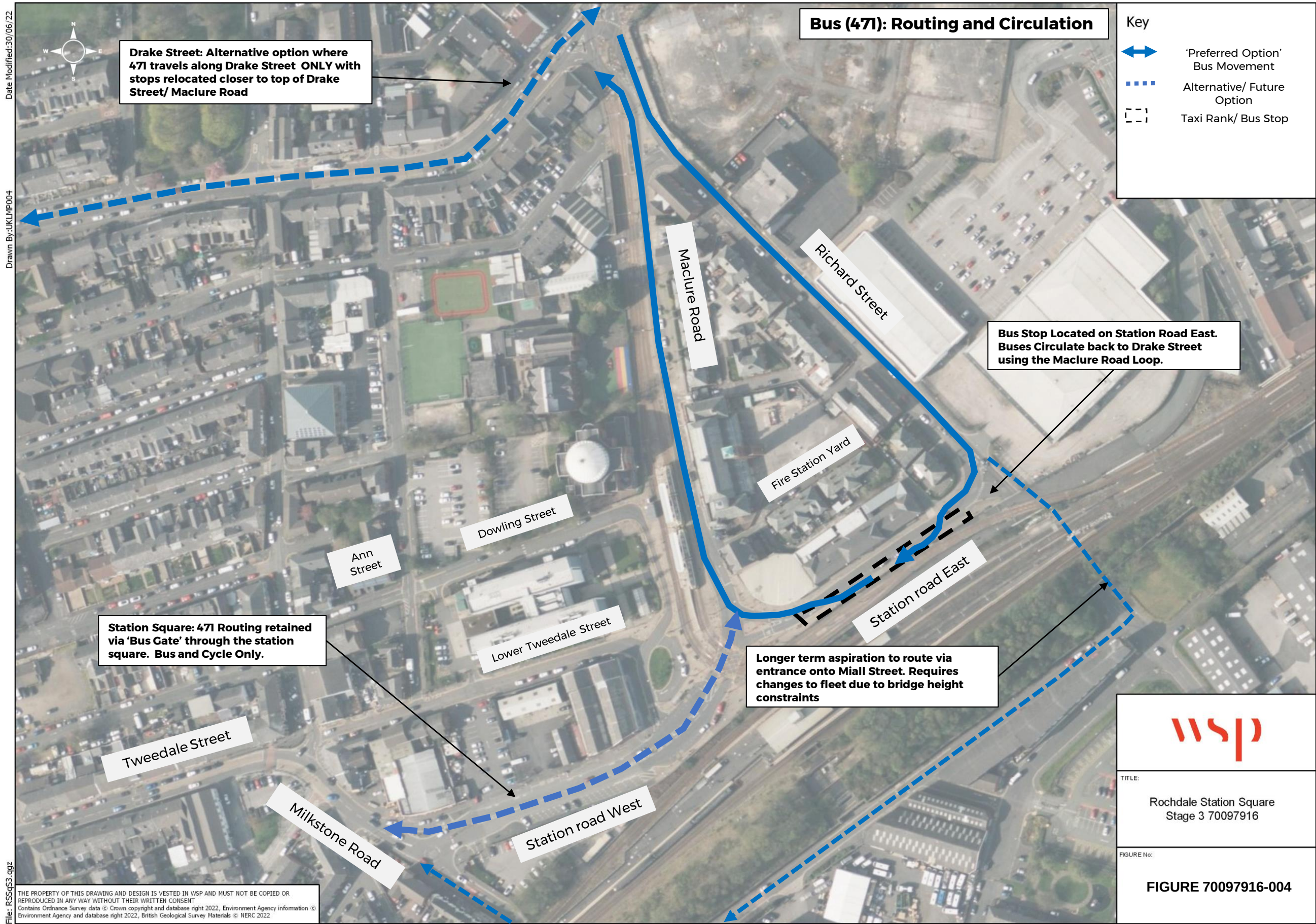
FIGURE No:

FIGURE 70097916-002

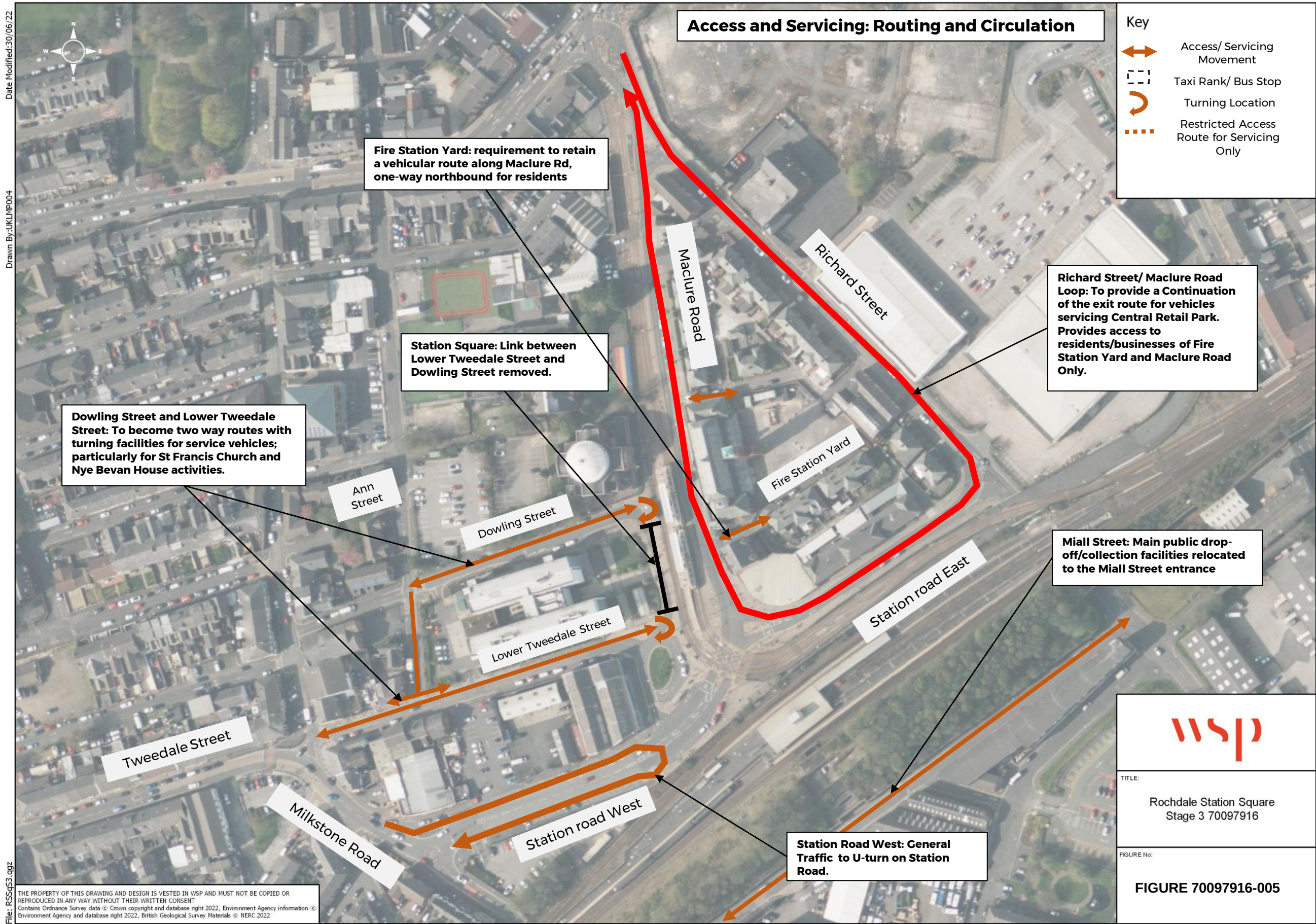
Engineering Design Strategies . Vehicular Movement



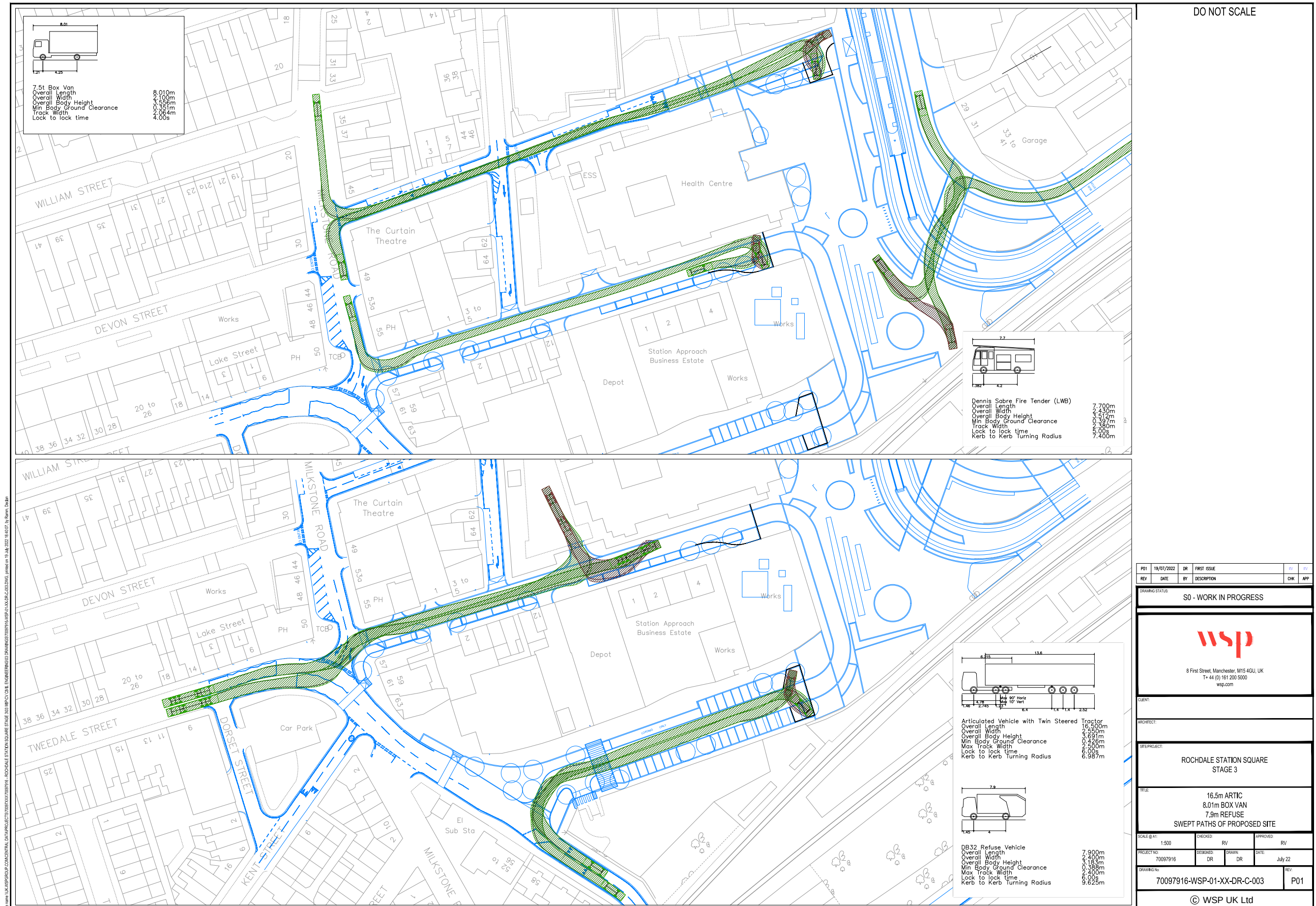
Engineering Design Strategies . Vehicular Movement



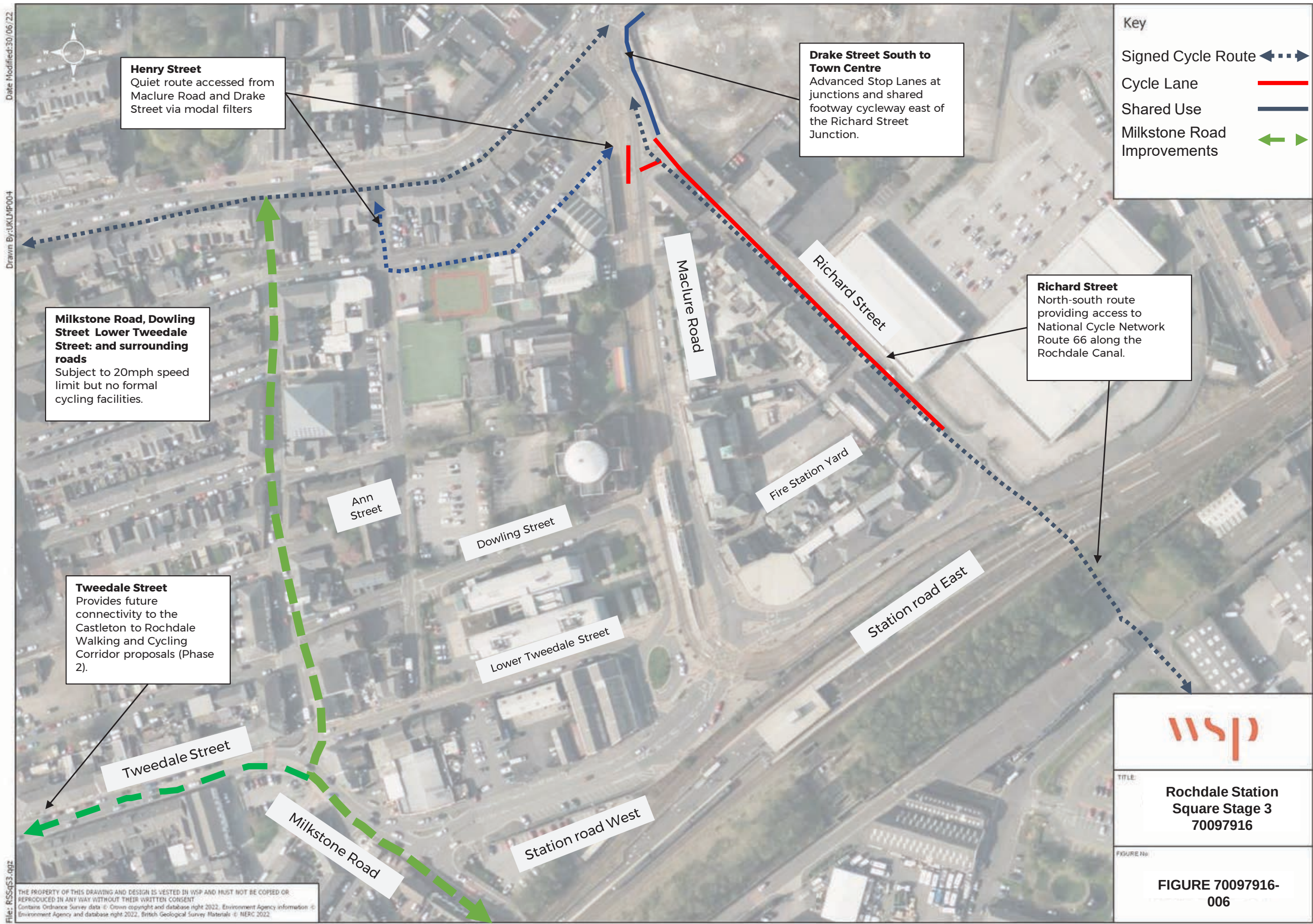
Engineering Design Strategies . Vehicular Movement



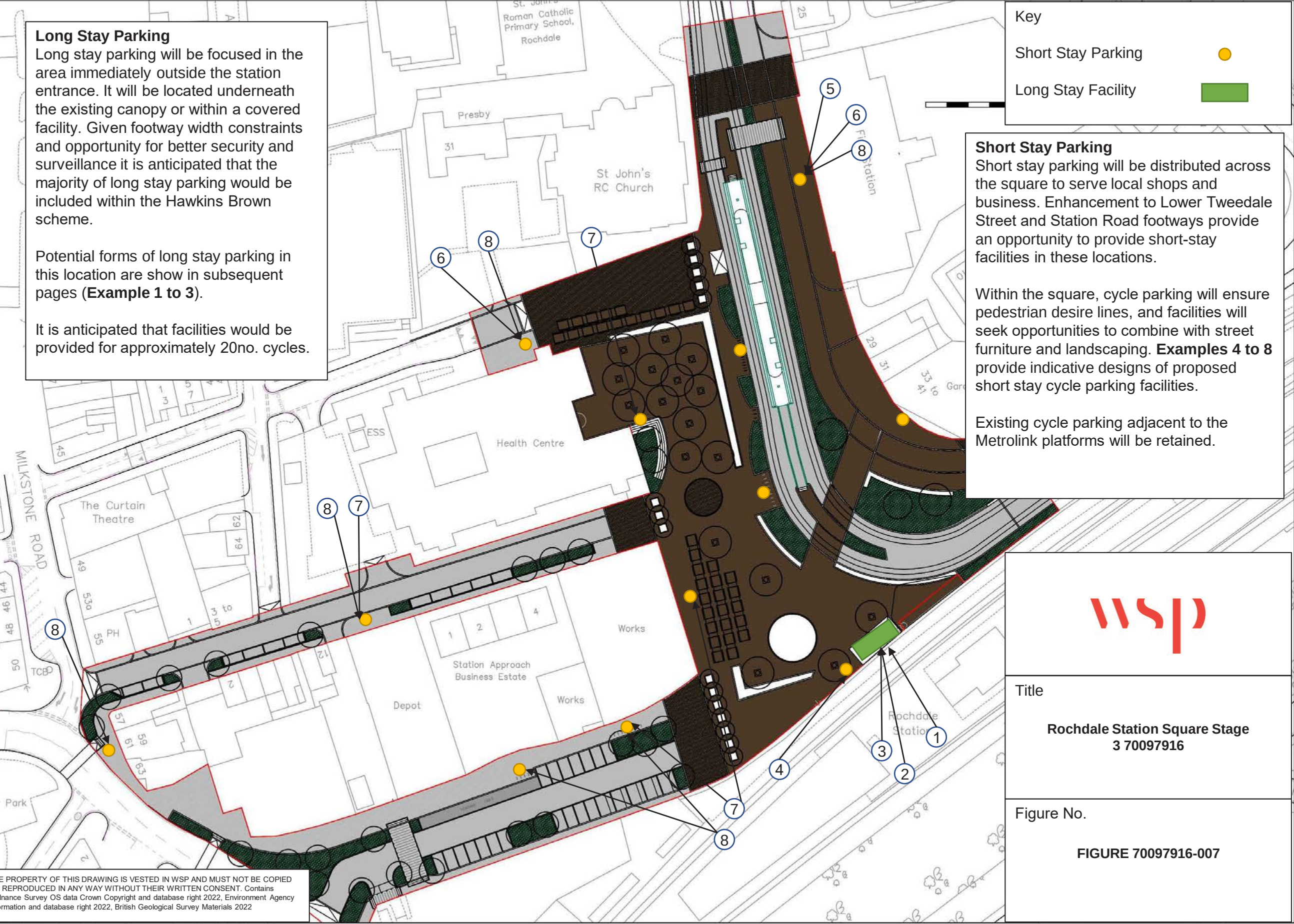
Engineering Design Strategies . Vehicular Tracking



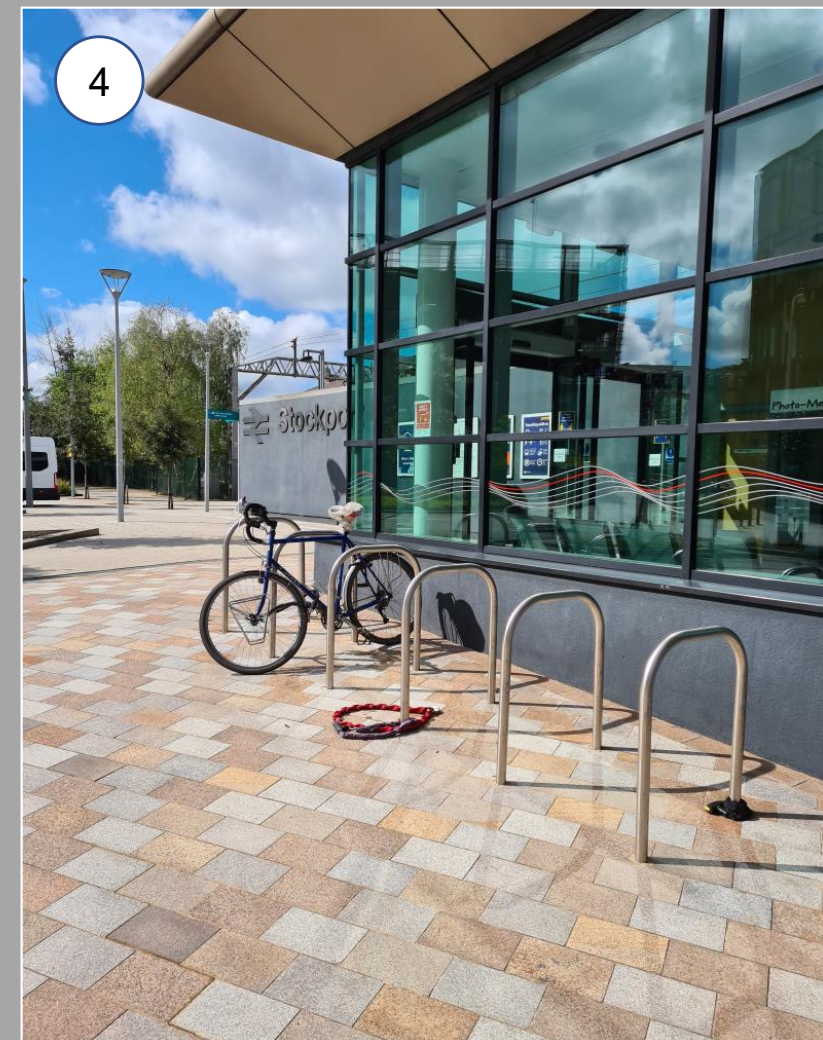
Engineering Design Strategies . Cycling Movement



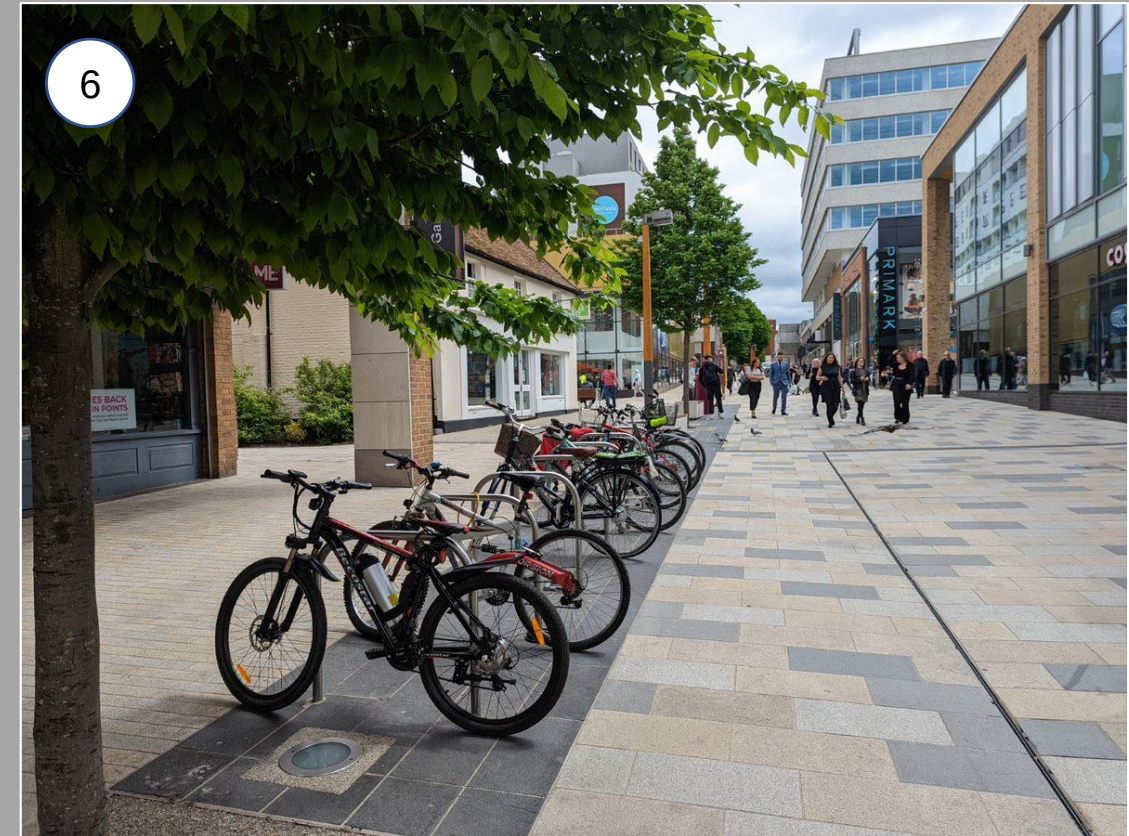
Engineering Design Strategies . Cycling Movement



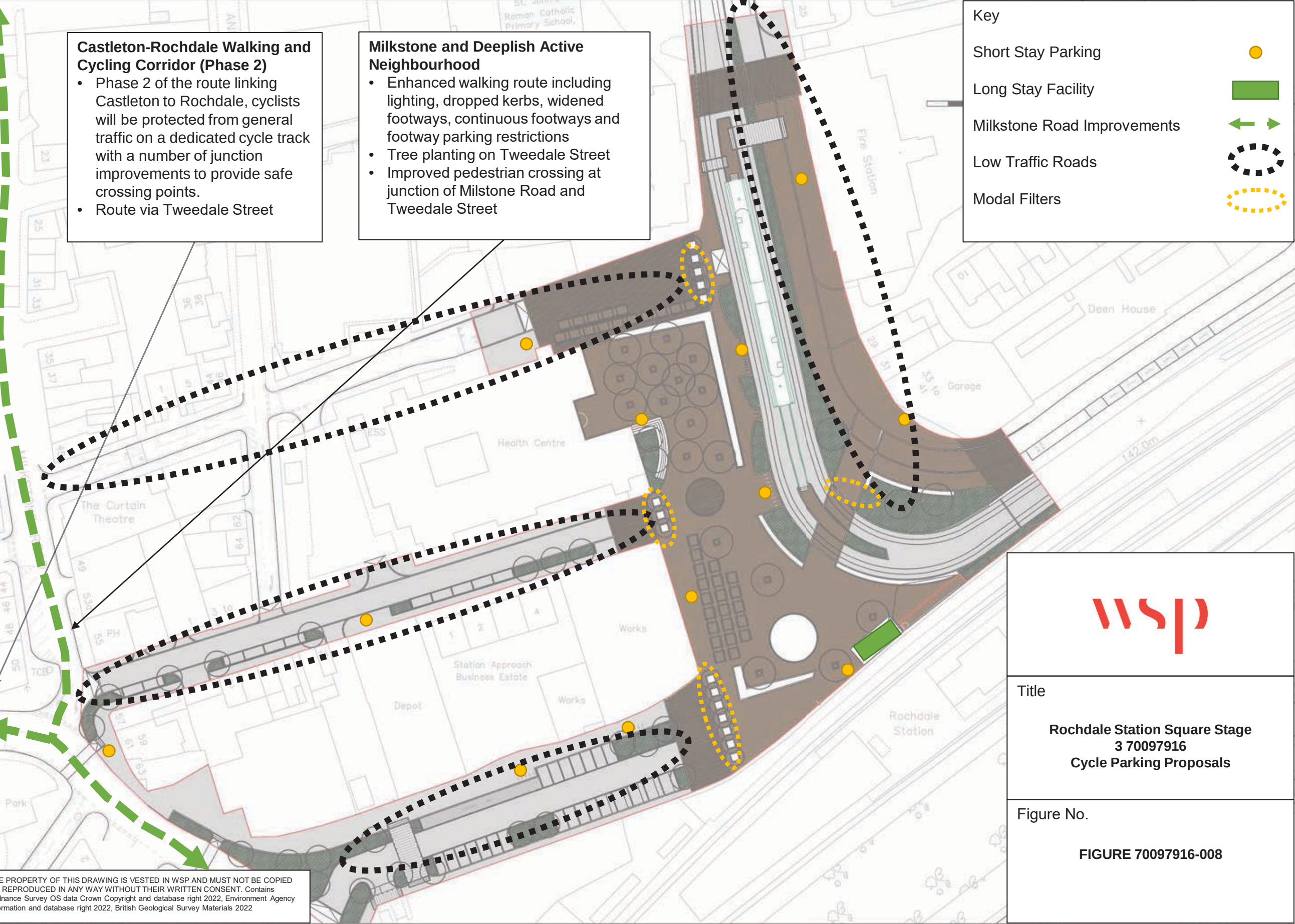
Engineering Design Strategies . Cycling Movement



Engineering Design Strategies . Cycling Movement

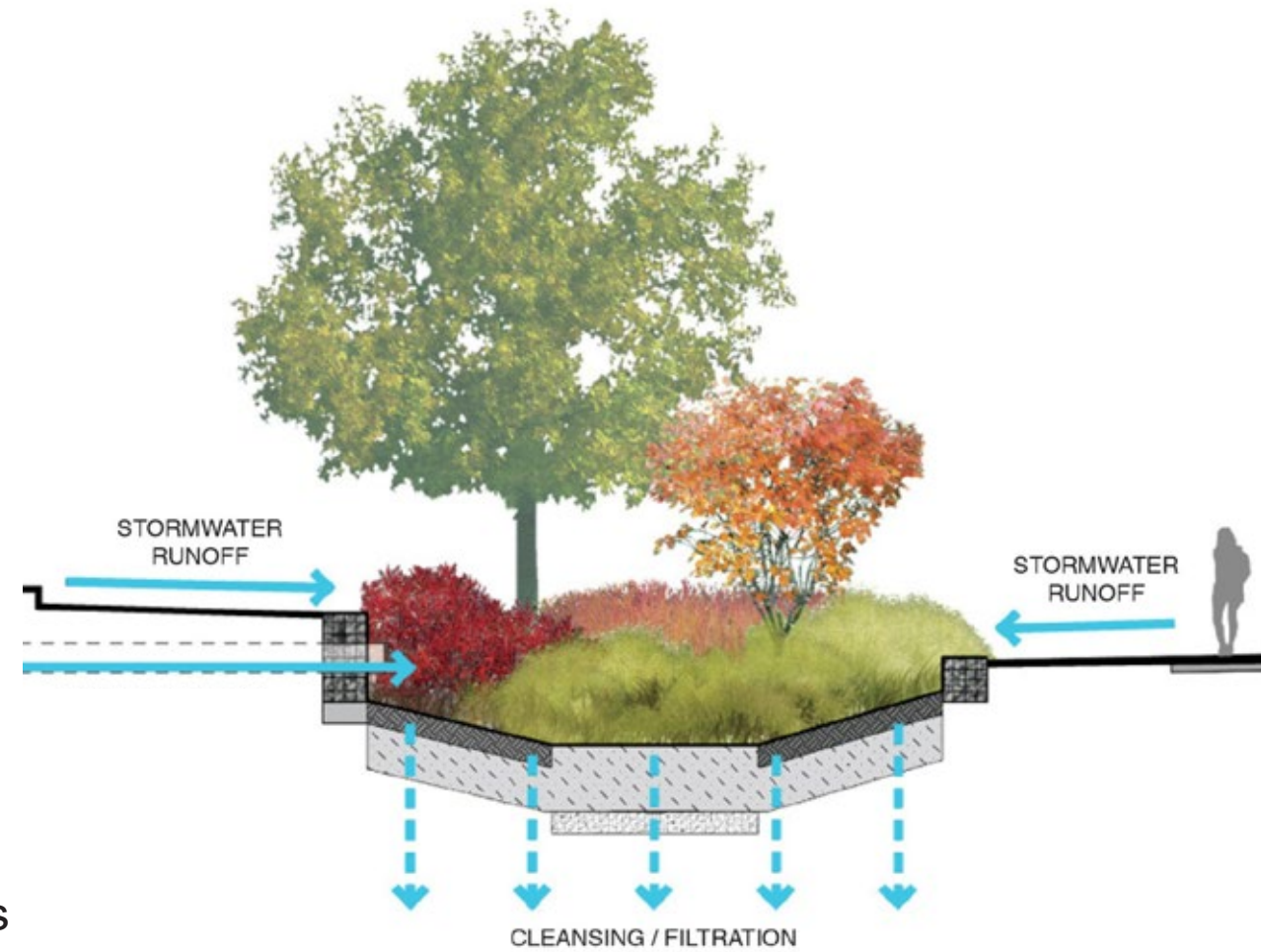


Engineering Design Strategies . Cycling Movement

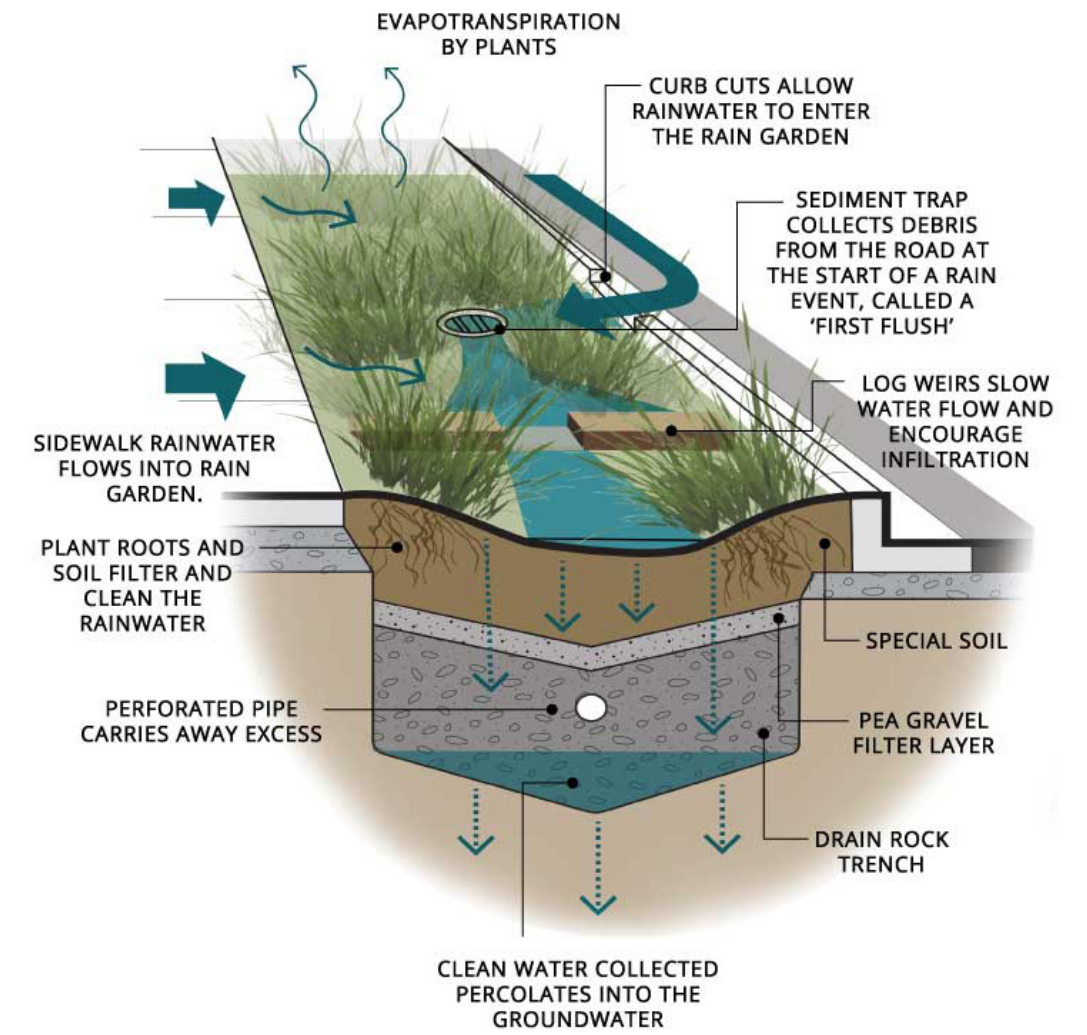


Engineering Design Strategies . SUDS

1 Roadside Bioswale



2 Rain Garden

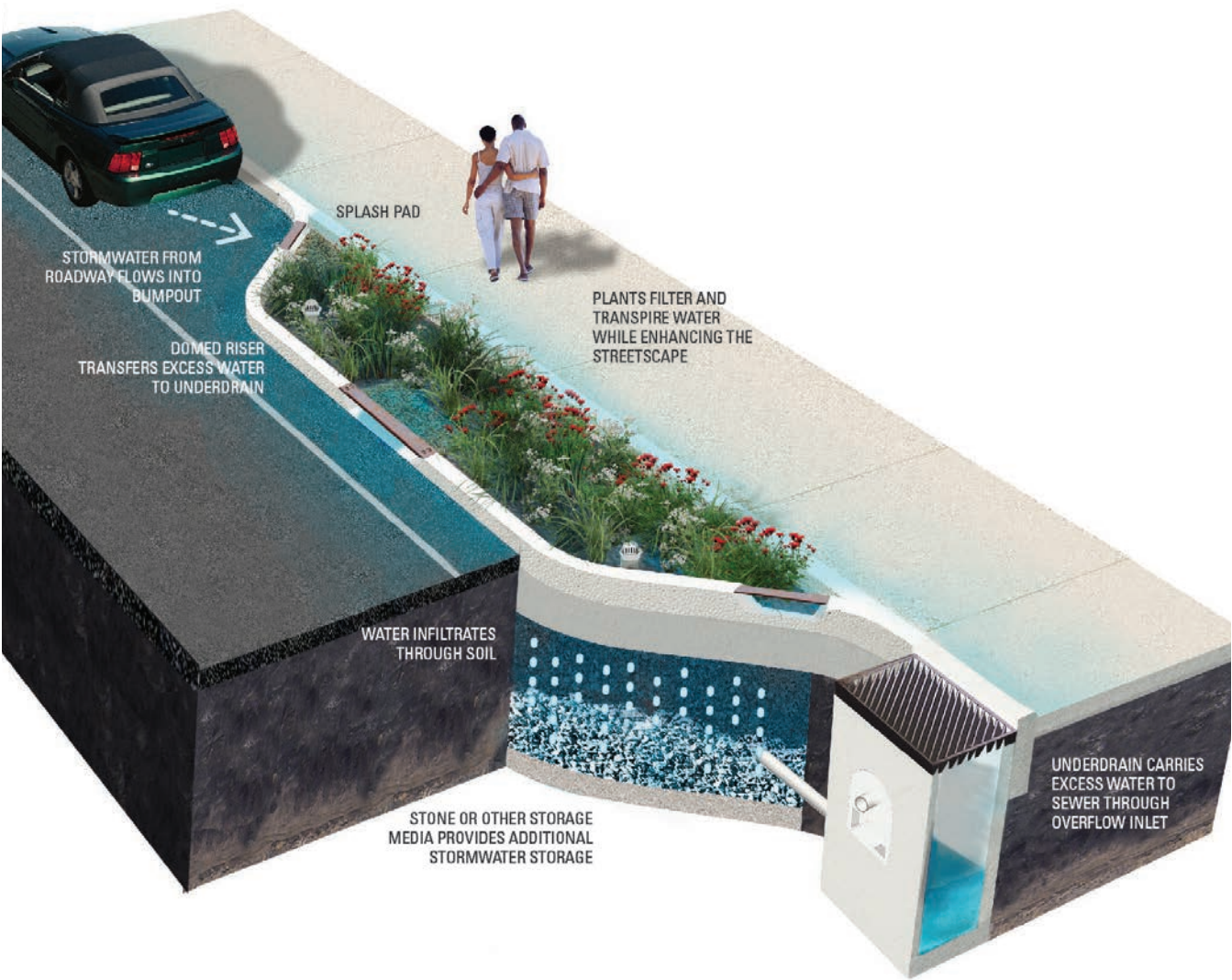


SUDS: Possible Solutions

1. Roadside Bioswale
2. Rain Garden

Engineering Design Strategies . SUDS

1 Attenuation Tank



2 Pit Collection



SUDS: Possible Solutions

- 1. Attenuation Tank
- 2. Pit Collection

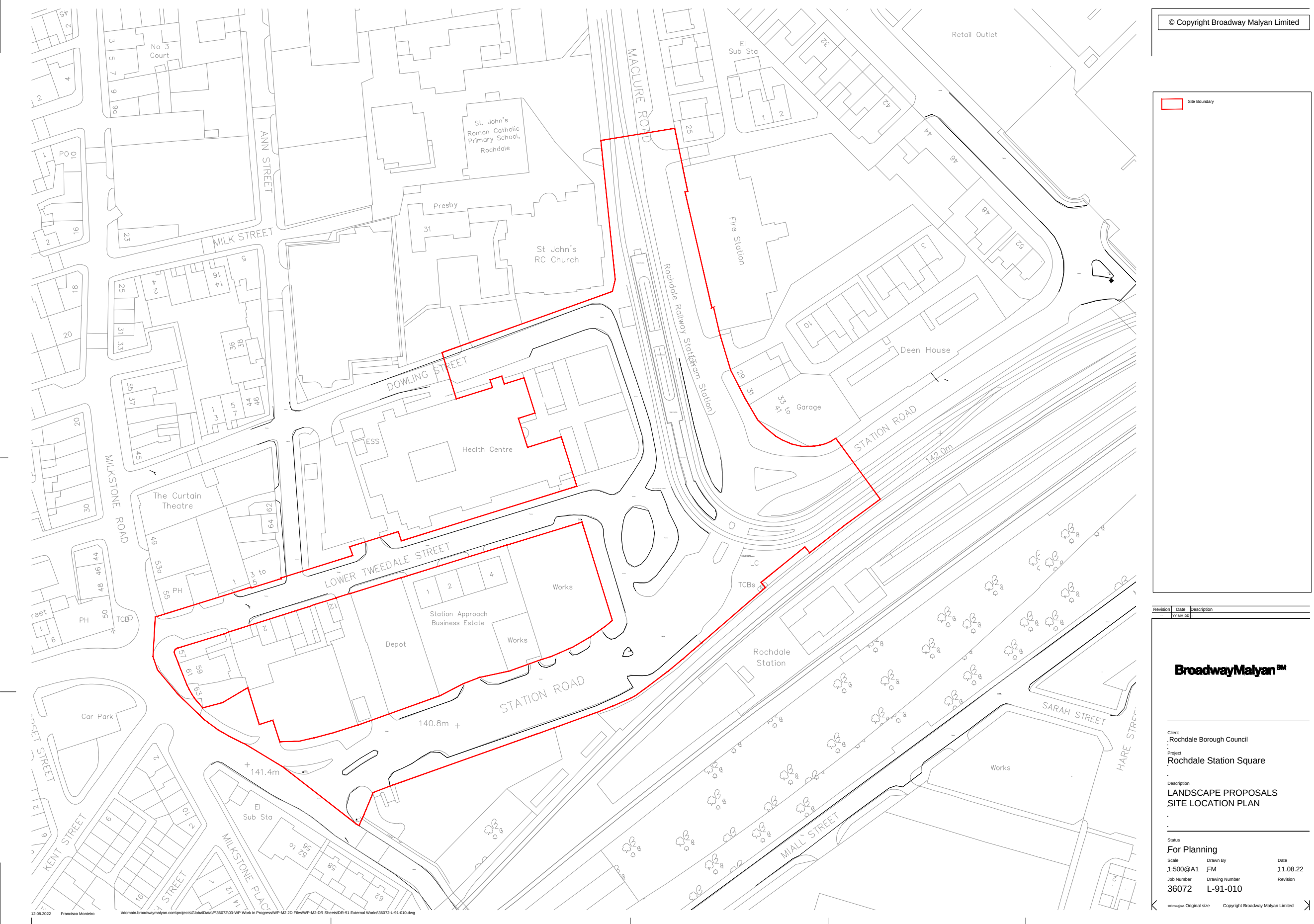
Appendix



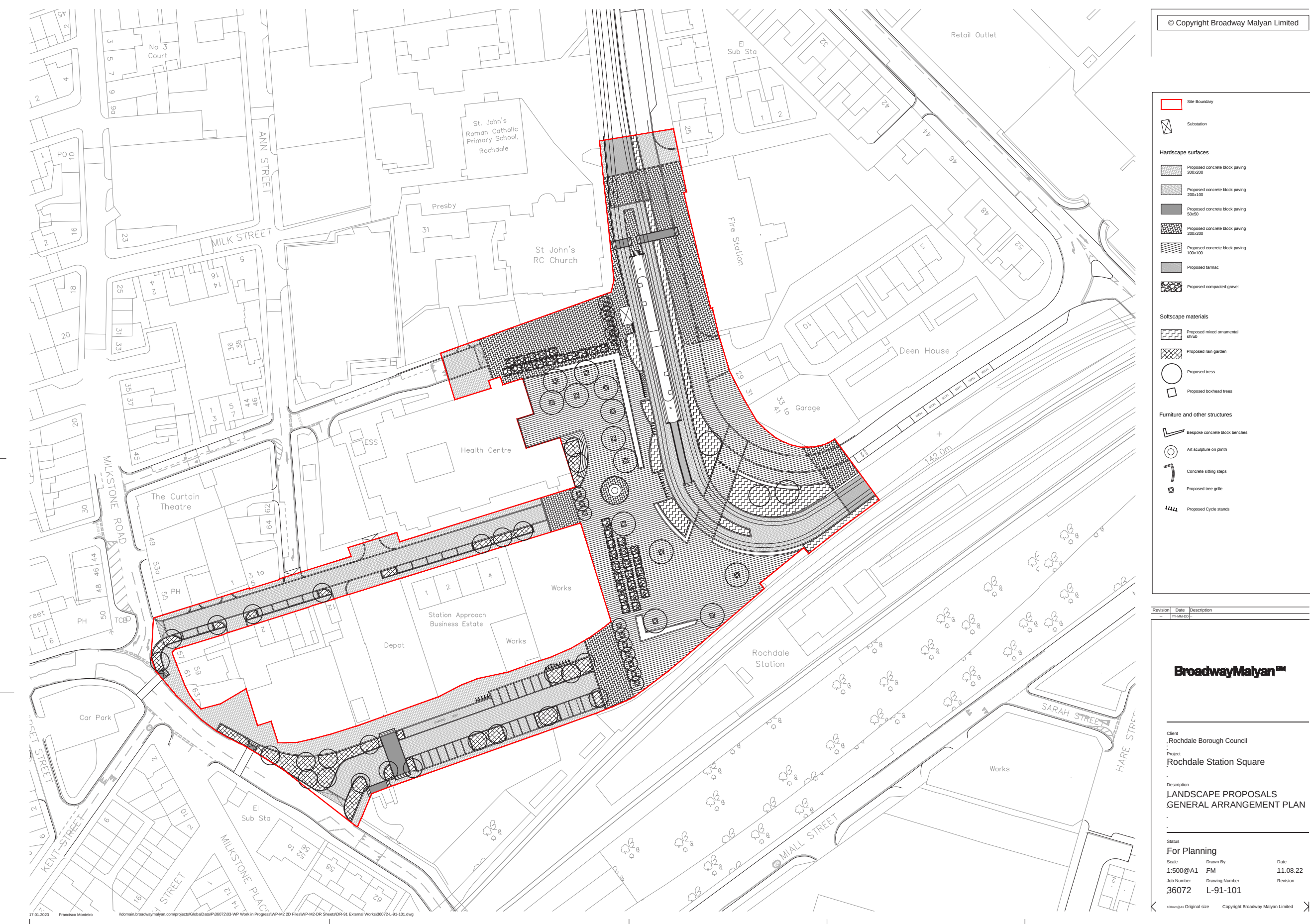
Selected Drawings

The following pages contain a selection of key drawings submitted. A full set of submitted drawings accompanies this Planning Application.

Select Drawings . Site Location Plan



Select Drawings . GA



Engineering Materials

The following pages contain a selection
of Engineering key drawings submitted. .

Rochdale Station Square Stage 3 - Strategy Note

DATE:	08 August 2022	CONFIDENTIALITY:	Confidential
SUBJECT:	Rochdale Station Square Stage 3		
PROJECT:	70097916	AUTHOR:	LP/RV
CHECKED:	RV	APPROVED:	RV

INTRODUCTION

This Strategy Note summarises the proposed project strategy in relation to drainage, lighting, utilities, paving and movement for vehicular and non-vehicular traffic.

This information is to be included in Broadway Malyan’s ‘Design Statement’ issued alongside the Levelling up Fund bid. This note has been informed by Swept Path Analysis carried out by WSP, discussions with Rochdale Borough Council, Broadway Malyan, Faithful & Gould, and Rochdale Borough Council/ Rochdale Development Agency’s “Vehicular Access and Movement Strategy’ Note (29th June 2022).

WSP has also provided Baseline Review Technical Note WSP (27th June 2022) which included recommended advisory actions for the project team and Rochdale Borough Council to support the next stage of design. Those identified relating to the movement strategy have been largely addressed in the development of the stage 3 designs however remaining engineering strategy advisory actions are listed at the end of the relevant sub section of this Strategy Note.

Figures supporting this Strategy Note are presented in **Appendix A**.

MOVEMENT STRATEGY

The station square area is characterised by a significant range of land uses including residential, commercial, industrial, and Healthcare; accessed in different ways, at different times of days, by different modes/vehicle types across a diverse range of user groups. The movement strategy for the Stage 3 proposals has therefore been developed primarily to balance the competing access requirements of these users and land uses, whilst achieving the overall Station Square Strategy Vision. The development of the Stage 3 proposals has focused on delivering this strategy whilst ensuring deliverability; taking into consideration stakeholder views, political acceptability, project team feedback and engineering feasibility.

To inform the final movement strategy, RBC identified every property and user impacted by the proposed scheme and recorded:

- Type of property;
- Type of user;
- Type of access;
- Type of vehicle(s);
- Other operational needs;
- Likely timing of access;
- How the Station Square (full vision) impacts their access; and
- The range of options to address and mitigate these needs

Rochdale Station Square Stage 3 - Strategy Note

DATE:	08 August 2022	CONFIDENTIALITY:	Confidential
SUBJECT:	Rochdale Station Square Stage 3		
PROJECT:	70097916	AUTHOR:	LP/RV
CHECKED:	RV	APPROVED:	RV

This approach has informed considerations around the physical requirements for access for these users, as well as ensuring that routes maintain an appropriate level of accessibility and convenience; balanced across the area. This approach has also helped identify where some options – particularly to deliver a completely traffic free Station Square – would not be deliverable, due to the absence of alternative access. This strategy therefore represents the best achievable and deliverable solution, taking into account community access needs and the scheme objectives.

The proposed movements strategy is summarised as follows:

- The key principle of the access and movement strategy is to minimise vehicular traffic in and across the square; prioritising safe, comfortable, and coherent pedestrian space to move and dwell. Consequently all but emergency access is prohibited from the square east to west; bisecting Station Road with new areas of public realm (**Figure 70097916-001 and Figure 70097916-002**).
- Richard Street and Station Road will retain their existing one-way arrangement to create the ‘Maclure Road Loop’; a clockwise one way system from the Richard Street/ Drake Street Junction and the Drake Street/ Maclure Road junction (**Figure 70097916-002 to Figure 70097916-005**).
- Vehicular traffic will only be permitted for Buses, Taxis, HGVs associated with Matalan and Argos Retail Park, and Residents (at Fire Station Yard for example). This route would prohibit through movements and maintain a low speed, traffic calmed environment; one in which drivers will feel a guest in a pedestrian-oriented space.
- At Station Road East, a taxi rank will be provided in this location. Bus boarding and alighting will take place in this area; facilitating direct interface between the Rail Station and bus services. An area will also be provided to serve short stay drop/off and collection activity for passengers
- Parking on existing roads such as Lower Tweedale Street and Dowling Street – subject to existing on street parking and loading/unloading – will be better managed and controlled via formalised on street parking bays and loading areas. Street planting will be used to break up continuous sections of parking and footways widths will be maximised where possible in spaces created by these modifications to the streetscene.
- Lower Tweedale Street and Dowling Street would be two-way along their entirety. Turning areas will be provided for us associated with the Nye Bevan House Loading areas and St Francis Church on Dowling Street (**Figure 70097916-005**).
- Access for the mobile testing unit at Nye Bevan House would remain. This would be carried out via Milkstone Road and Lower Tweedale Street.
- Enhanced pedestrian crossing facilities will be provided on Tweedale Street and Milkstone Road to improved connectivity between the Station Square area and communities to the south and west. These changes will signal the arrival into a pedestrian oriented space and support traffic calming on these routes

Rochdale Station Square Stage 3 - Strategy Note

DATE:	08 August 2022	CONFIDENTIALITY:	Confidential
SUBJECT:	Rochdale Station Square Stage 3		
PROJECT:	70097916	AUTHOR:	LP/RV
CHECKED:	RV	APPROVED:	RV

ACTIVE TRAVEL STRATEGY

Busy Beeways: Castleton-Rochdale Walking and Cycling Corridor (Phase 2)

Phase 2 of the route Busy Beeways Route linking Castleton to Rochdale is located on the A58 Manchester Road approximately 700m west of Rochdale Station. As part of this scheme cyclists will be protected from general traffic on a dedicated cycle track with a number of junction improvements to provide safe crossing points. This will significantly enhance the safety and convenience of cycling along this corridor and promote trips from communities in the west, along Tweedale Street, to the station. The scheme is due for completion in late 2023. This scheme, alongside the Milkstone and Deeplish Active Neighbourhoods proposal, is presented on **Figure 70097916-006**.

Active Neighbourhoods: Milkstone and Deeplish Active Neighbourhood

TfGM are proposing the development of an ‘Active Neighbourhood in the Milkstone and Deeplish areas of Rochdale. The proposals comprise an area bounded by Drake Street in the north, Manchester Road in the west, the Rochdale Bypass to the south, and Richard Street in the East. The area includes the station itself and the station square. Measures include

The proposed Active Neighbourhood will:

- Reduce traffic speeds and volume
- Create safer routes and attractive areas for local people to enjoy, spend time chatting or for children to play
- Help everyone get around more easily and safely, walking, cycling, and wheeling* especially for short journeys, leaving the car at home
- Improve the area, with more greenery, street art, benches, and lighting

There are a number of elements that are particularly relevant to the Station Square proposals, summarised below. The Station Square proposals have sought to promote synergies with these projects and provide walking and cycling links that strengthen and enhance the opportunities provided by the Active Neighbourhoods and Castleton-Rochdale corridor scheme.

- Enhanced walking route including lighting, dropped kerbs, widened footways, continuous footways and footway parking restrictions
- Tree planting on Tweedale Street
- Improved pedestrian crossing at junction of Milkstone Road and Tweedale Street

The proposed walking and cycling proposals are discussed further under the below subheadings.

Rochdale Station Square Stage 3 - Strategy Note

DATE:	08 August 2022	CONFIDENTIALITY:	Confidential
SUBJECT:	Rochdale Station Square Stage 3		
PROJECT:	70097916	AUTHOR:	LP/RV
CHECKED:	RV	APPROVED:	RV

Proposals

The Station Square proposals have sought to provide streets that support walking and cycling, and bring people into the square for commuting, business, and leisure purposes. The project team has considered existing infrastructure (**Figure 70097916-006**) and constraints and sought to maximise opportunities presented by the aforementioned scheme, and removal of traffic from the square itself.

Lower Tweedale Street, Dowling Street, and Station Road West would become two-way cul-de-sacs. Their function would be to provide vehicular access only. In doing so, volumes of traffic will be minimised. Parking bays will be provided to minimise the prevalence of footway parking, and space will be provided for cycle parking and planting to make these routes more attractive to pedestrians and cyclists.

At the eastern end of each of these roads, modal filters (e.g. bollards or planters) will be provided to prevent vehicular access but allow pedestrians and cyclists to access the square.

Walking and considerate cycling would be permitted throughout the square itself. Again, modal filters would be provided across the Metrolink tram line between the station and the Maclure Road loop to prevent all but emergency vehicle access and ensure that pedestrian and cycle desire lines are maintained.

These proposals are summarised in **Figure 70097916-008**. A key feature of the cycling strategy is the provision of extensive cycle parking for long and short stay trips throughout the scheme. This is discussed in further detail below.

Parking

Long and short stay parking will be provided through the square to serve a variety of local land uses, including the station. Short stay parking will be located in areas of high surveillance close to local amenities such that they maintain pedestrian desire lines and remain convenient for cyclists. The types of stands could include Sheffield type stands

Existing stands serving the Metrolink platform would be removed. The existing cycle hub outside Nye Bevan house is no longer in use. As part of the proposals, short stay facilities would be located on Dowling Street, serving the pharmacy, and within the square adjacent to Nye Bevan house, to serve the main entrance.

Long stay parking will be provided outside the station in a covered and lockable store. It is anticipated that in the region of 20n0. Cycle parking spaces would be provided. In order to ensure that street clutter is minimise and sufficient space remains for pedestrians outside the station entrance, any further long stay parking for the station would be located within the station building itself.

The proposals, including examples of the types of parking facility, and suggested locations are summarised in **Figure 70097916-007**.

Rochdale Station Square Stage 3 - Strategy Note

DATE:	08 August 2022	CONFIDENTIALITY:	Confidential
SUBJECT:	Rochdale Station Square Stage 3		
PROJECT:	70097916	AUTHOR:	LP/RV
CHECKED:	RV	APPROVED:	RV

PARKING STRATEGY

Parking has been located throughout the scheme to maintain, as far as possible, existing provision. Currently, parking is largely controlled by Traffic Regulation Orders (TROs), leading to significant signage requirements, street clutter and reduced pedestrian space.

Existing parking facilities will be retained on Dowling Street. On the southern side of Lower Tweedale Street parking bays will be provided to better manage and control the parking that is required by the local community and businesses. This will in turn create greater areas of footway for planting and cycle parking, as well as reducing carriageway widths to slow vehicle speeds. An existing loading ban TTRO would be retained on the northern side of the carriageway to prevent inconsiderate and obstructive parking and loading and maintain safe access.

At Station Road west, parking will be provided on a link for like basis in the form of perpendicular parking bays. These bays would provide an area of short stay parking serving the station. Bays would be interspersed with cycle parking, planting, and street furniture such as seating.

Disabled parking would be provided at a minimum of 5% of the total parking proposed at Station Road west, in accordance with "*Design Standards for Accessible Railway Stations*" (DfT 2015). This parking would be located on the eastern end of Station Road, at the location closest to the station entrance.

ENGINEERING STRATEGIES

Pavement Construction

Extensive re-surfacing of the scheme area is proposed. It is understood that the majority of surface will be concrete flags for both vehicular and pedestrian areas. Some bituminous surfacing may be used in Station Road and Lower Tweedale Street. Consideration of appropriate skid resistance (PSV) will need to be made through liaison with the highway authority.

To facilitate better pedestrian movement, it is proposed to reduce kerb upstand heights where possible. Discussions with the highway authority have identified that full height (125mm) berk upstand will eb required on the outside of the Station Road East / Maclure Road bend, adjacent to the Metrolink. Further discussion regarding kerb upstands will be needed with the highway authority in due course.

Adjustments to finished levels to suit the proposed layout and amended kerb upstand heights will be required. Wherever possible, levels should be at or above existing levels to limit any full depth re-construction of the pavement. This may not always be feasible and so an assessment of existing pavement construction thicknesses should be carried out through excavation of pavement core samples.

In existing vehicular areas, it is assumed that the current pavement thickness is sufficient as there are no obvious signs of failure. However, in areas which are currently pedestrian only, but are to become

Rochdale Station Square Stage 3 - Strategy Note

DATE:	08 August 2022	CONFIDENTIALITY:	Confidential
SUBJECT:	Rochdale Station Square Stage 3		
PROJECT:	70097916	AUTHOR:	LP/RV
CHECKED:	RV	APPROVED:	RV

vehicular, an increase in pavement construction depth is likely to be required. Consequently, it may be necessary to lower/ divert any shallow utilities in these areas.

New pavements constructed from concrete paving units should be designed in accordance with BS 7533-101:2021. However, subject to confirmation of existing pavement construction, this may require full depth re-construction of the pavement to provide a compliant design. To limit cost, the existing pavement foundation may be left in-situ with the upper layers replaced only.

Construction depths will vary across the scheme due to the nature of the existing pavement construction, anticipated vehicle loading, and surface type (flags / slabs / setts, etc). As an initial assessment, in vehicular areas a replacement depth of 200mm (80mm flag, 40mm laying course, and 80mm bituminous binder) is suggested for costing purposes. In nominally pedestrian areas (subject to occasional vehicle overrun), a replacement depth of 150mm (60mm flag, 30mm laying course, and 60mm bituminous base) can be assumed.

Surface Water Drainage

In most areas, the scheme proposals will require relocation of kerbs and channels and thus existing gullies will need to be abandoned and replaced with suitable drainage features to suit the proposed 3D design. A summary of the likely scope of works is provided below.

STATION SQUARE / MACLURE ROAD

- Abandon existing gullies and replace with new gullies / linear drainage channels / combined kerb drains to suit layout and finished levels.
- New connections to public sewers required. Connections could be lengthy.

STATION ROAD

- Abandon existing gullies and replace with new to suit new kerb/channel location.
- Re-use of existing gully tails is likely in most cases, though some new connections to public sewer may be required.
- Adjustment to manhole cover and frames to suit minor amendments to finished levels

LOWER TWEEDALE STREET

- Existing drainage to be retained.
- Adjustment to gully frames and gratings may be required subject to minor level changes (e.g. kerb upstand height)

DOWLING STREET

- Existing drainage to be retained.
- Adjustment to gully frames and gratings may be required subject to minor level changes (e.g. kerb upstand height)

Rochdale Station Square Stage 3 - Strategy Note

DATE:	08 August 2022	CONFIDENTIALITY:	Confidential
SUBJECT:	Rochdale Station Square Stage 3		
PROJECT:	70097916	AUTHOR:	LP/RV
CHECKED:	RV	APPROVED:	RV

Sustainable Drainage Systems (SuDS)

The scheme provides an opportunity to introduce SuDS measures to reduce surface water discharge into the receiving public sewerage system as well as improving the water quality of the discharge.

It is not considered feasible to provide a single large attenuation system given the extent of drainage works to re-direct surface water to it, the space required below ground, and maintenance liabilities of such a system. Instead, the introduction of localised areas of soft landscaping can be used to provide small volumes of attenuation and filtration of runoff to improve discharge quality. In some locations they may directly accept runoff from adjacent paved areas (rain gardens) eliminating the need for road gullies.

A detailed SuDS strategy for the scheme should be prepared. However, rain gardens with geocellular storage tanks below are suggested as an appropriate means of maximising the SuDS potential of the scheme. Rain gardens would be lined and may be linked to each other via below ground pipework, with connection into the public sewer. Discussion with the highway authority has indicated that this approach to SuDS may be suitable, subject to further studies.

Utilities

In general, the aim is to limit any impact on utilities from the scheme proposals. The location of tree pits, SuDS and any other deep excavations (e.g. lighting columns, signage, foundations for art installations) should be co-ordinated around existing location of buried services such that diversions are not required.

Changes to finished levels will be required as a result of the scheme proposals. To avoid a reduction in cover to buried utilities, triggering a need for their lowering, finished levels should be at or above existing wherever possible (refer to Pavement Construction above). Utility works would then generally be restricted to adjusting cover and frames to suit finished levels and surfacing. Recessed covers are to be used to better integrate with the landscape scheme, although agreement with utility companies is required due to potential manual handling concerns.

An assessment of utility depths under areas which are currently pedestrian only, but are due to accommodate vehicular traffic should be carried out. It is possible that in such areas, that utility depths are insufficient and lowering / diversion will be required.

New electrical connections will be required for any EV charging points and lighting columns. It is likely that sufficient capacity for this is available within the local network and that points of connection can be found close to the appliance.

Rochdale Station Square Stage 3 - Strategy Note

DATE:	08 August 2022	CONFIDENTIALITY:	Confidential
SUBJECT:	Rochdale Station Square Stage 3		
PROJECT:	70097916	AUTHOR:	LP/RV
CHECKED:	RV	APPROVED:	RV

Lighting

A review of the lighting provision throughout the scheme is required. Within the Station Square / Maclure Road area, it is possible a change in lighting class is required due to change in nature of this area towards a pedestrian focus. A summary of likely interventions is provided below:

STATION SQUARE / MACLURE ROAD

- Review lighting strategy. New columns, lanterns and connections to suit revised layout and change in lighting class.
- Some existing lanterns are mounted on support posts for Metrolink overhead cables. These should be retained if possible.

STATION ROAD

- Retain existing column locations (back of footway)
- Replace columns and lanterns if necessary to suit required lighting standards following layout changes.

LOWER TWEEDALE STREET

- Retain existing column locations (back of footway)
- Replace columns and lanterns if necessary to suit required lighting standards following layout changes.

Engineering Strategy: Advisory Actions

It is recommended that the following actions are completed in order to progress designs.

- Assessment of pavement strategy required, considering existing pavement construction depths, traffic loading, preferred surface finishes, utilities, maintenance liability and budget constraints.
- Prepare SuDS strategy.
- Complete utilities survey in missing areas and establish locations / depths where survey information is incomplete.
- Review impact of scheme on utilities.
- Prepare lighting strategy in consultation with RBC.

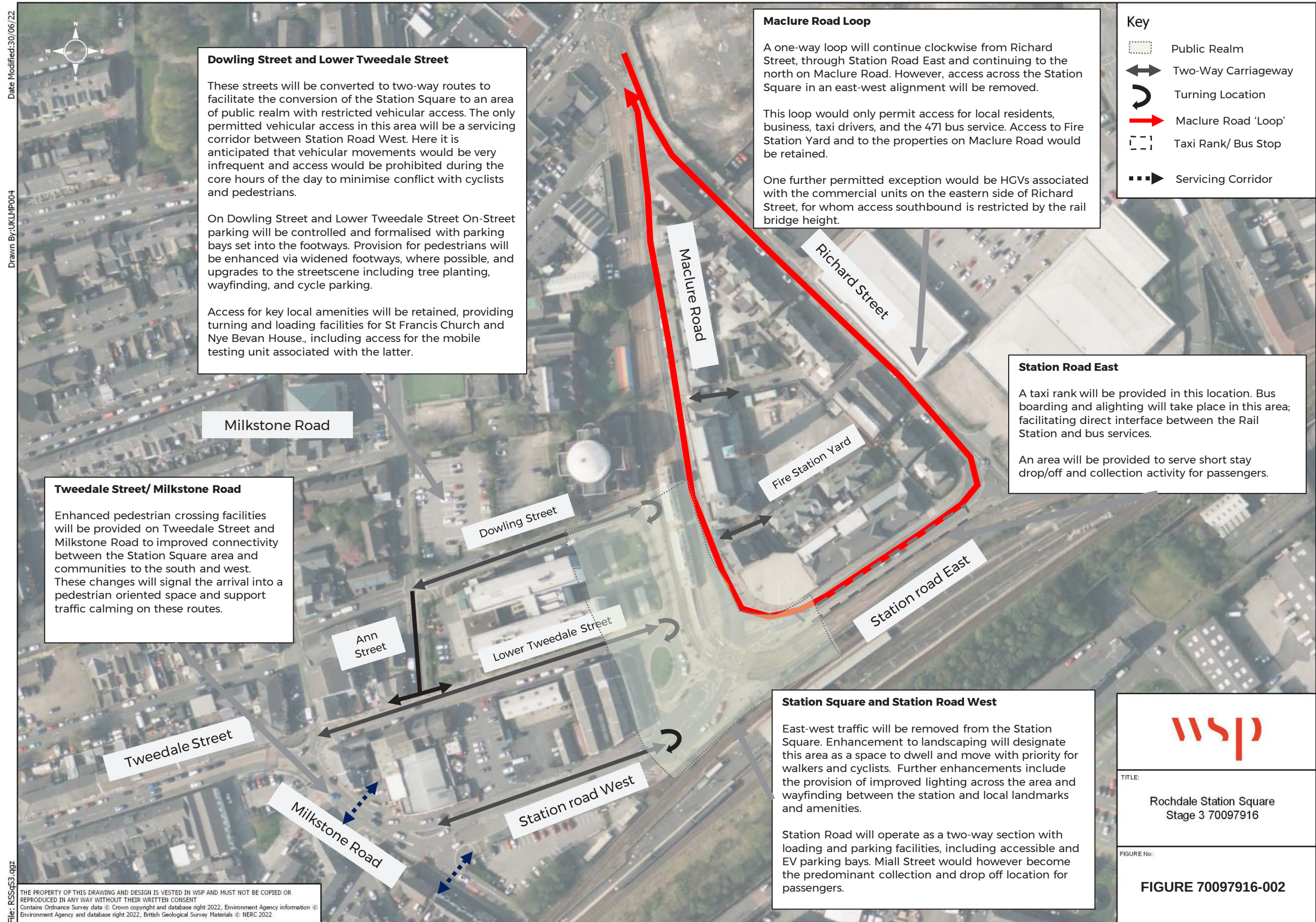
Rochdale Station Square Stage 3 - Strategy Note

DATE:	08 August 2022	CONFIDENTIALITY:	Confidential
SUBJECT:	Rochdale Station Square Stage 3		
PROJECT:	70097916	AUTHOR:	LP/RV
CHECKED:	RV	APPROVED:	RV

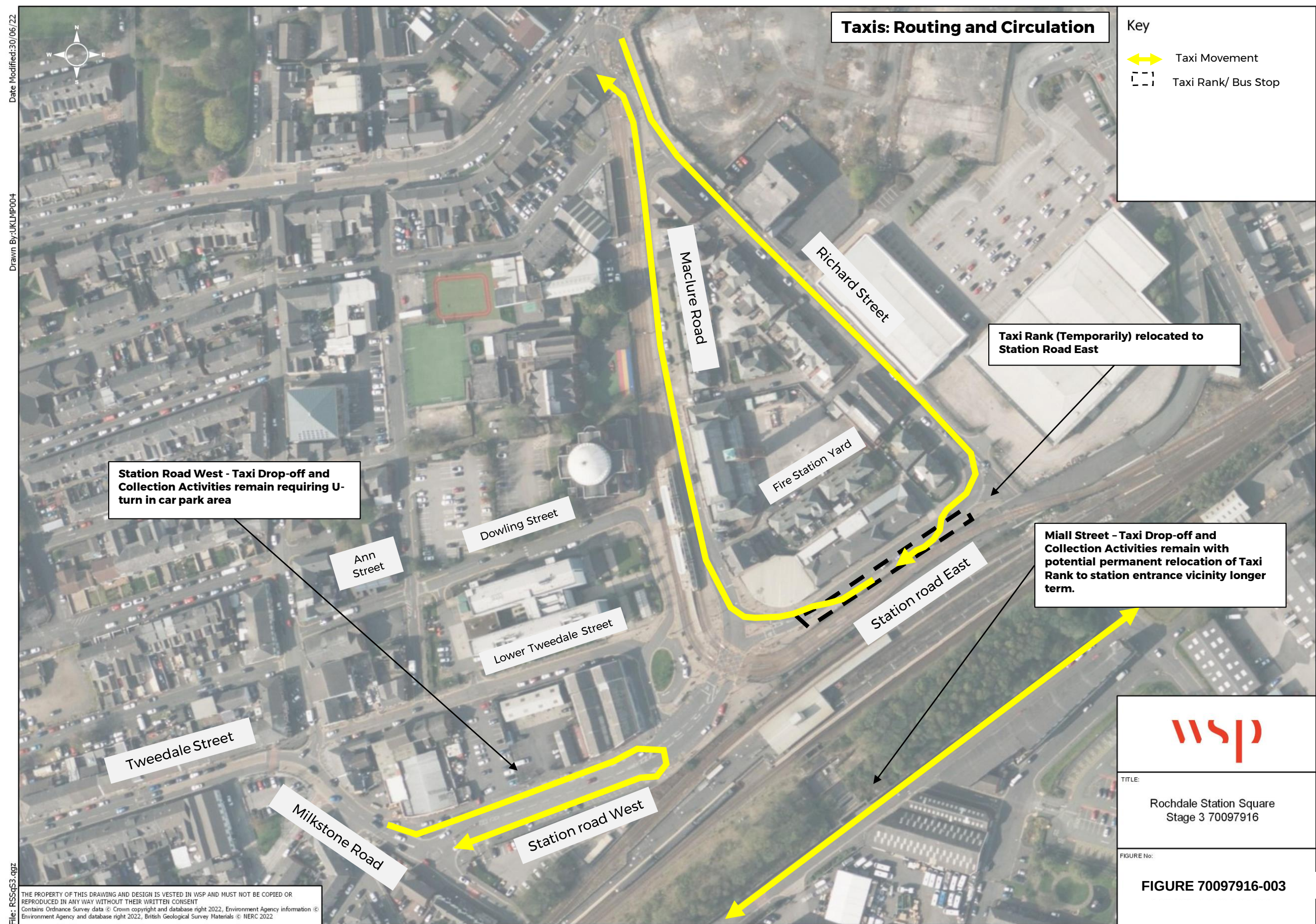
APPENDIX A: FIGURES

WSP. Engineering Strategy

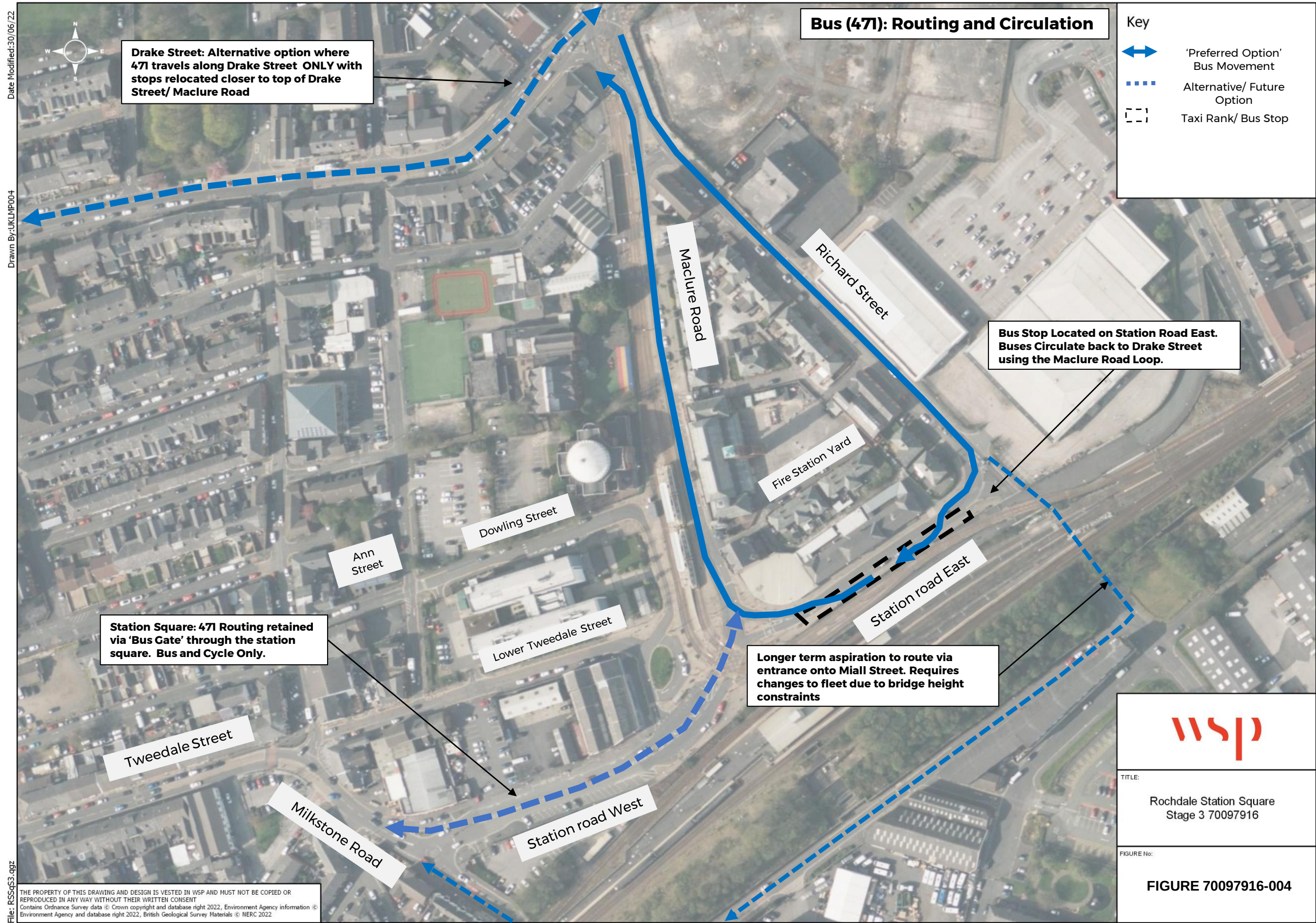




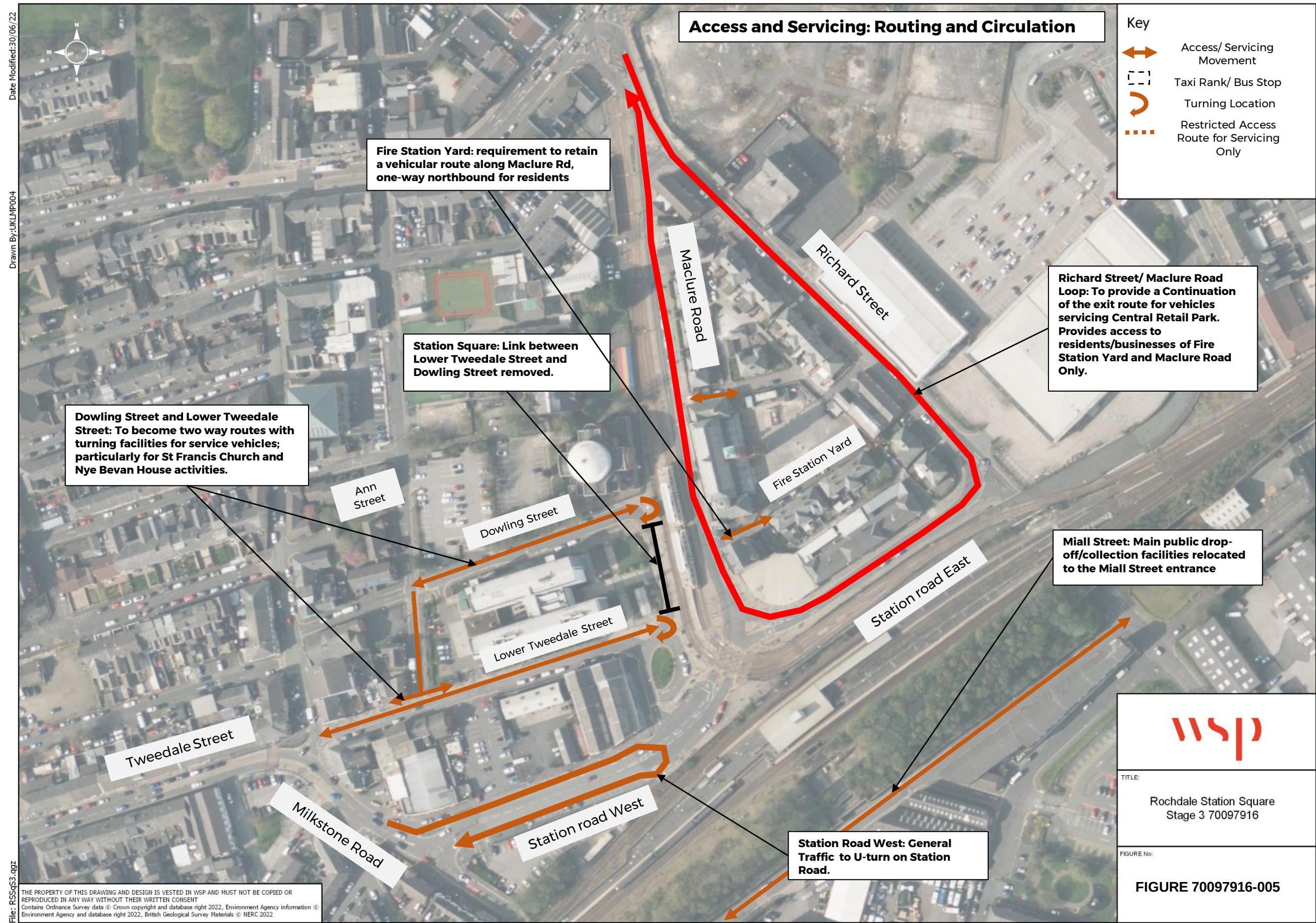
WSP. Engineering Strategy



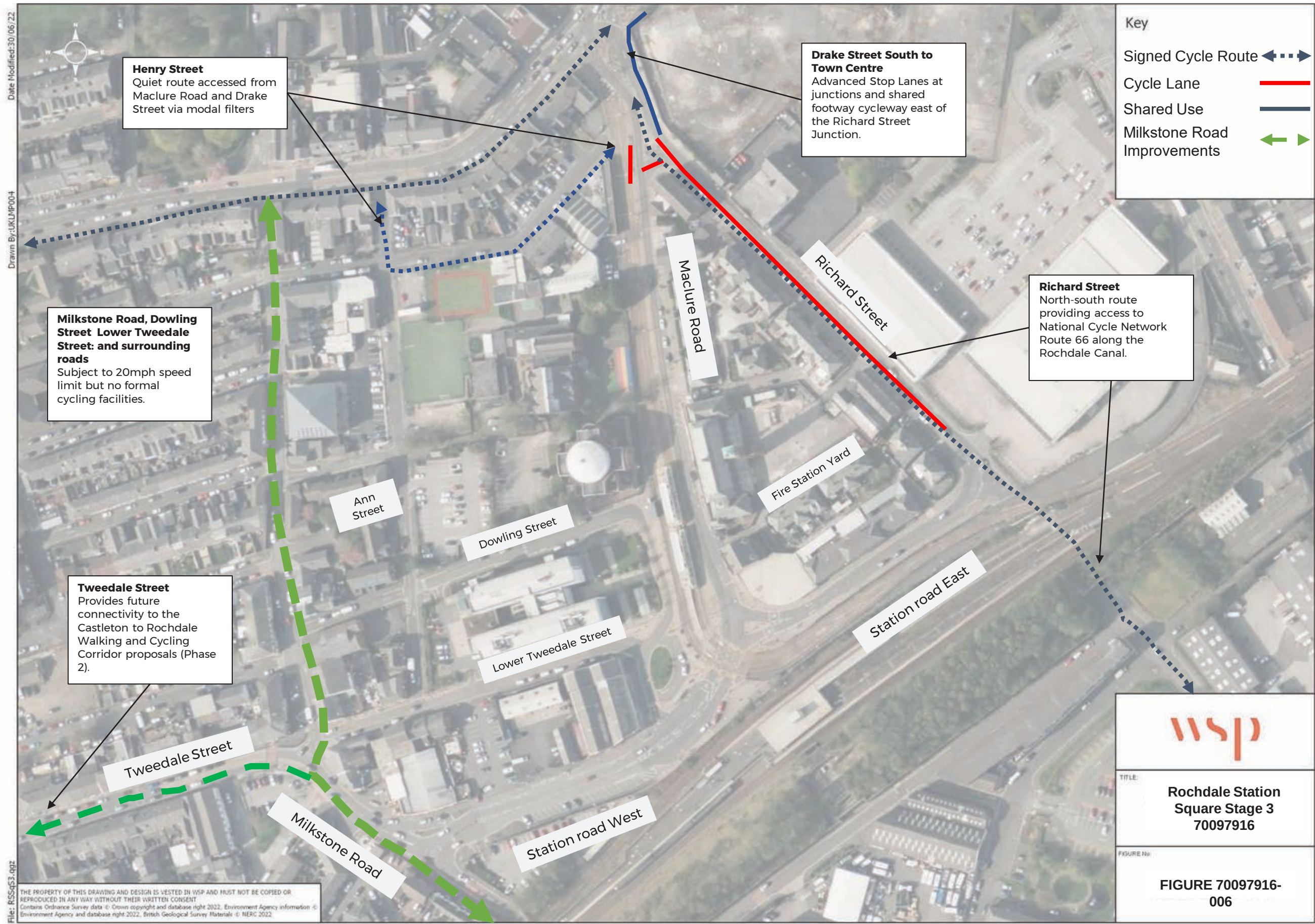
WSP. Engineering Strategy

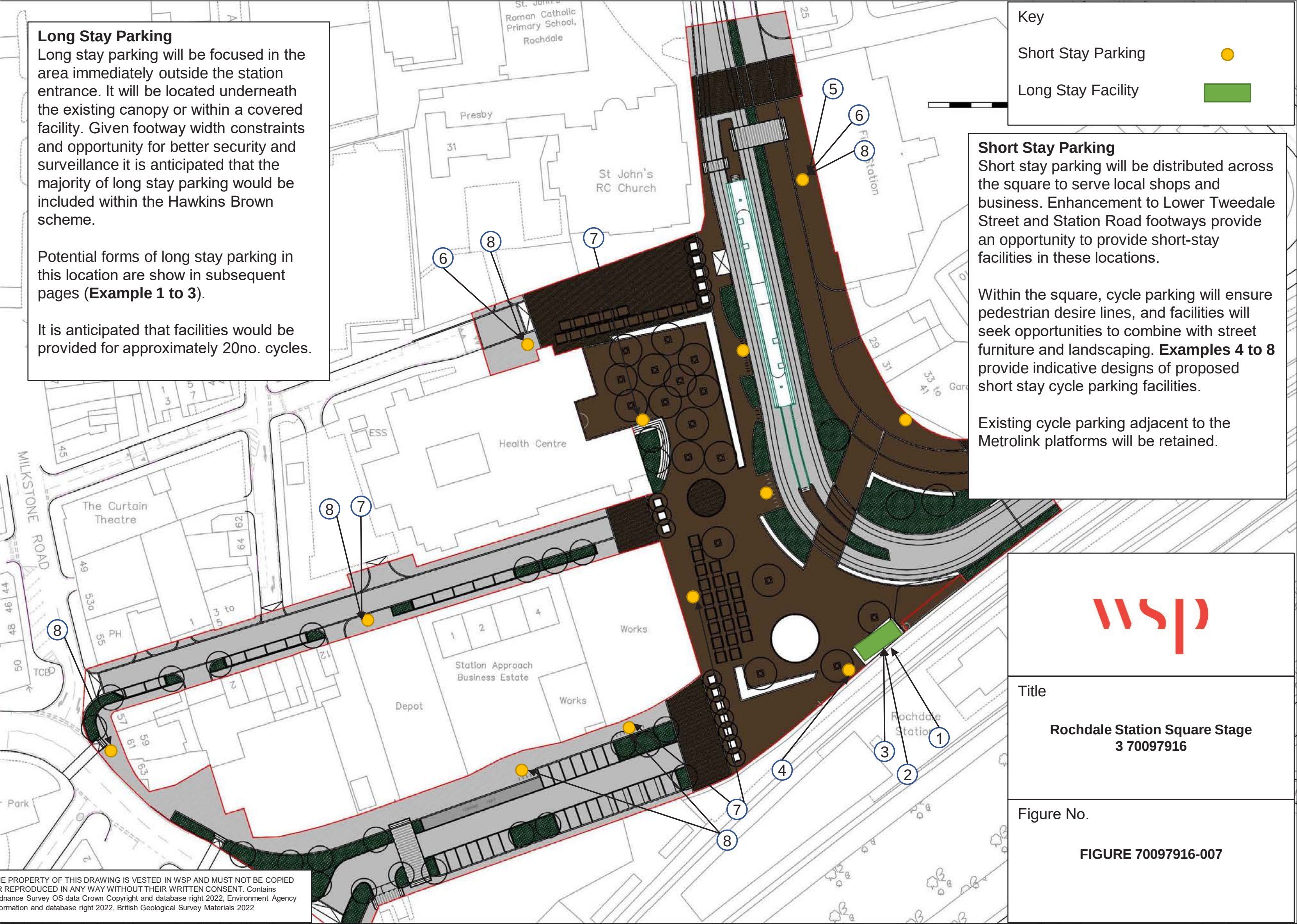


WSP. Engineering Strategy

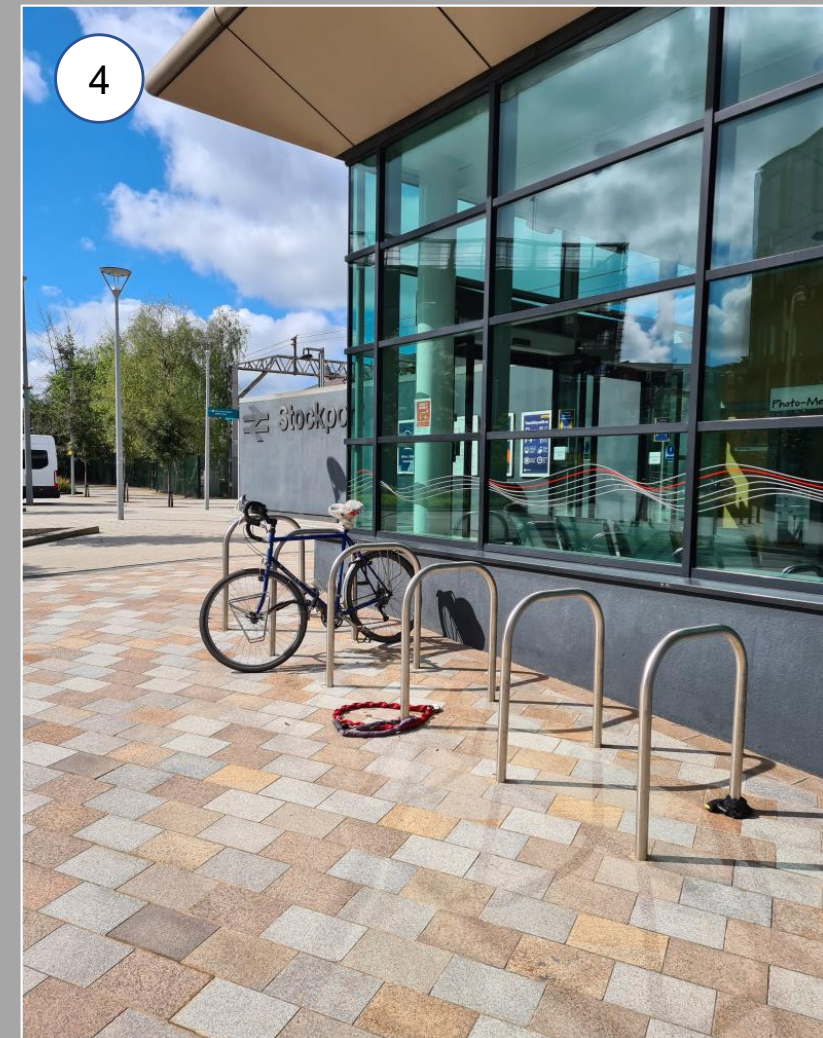


WSP. Engineering Strategy

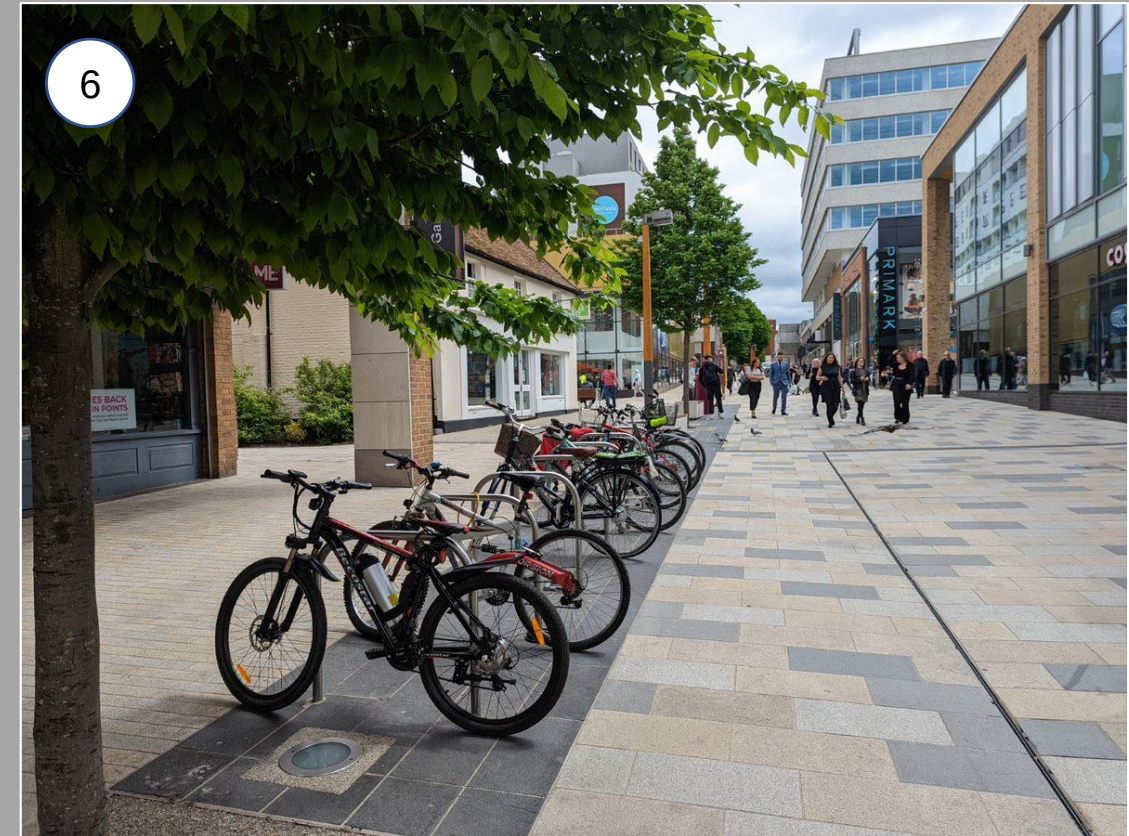




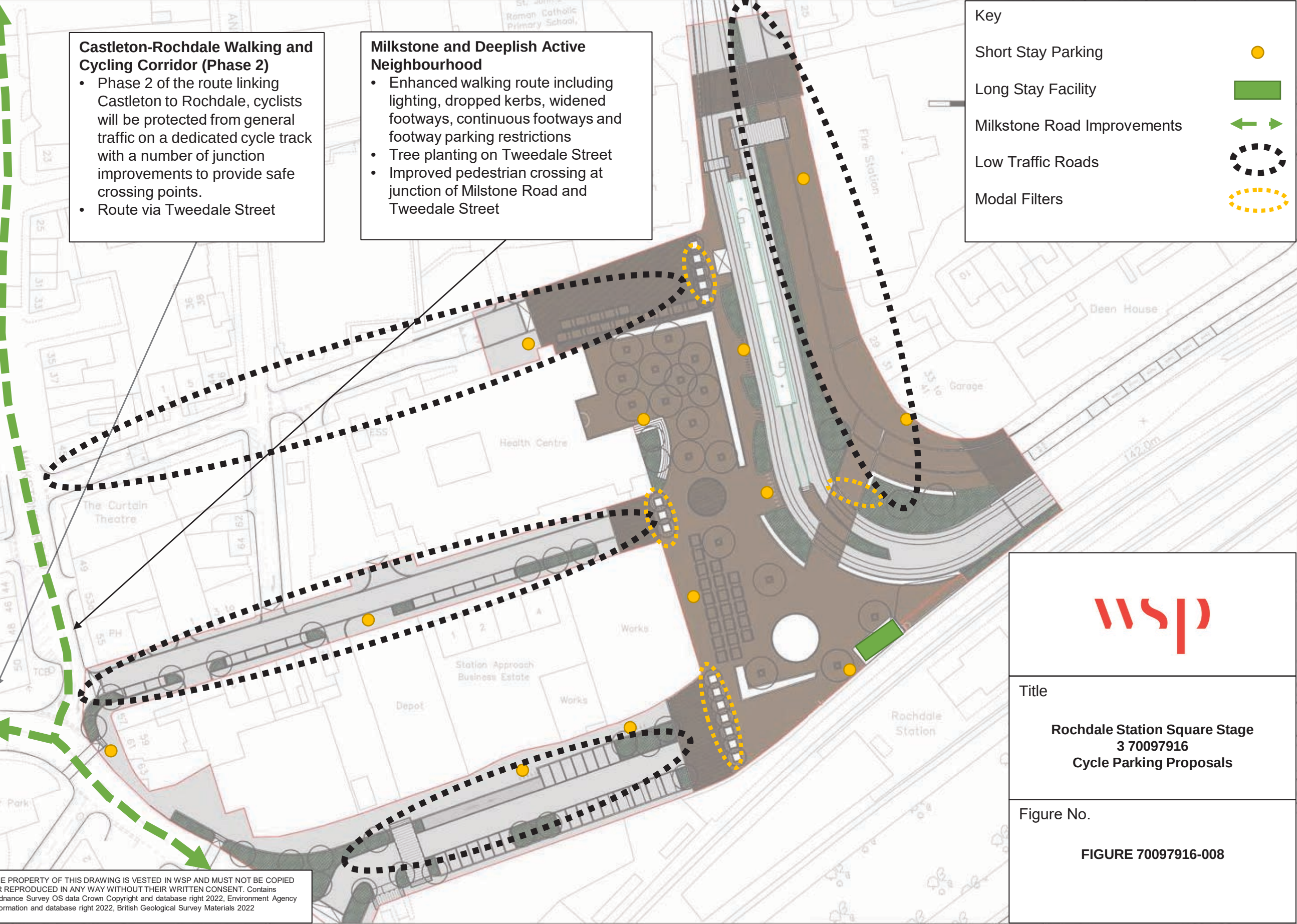
WSP. Engineering Strategy



WSP. Engineering Strategy

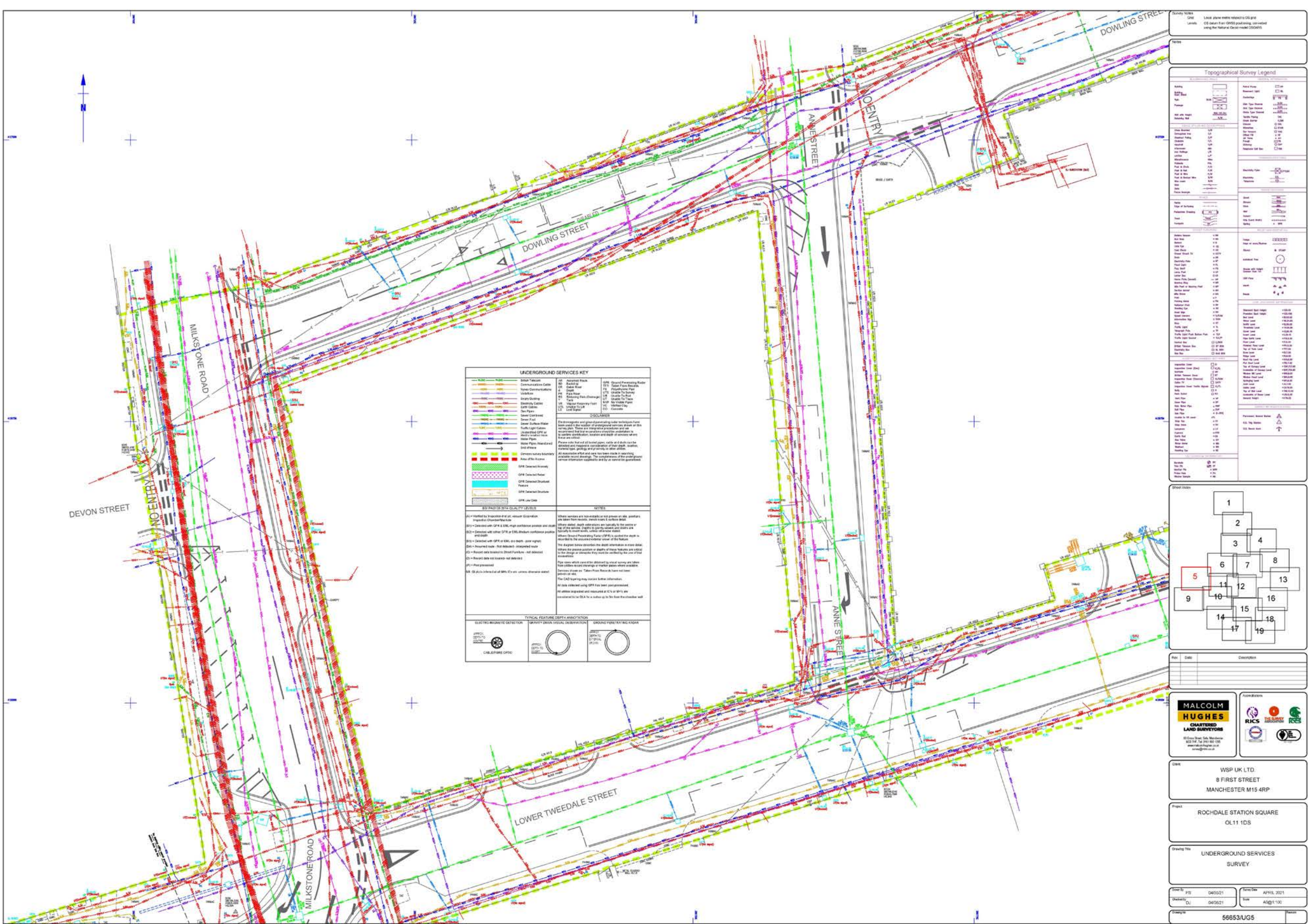


WSP. Engineering Strategy

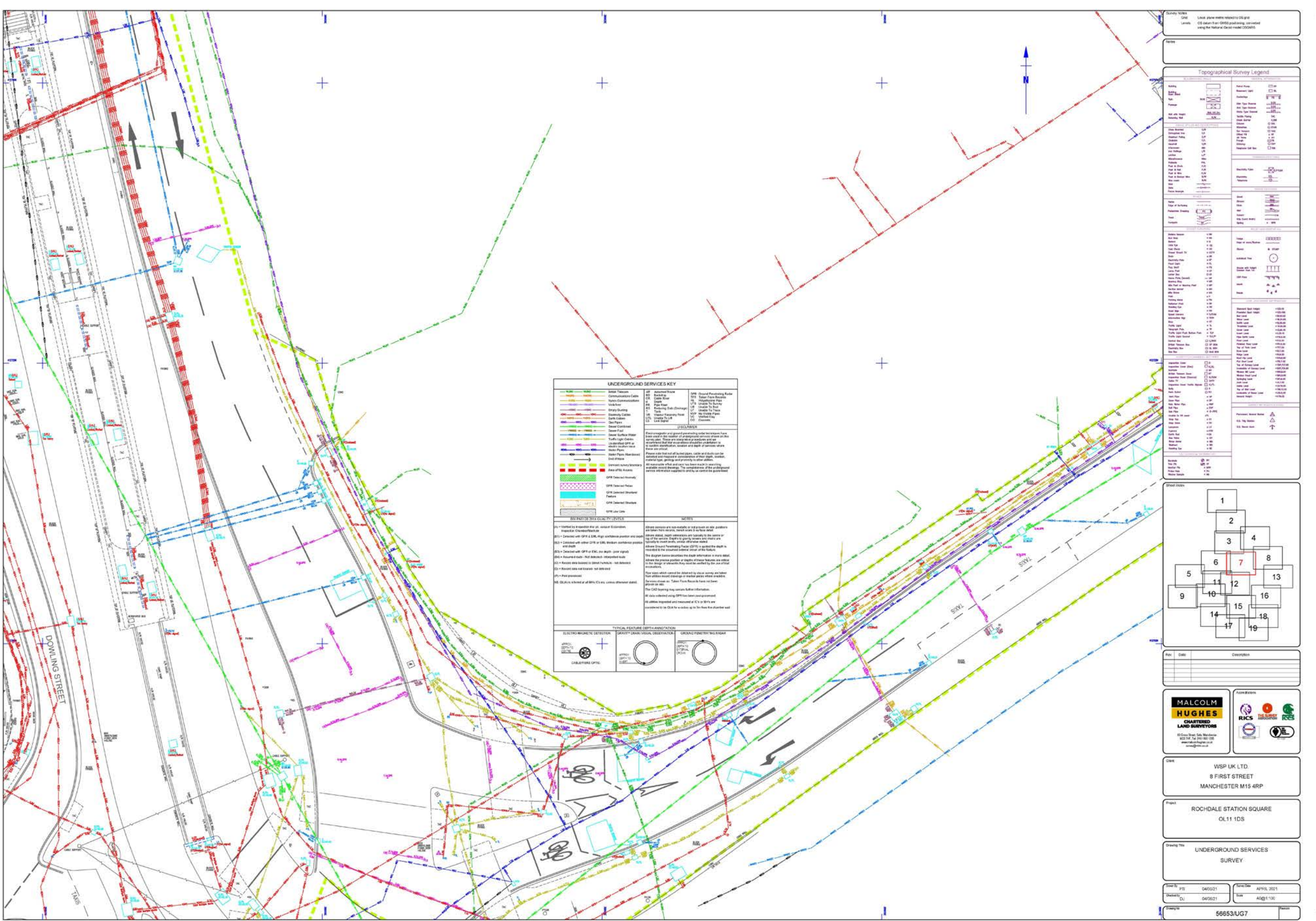


[illegible]

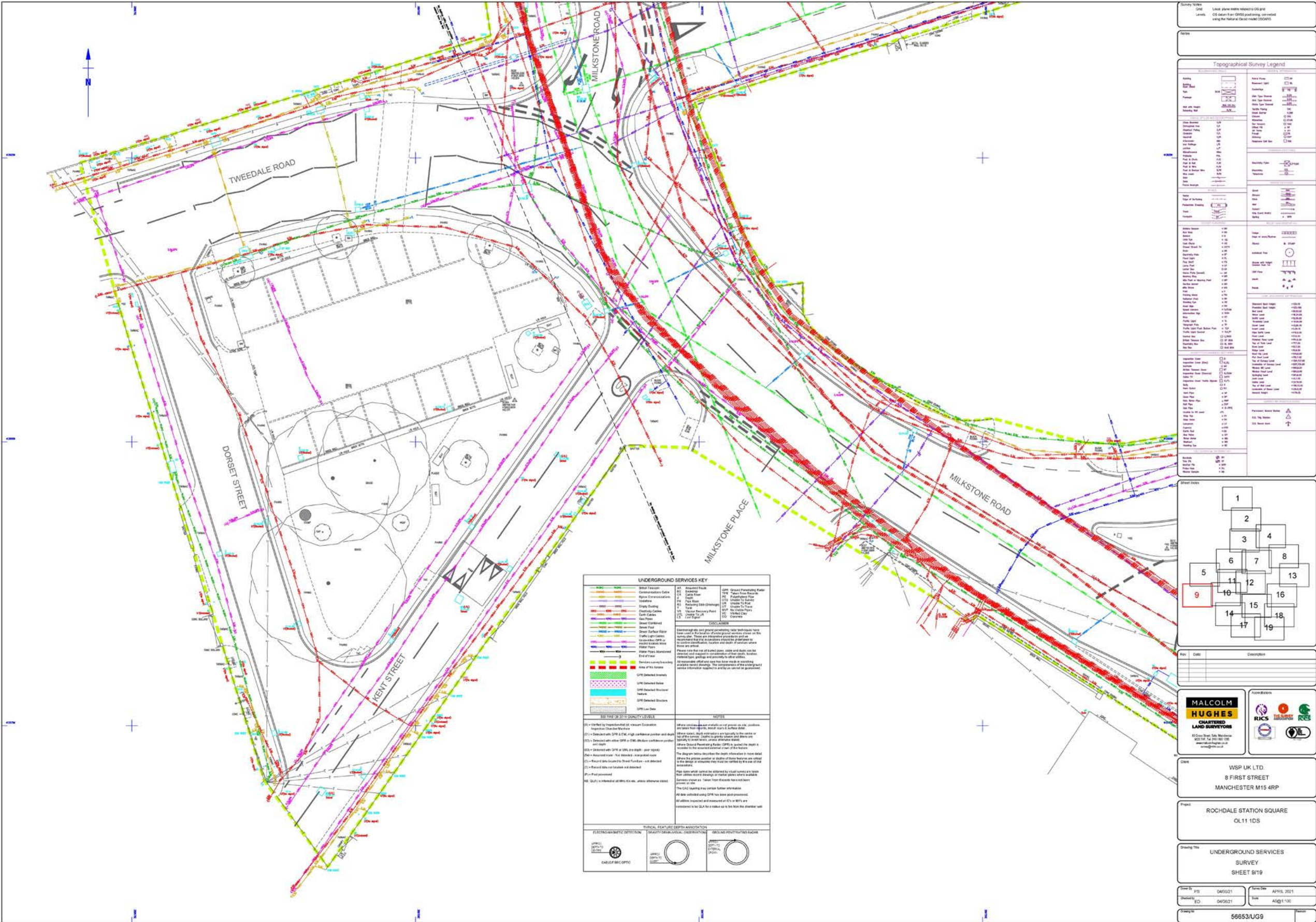
WSP. Utilities Survey



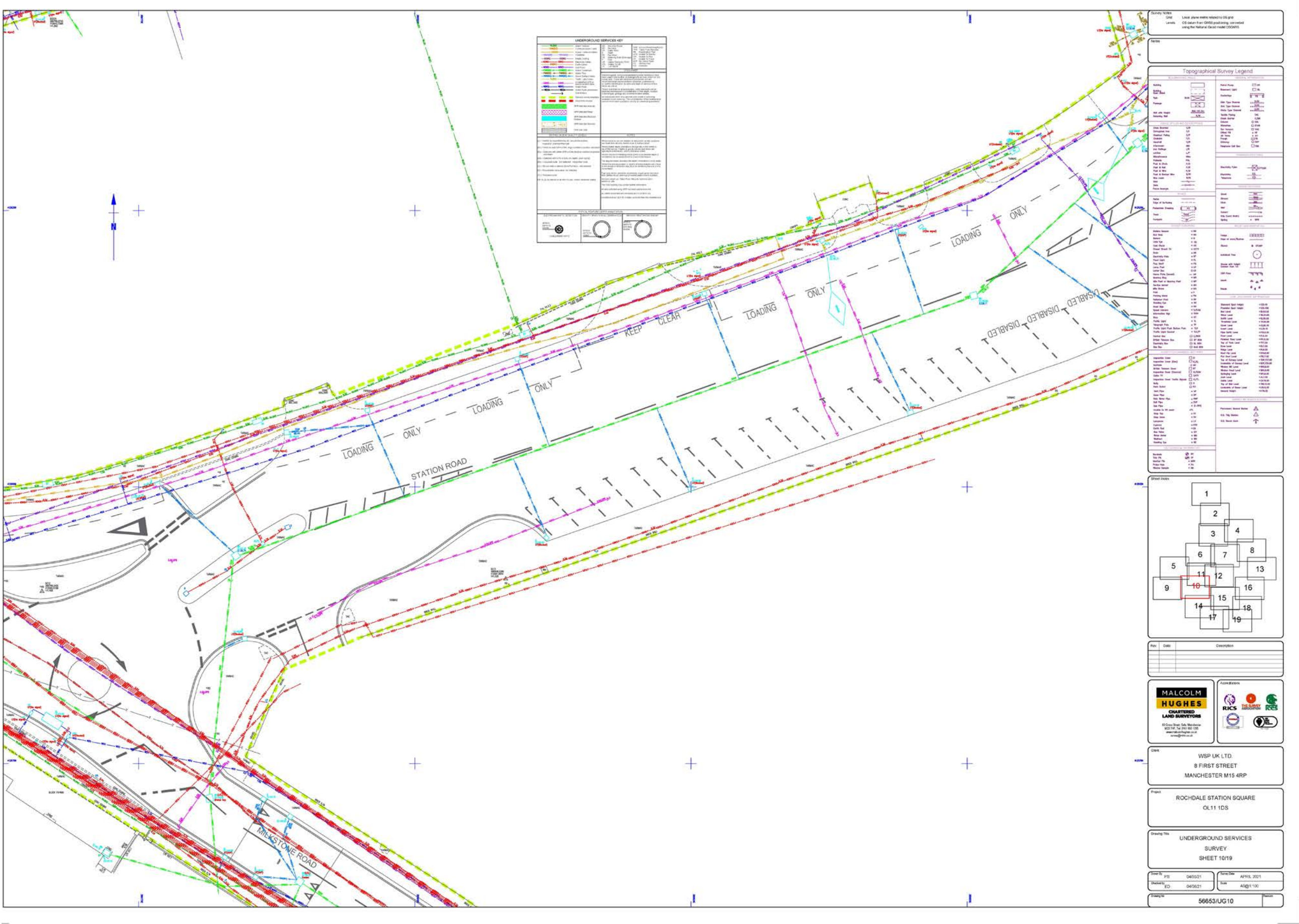
WSP. Utilities Survey



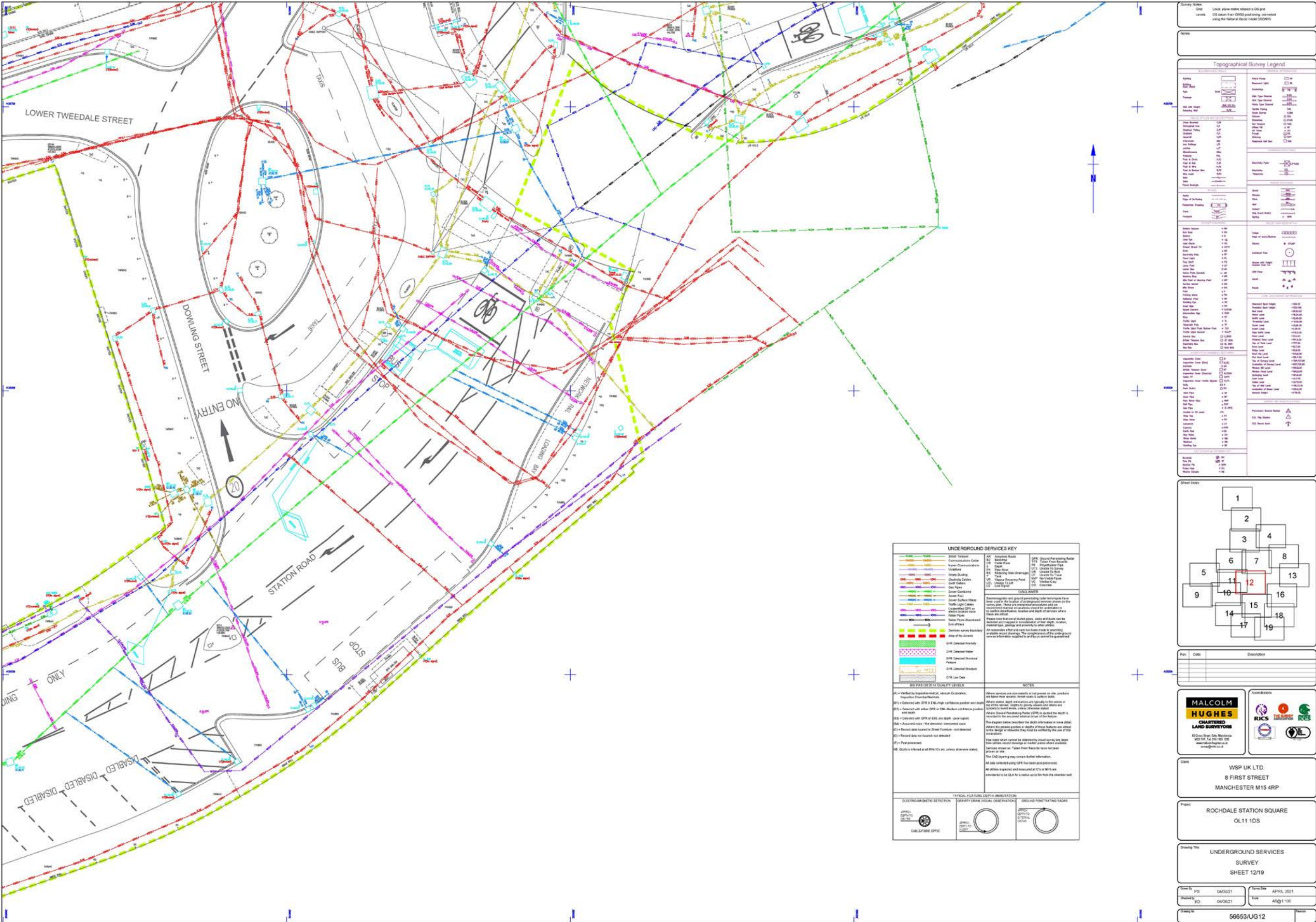
WSP . Utilities Survey



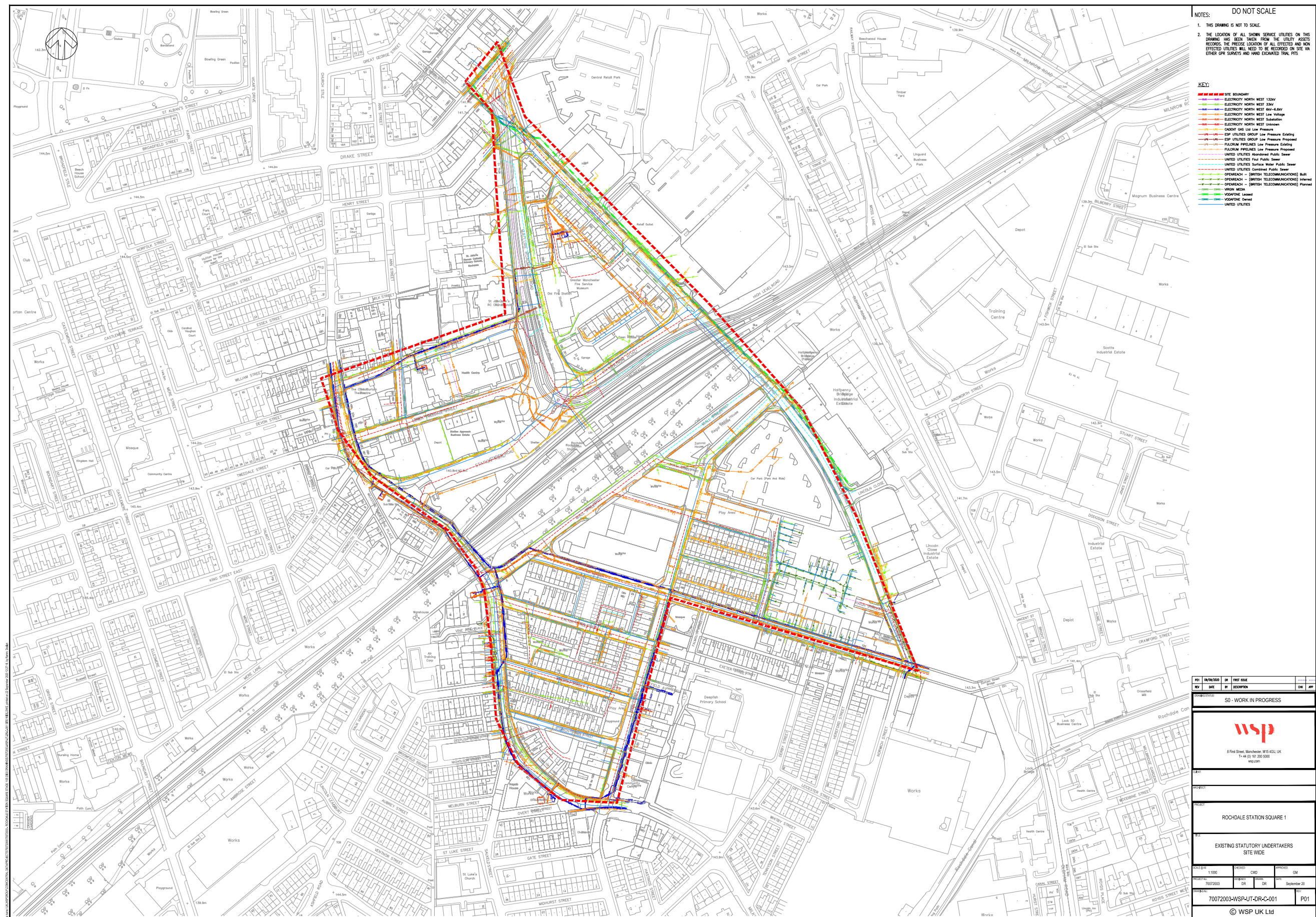
WSP. Utilities Survey



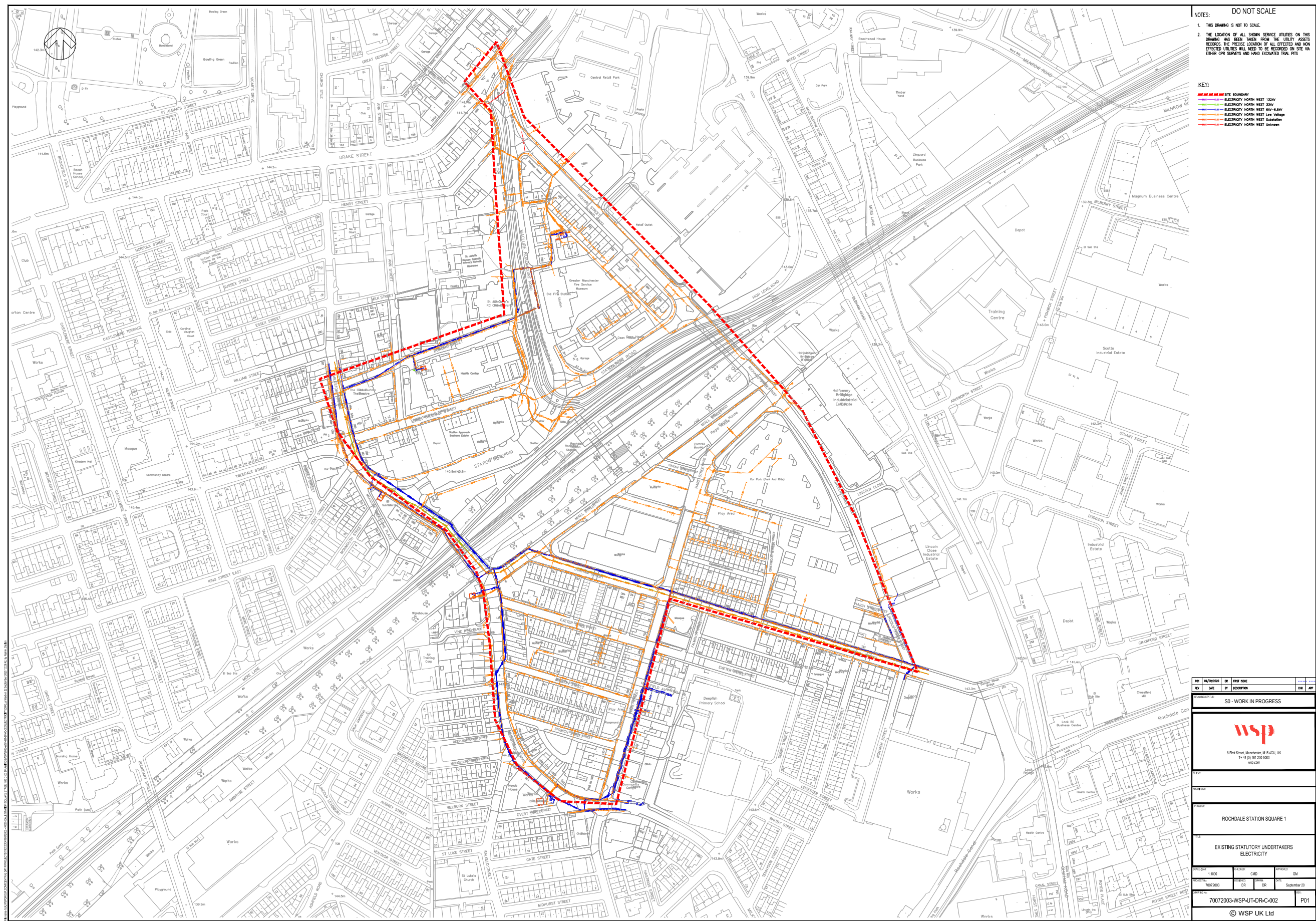
WSP . Utilities Survey



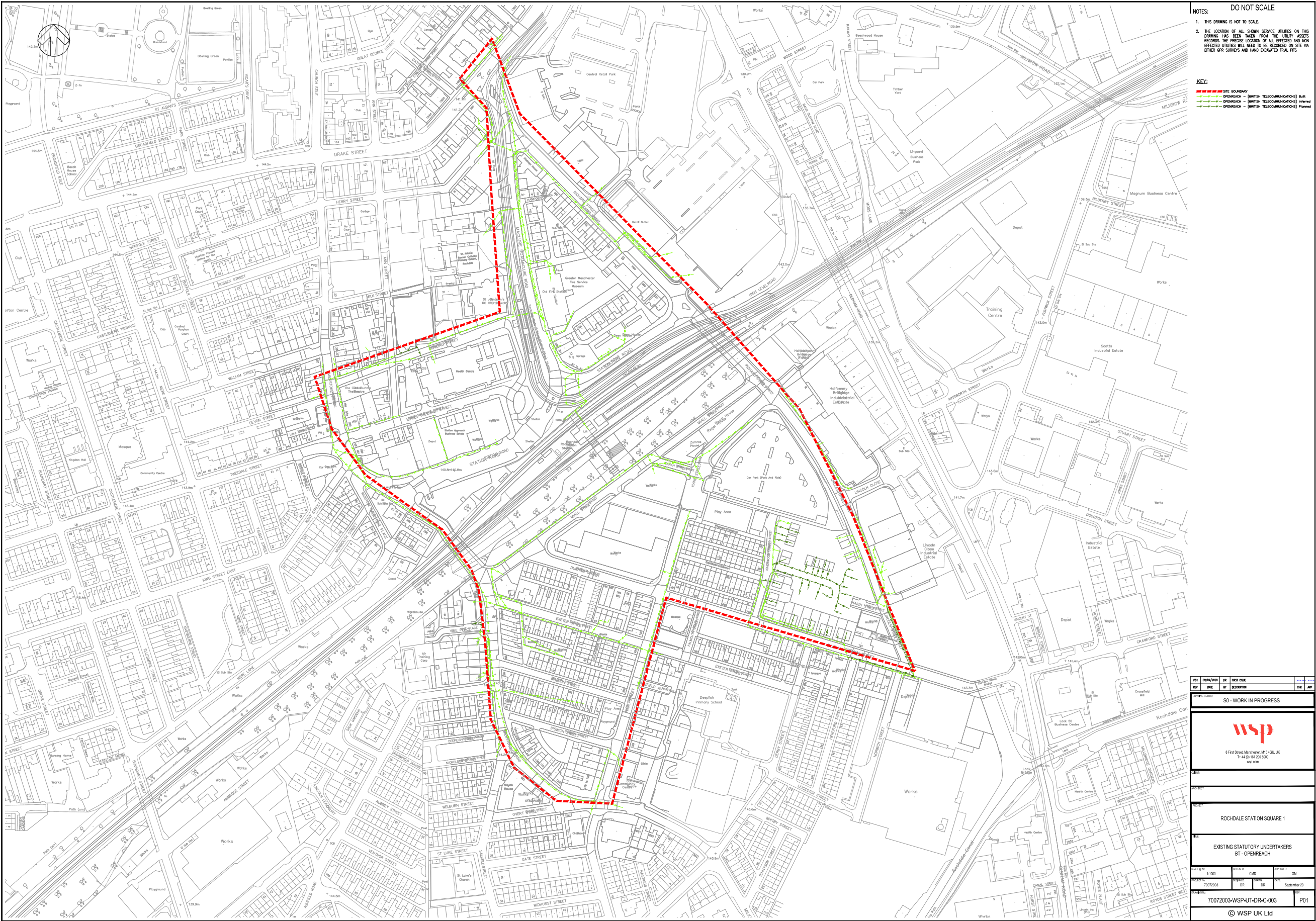
WSP. Utilities Assets



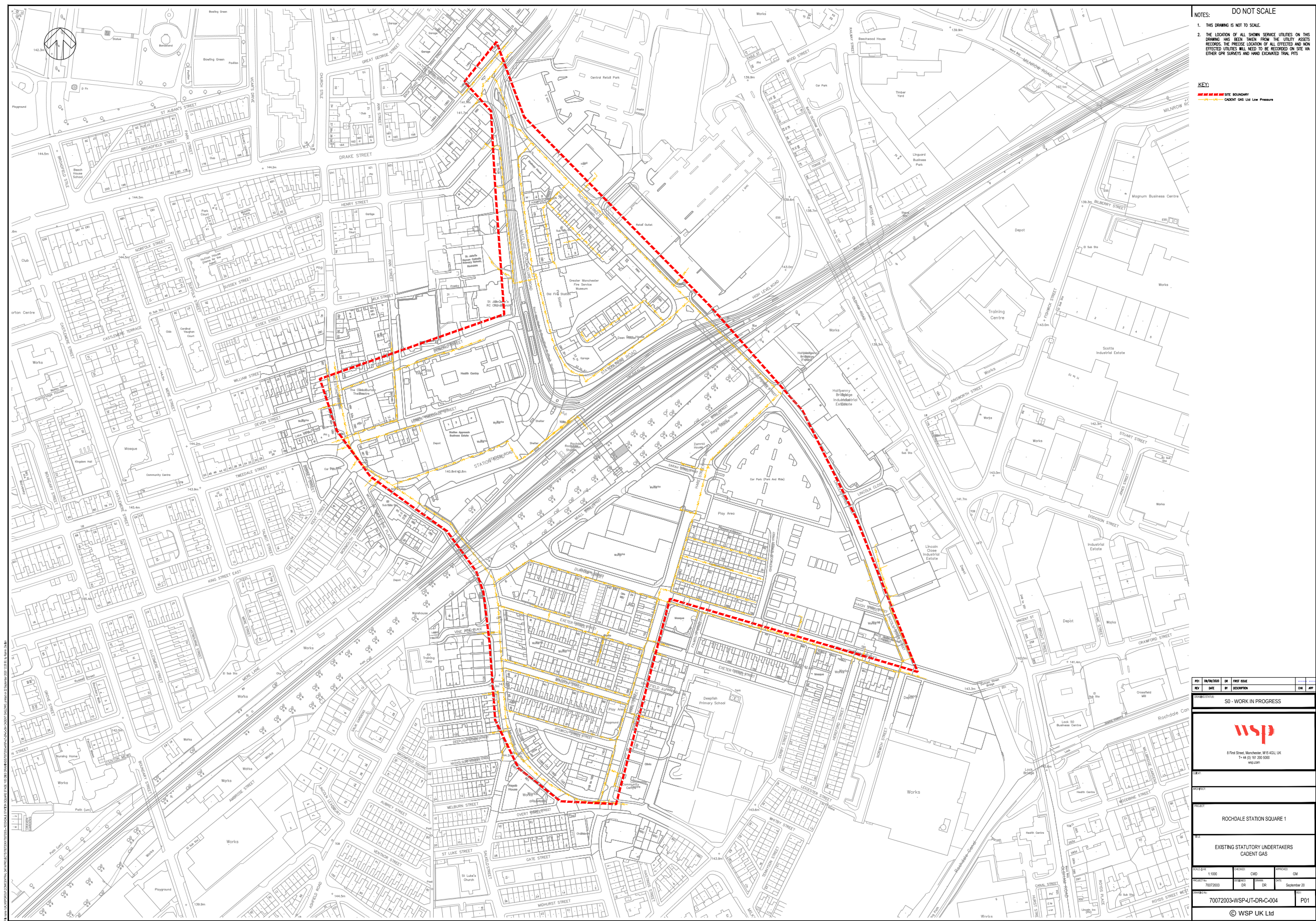
WSP . Utilities Assets



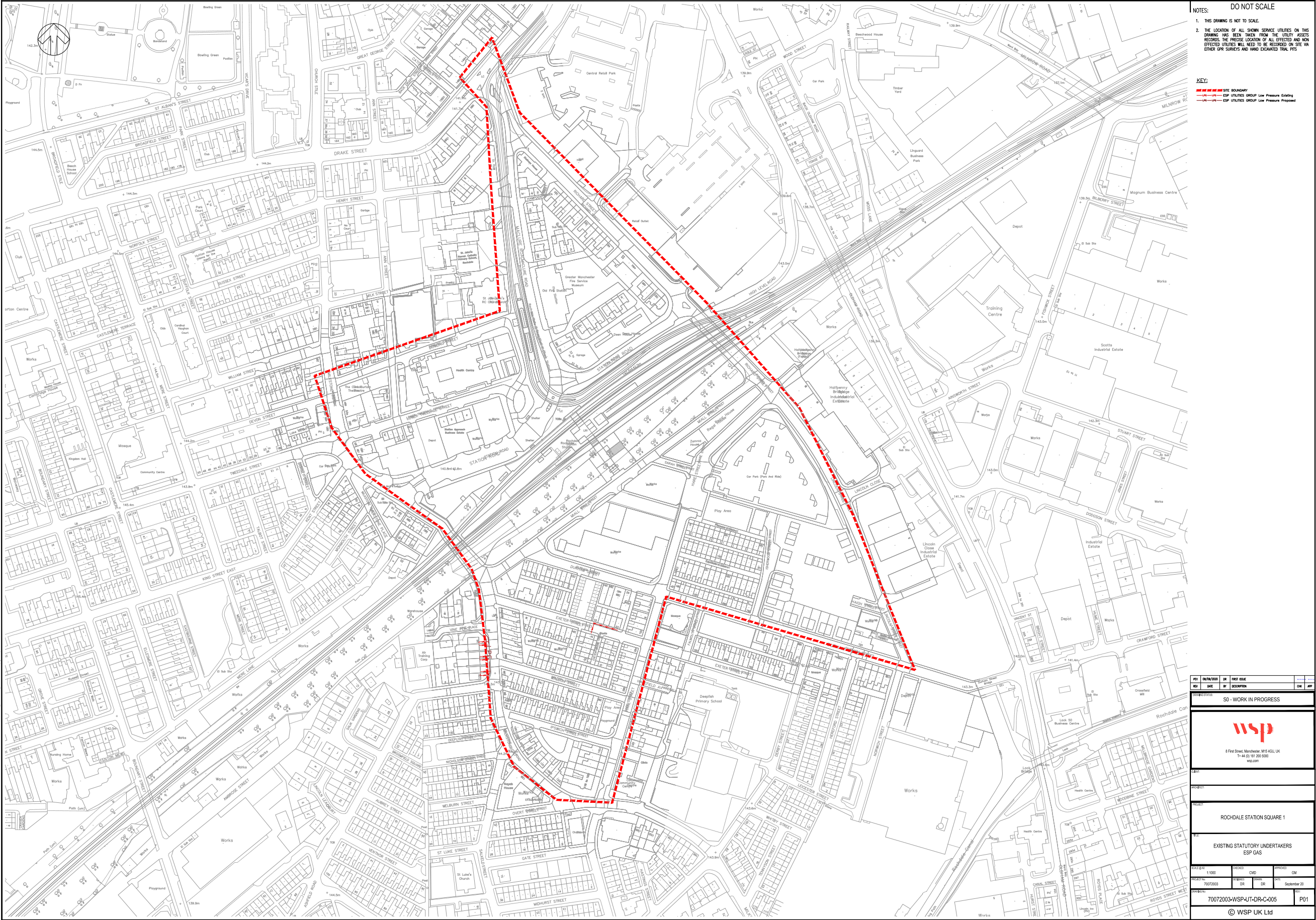
WSP . Utilities Assets



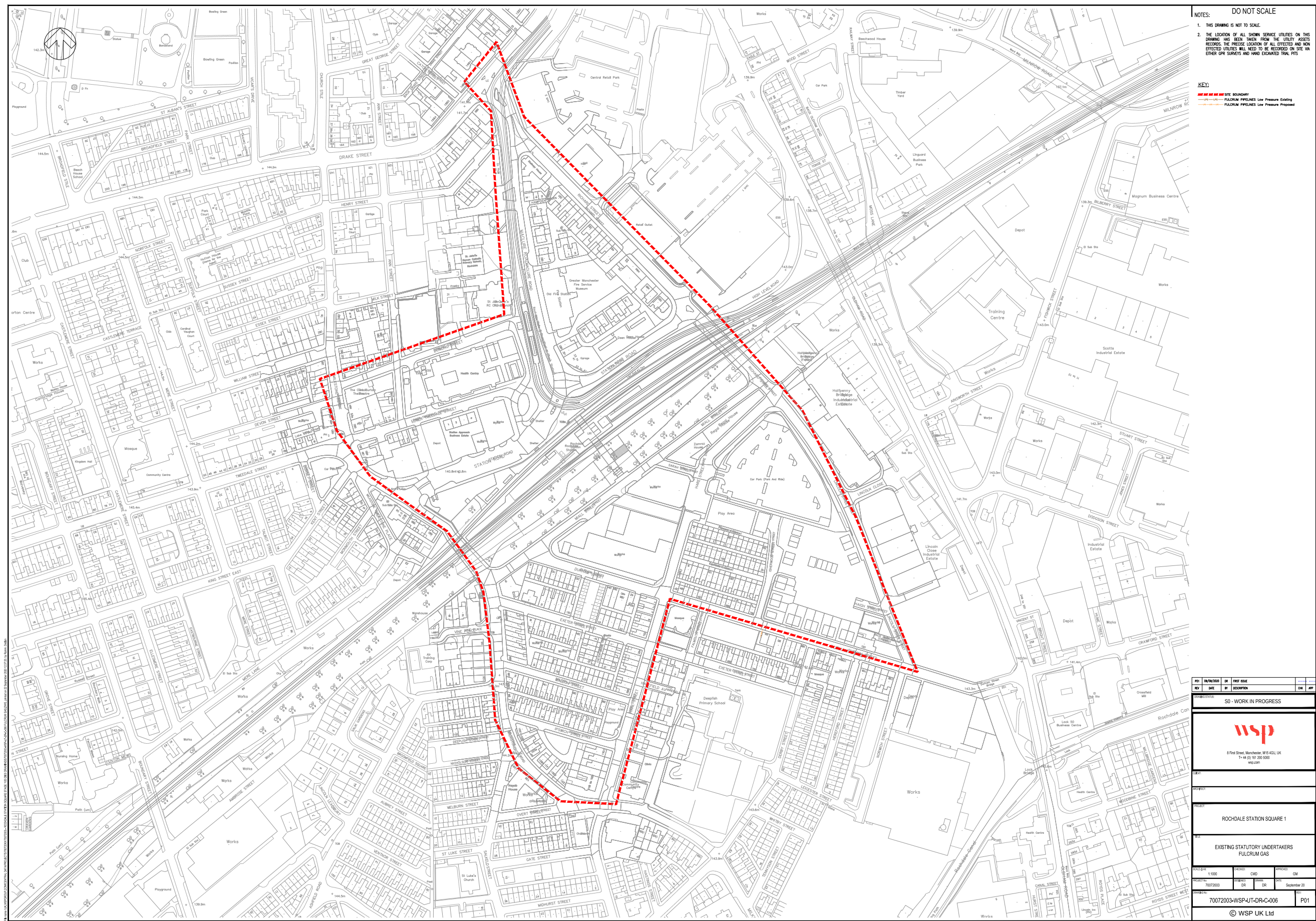
WSP . Utilities Assets



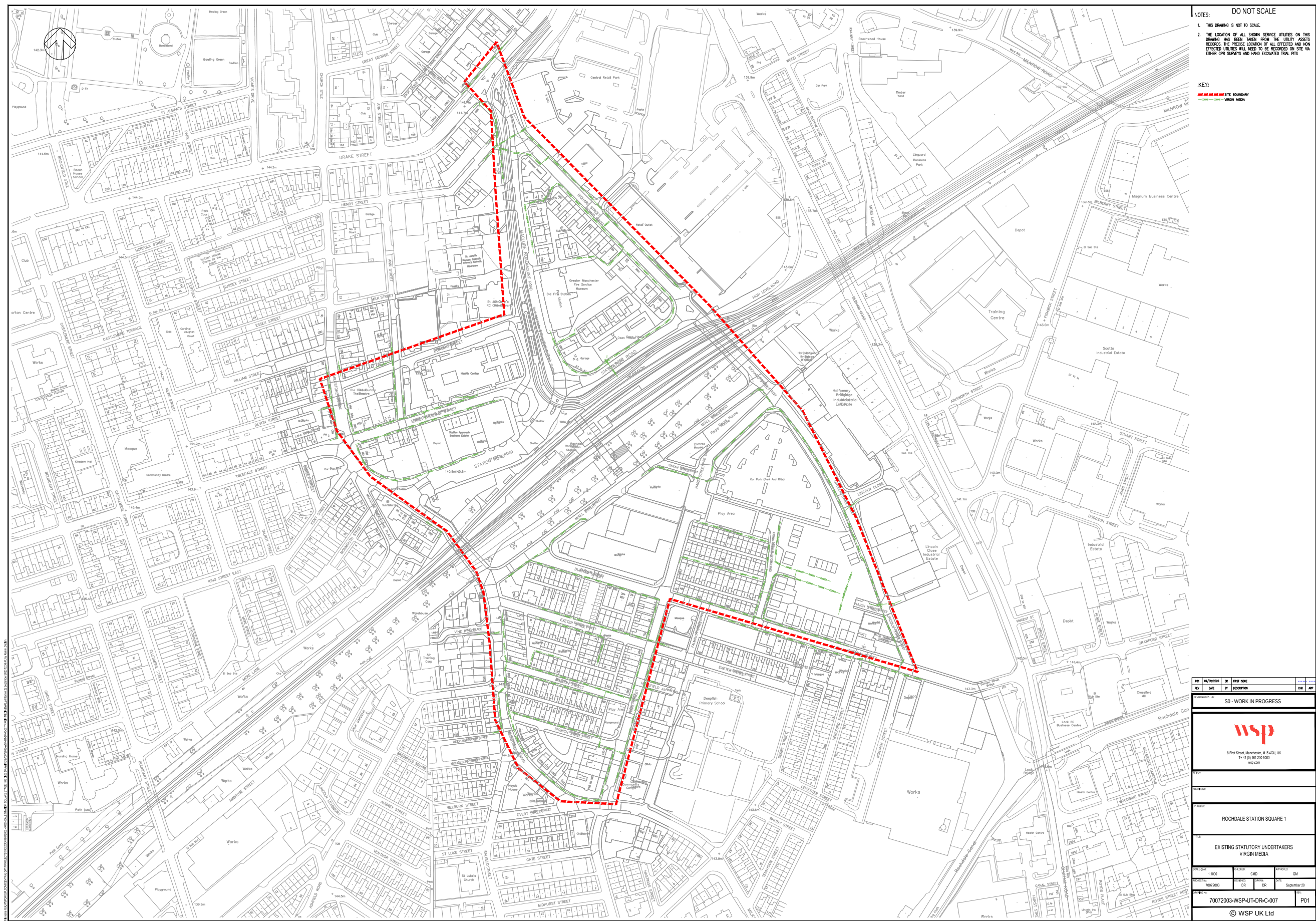
WSP . Utilities Assets



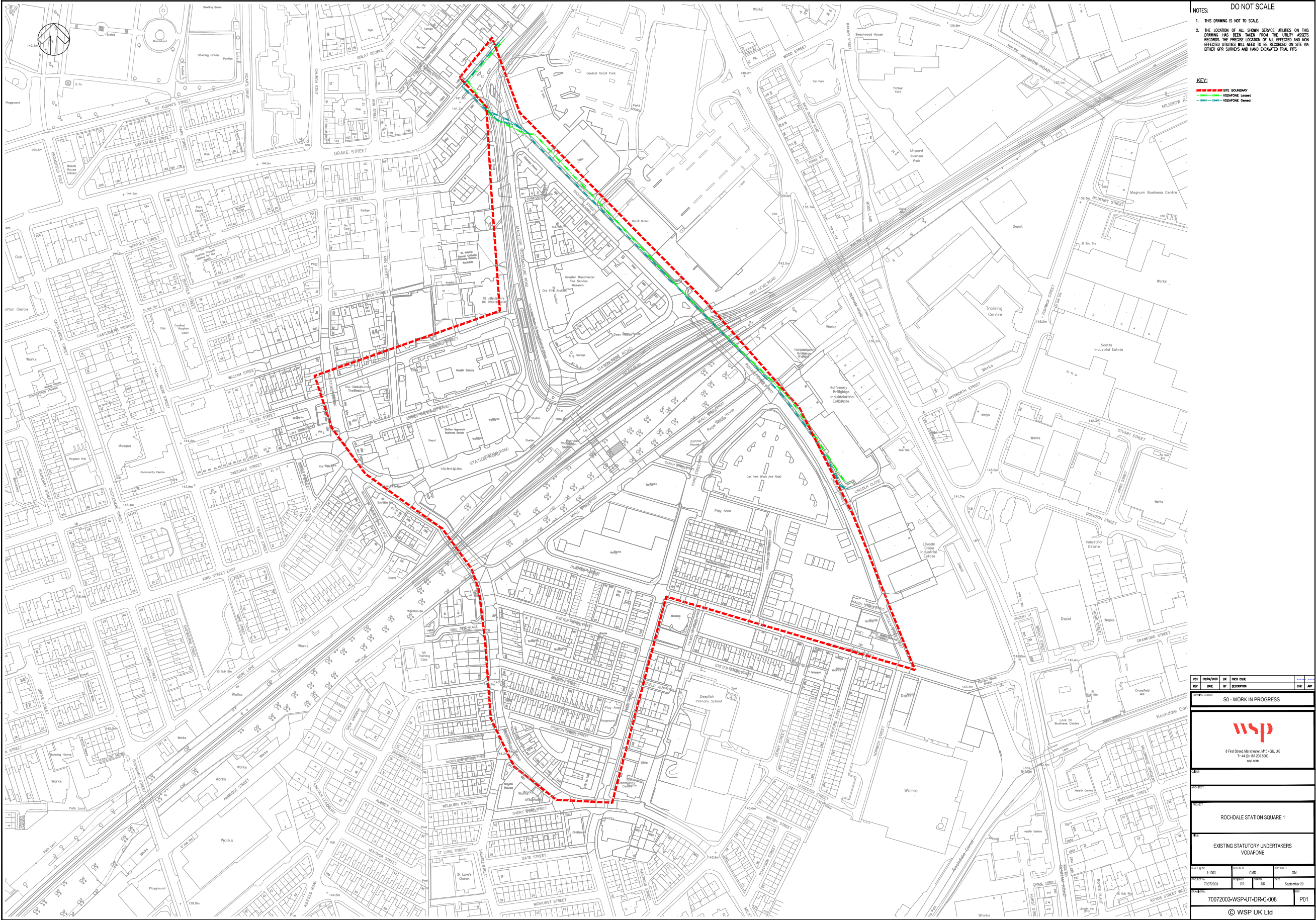
WSP. Utilities Assets



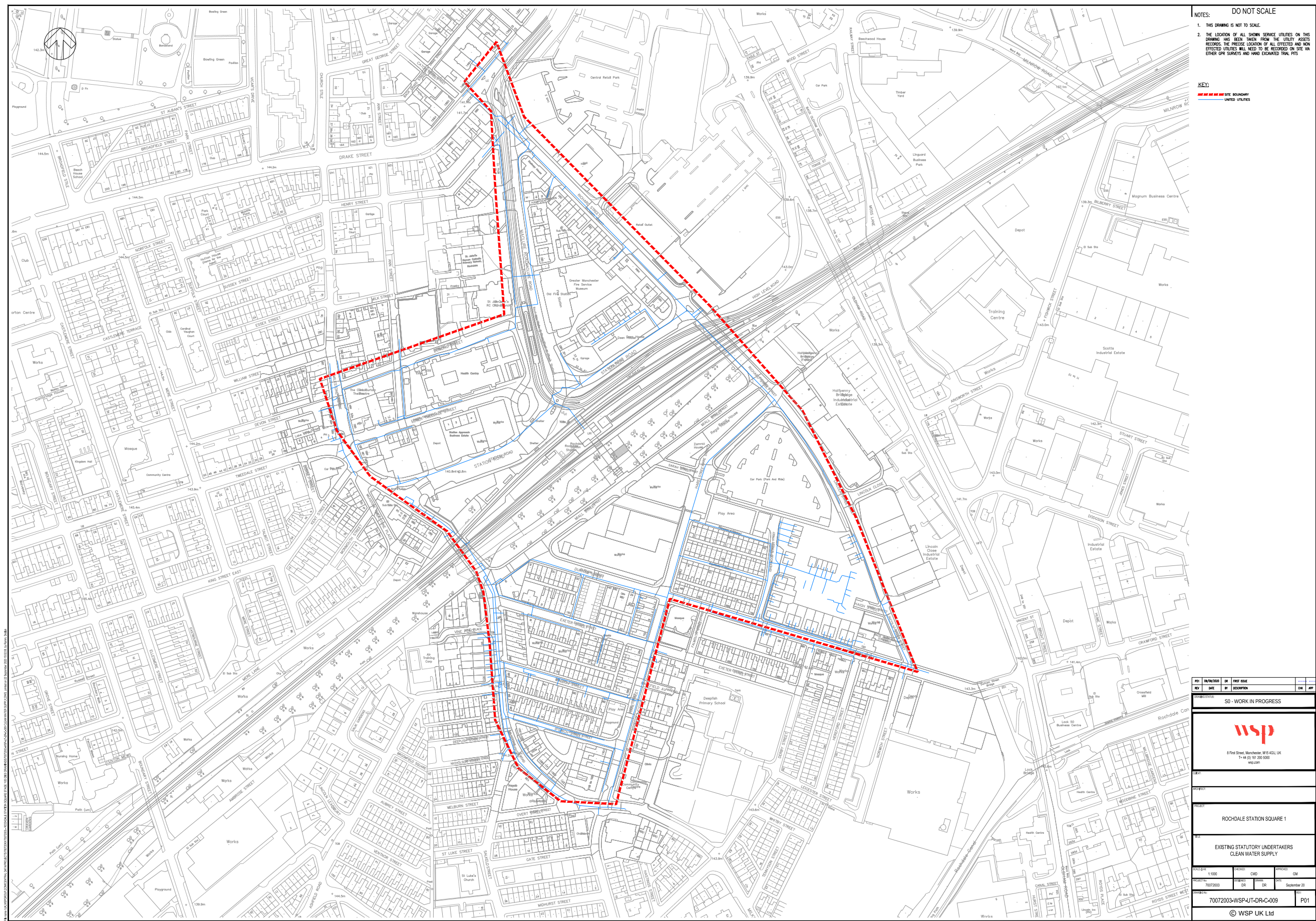
WSP . Utilities Assets



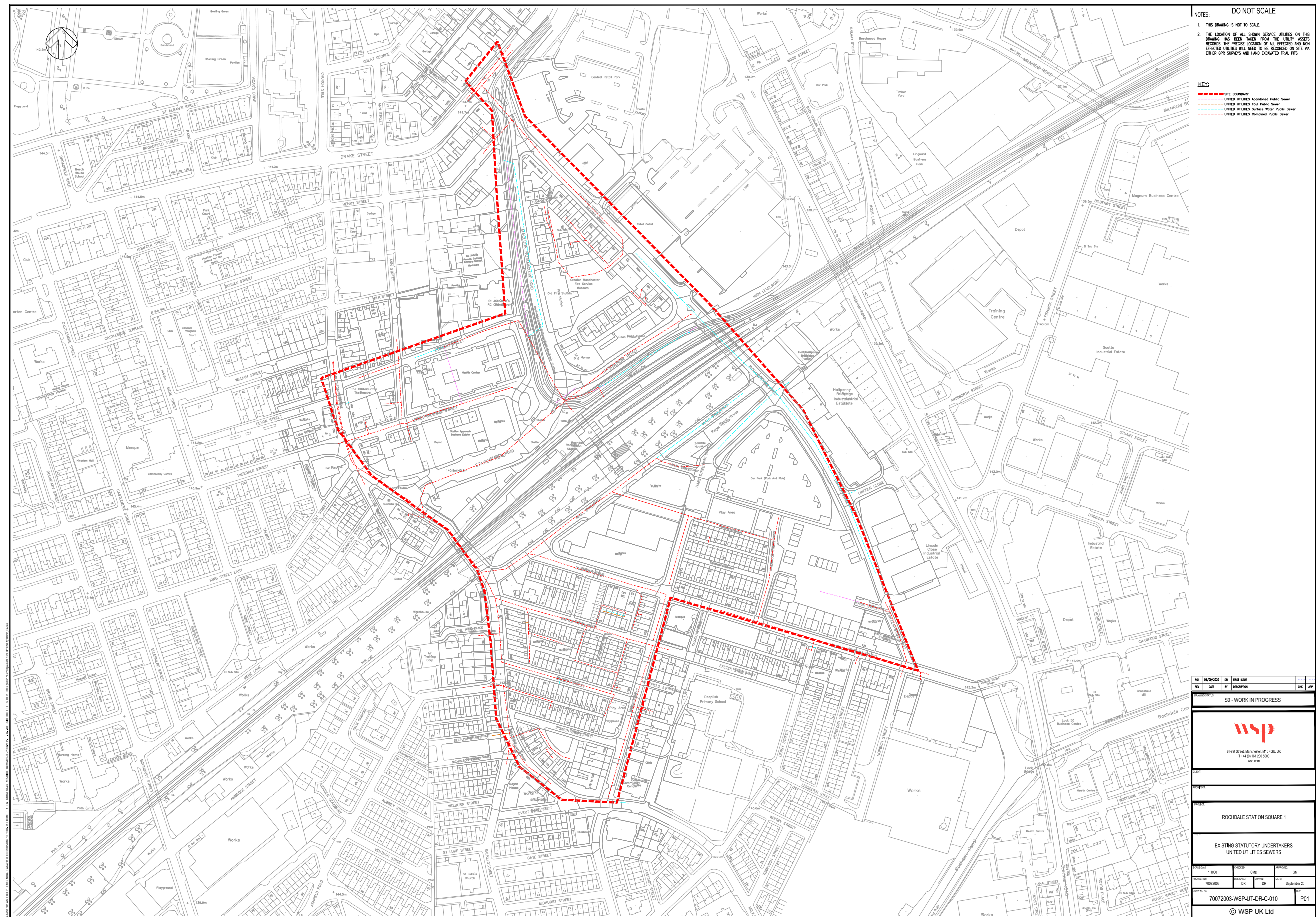
WSP . Utilities Assets



WSP . Utilities Assets



WSP. Utilities Assets



WSP. Utilities Assets

