Jan. 2023

Architectural Design Crossovers

TU DELFT

P2 PRESENTATION

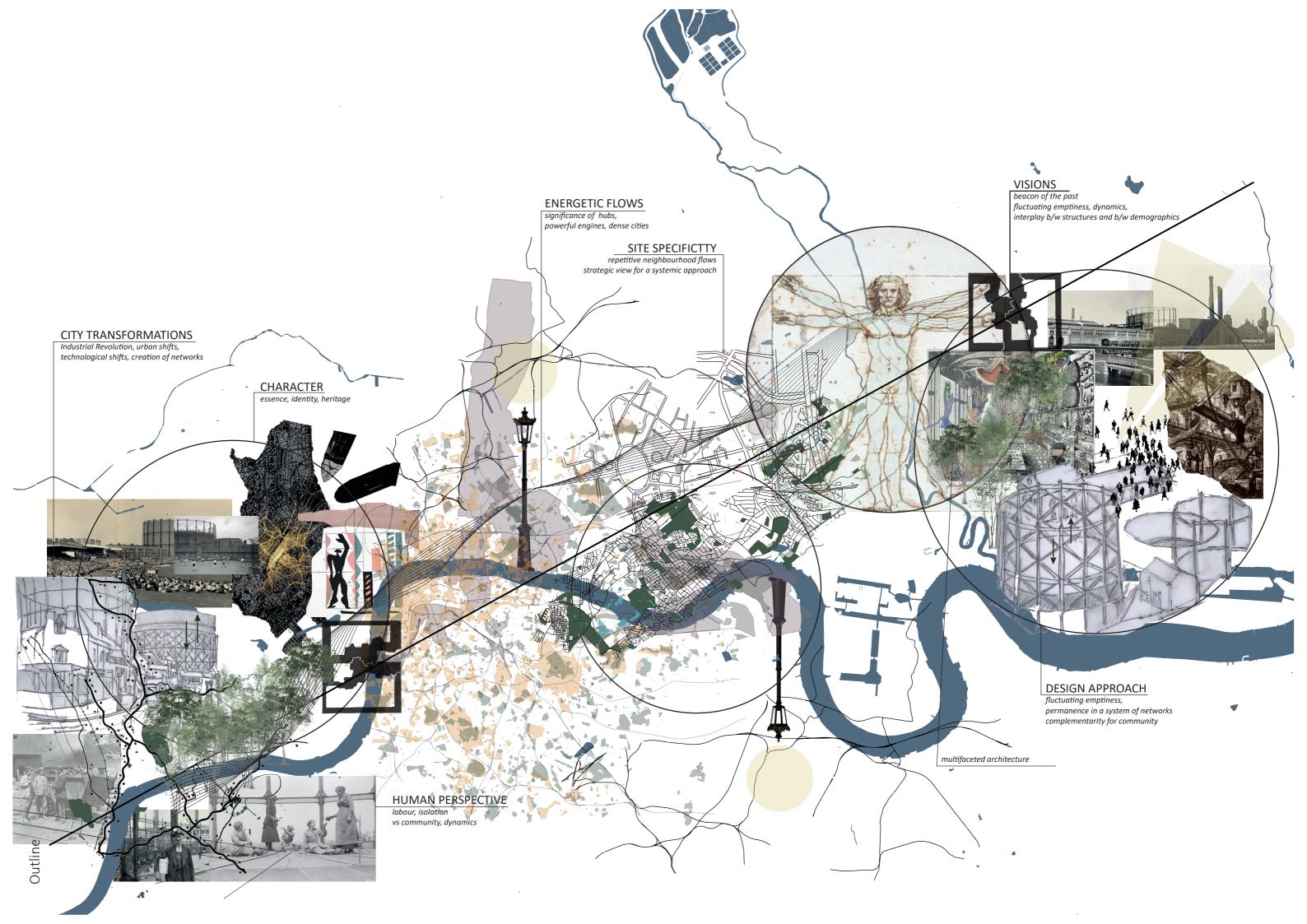
The Gasholder: A Fluctuating Structure

[Re]connecting the community with the engines of the past



11 June 1918. Female workers of the Gas Light and Coke Company serving tea on top of a gasometer in Bromley-by-Bow, east London. Hulton Archive

Nadia Antoniadis
P2 Presentation | Jan 2023



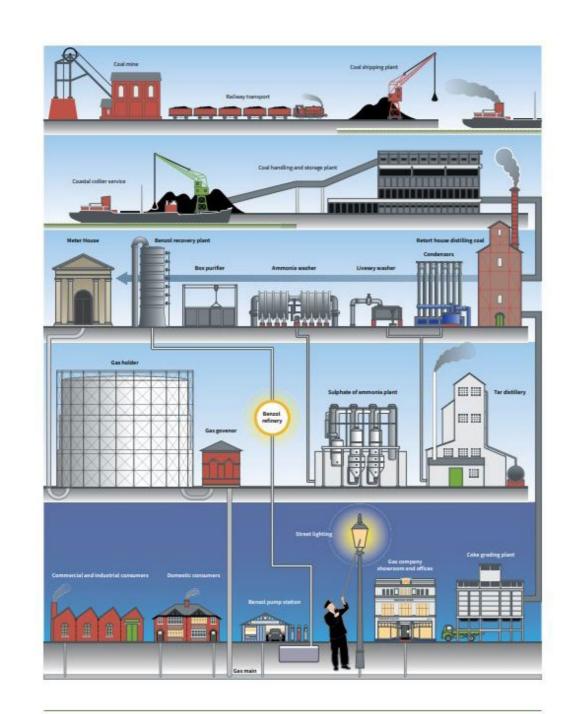
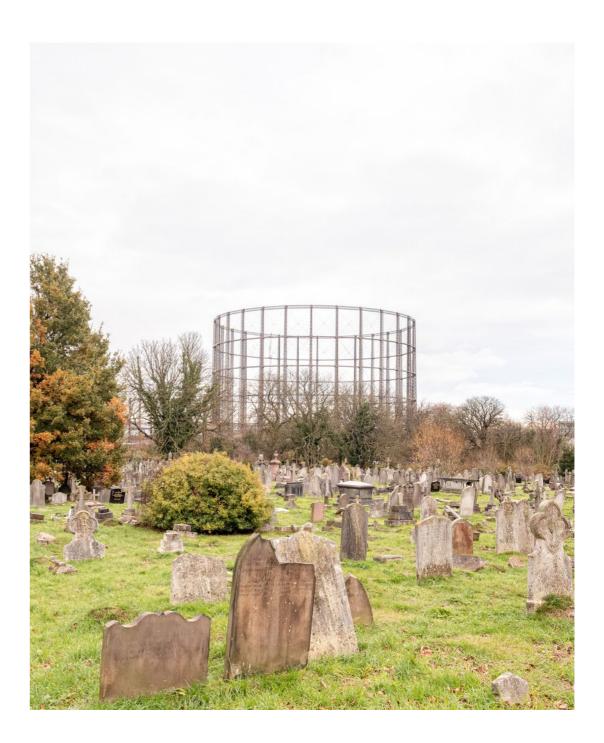


Figure 4: A schematic, general overview of the gas manufacturing process. © Historic England based on an illustration by Professor Russell Thomas





Montford Place, near The Oval, Kennington (1953)



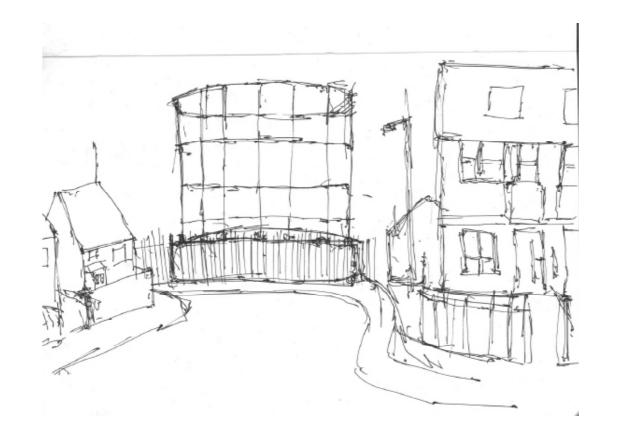
Montford Place, near The Oval, Kennington (2022)



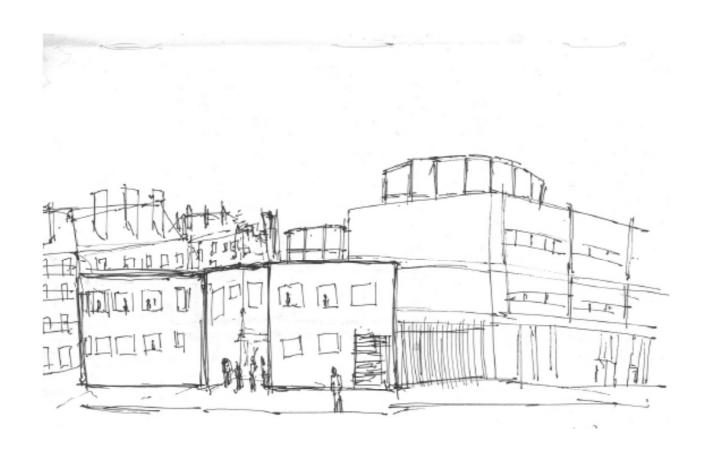


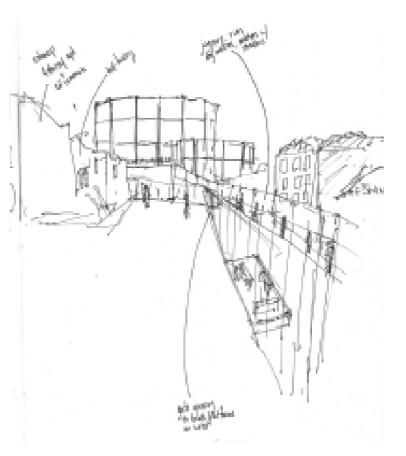
"...only in vacuum lay the truly essential. [...] A vacuum is there for you to enter and fill up the full measure of your aesthetic emotion." (Okakura, 1906)

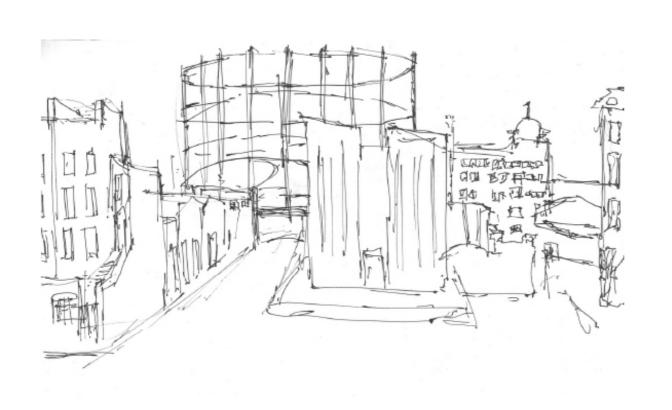
A point of reference of the city through its emptiness







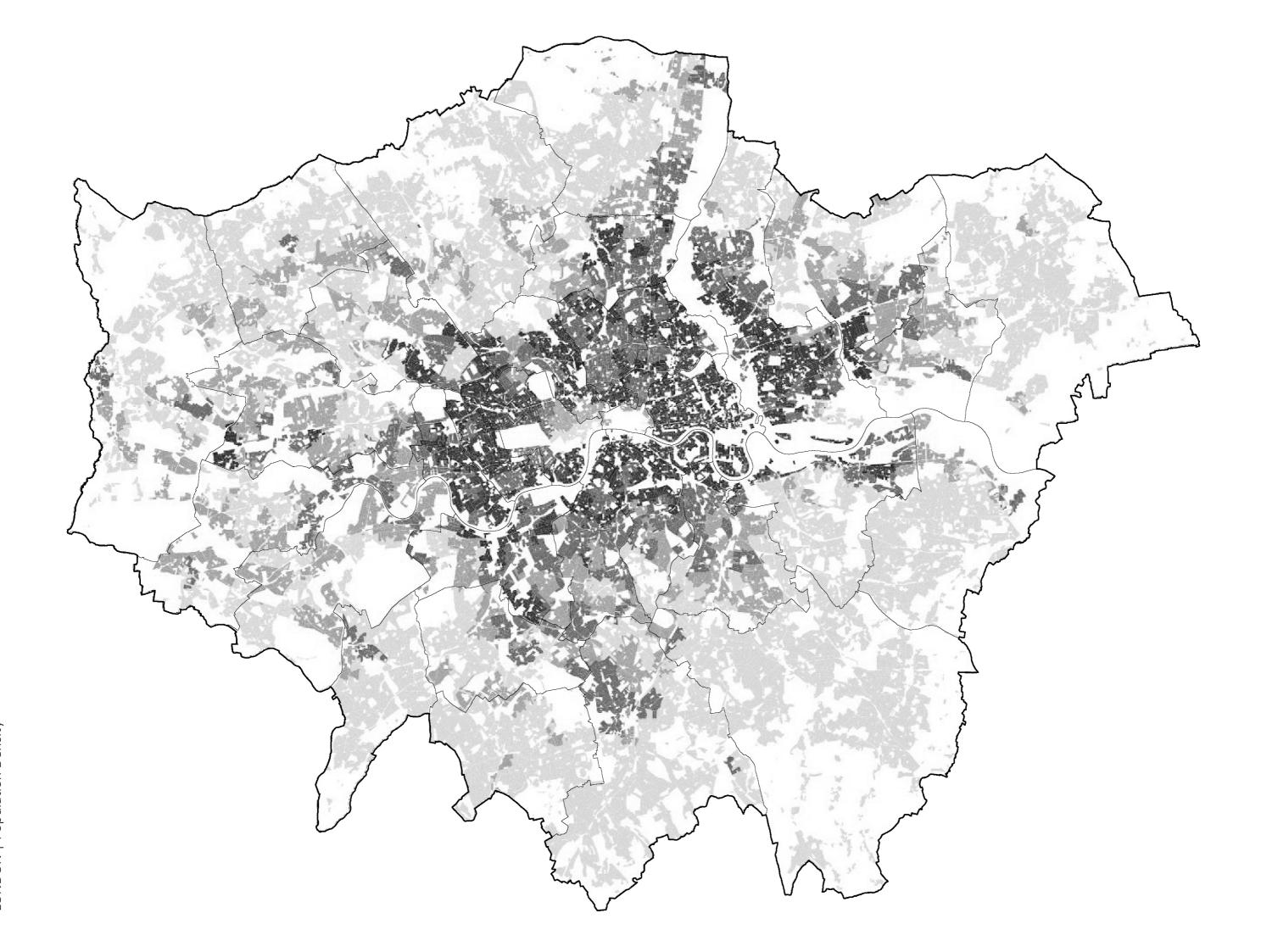






How can complementary architecture act as a mediating tool in reviving vacant heritage sites for the needs of an ever-changing society without rendering their qualities obscure?



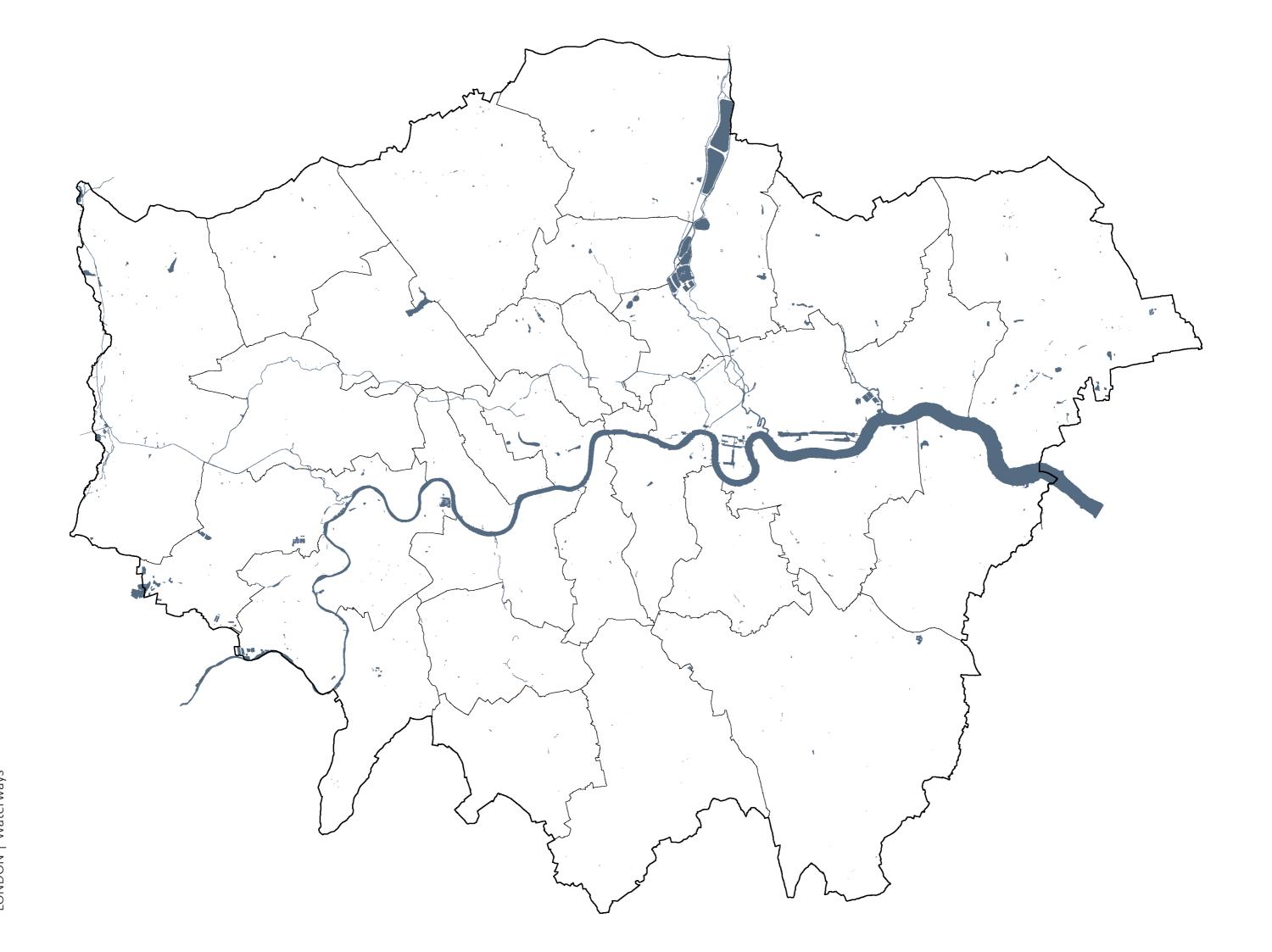




Determining a Site

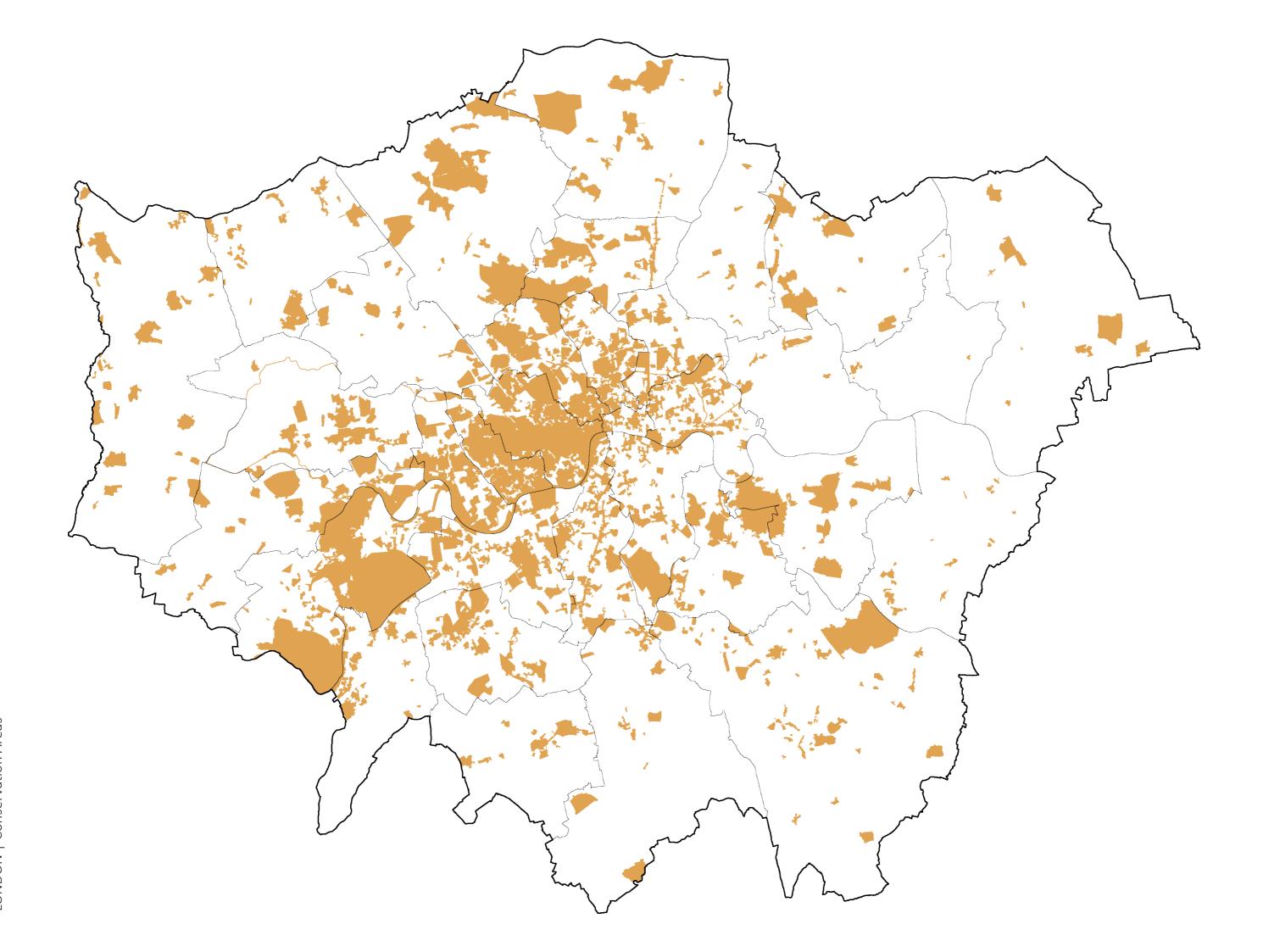
System of networks in London Setting parameters and contraints Refining study through single site specific research











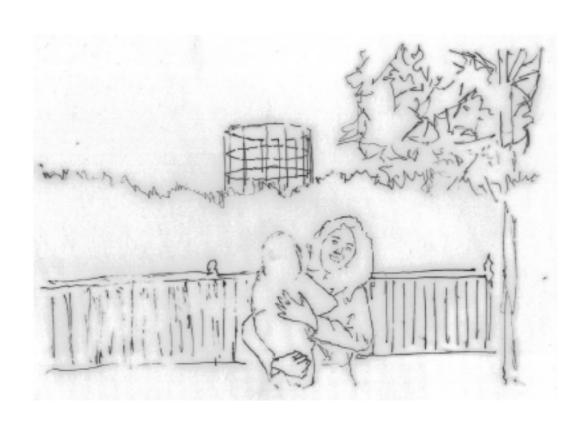


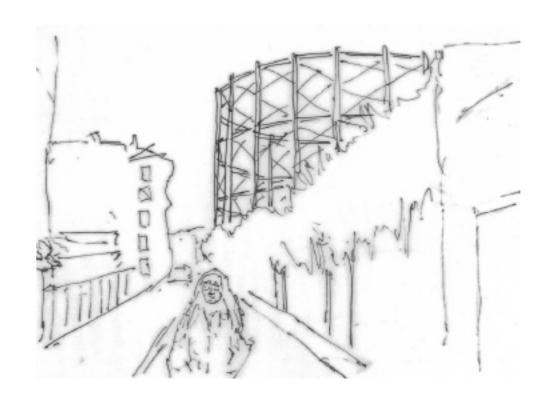






		Albert Road Gas Works (Barnet Gasworks) New Barnet	Beckton Gas Works	Bromley-by-Bow Holder Station	Crayford Holder Station (London Road Gas Works)	Haggerston Gasworks (Hackney, Bethnal Green, Tower Hamlets)	Imperial Gas Works (Fulham)	Kennington (Oval) Gas Holder Station (Berkely Grp)	Leigh Road Gas Holder	Motspur Park (Worcester Park) Gas Holders	Old Kent Road Gas Works	St. Mary Cray Gas Holder Orpington Gas Holder (in Bromley)	Rotherhithe Holder Station	Yarnton Way Gas Works (Belvedere)
Structure	framework excavation	1 frame (with crown) A Cutler patent guide frame gasholder in a below ground tanks was still present on site in 2018 although decommissioned. Some 20th C brick buildings and modern gas infrastructure are present on site.	for loading coal. Remains: jetties on water rotting away	7 column guided skeletons present (Grade II) with crown all below ground tanks	1 frame belowground with crown +1 crown only (with minimal to on framing?) - 2/3GH OTHER REMAINS: A whitewashed red brick building parts of the boundary wall and two gasholders survived in 2018.	crowns no frame below ground tanks	1 small skeleton with crown +1 crown without skeleton +1 dismantled belowground showing "dumpling" (cone of earth), +1 crown removed with exposed trusses	3 frames with crown +1 crown no frame (maybe spiral) below ground flying lift, column guided GH No.1 is Grade II There were five GH operating before WWII but only two were still operational after the war, these were (No.1 and No.3), but were all eventually brought back into use. The early gasholders (No4&No5) have the symbol of the phoenix on their columns (because purshased by Phoenix Gas Company in 1847). Vested in the SEGB in 1949. No.3 gasholder was demolished after 1987	1 frame with crown	2 frames present with crowns, above ground	1 crown below ground tank with frame + 1flat area delimitation (no structure traces, no digging) column guided framing	2 aboveground gasholders one with frames, one without (because it was spiral) + 1 dismantled (not sure about tank) No5: spiral guided No4: frame guided No3 cutler patent frame guided (dismanteled) OTHER REMAINS: moderrn regional office	1 frames with crown, below ground	2 frames vsible, with crown, above ground
Setting	dead space greenery waterbodies private/public space	Greenery parking spaces	dead contaminated space River Thames railway tracks	round waterbody greenery	Lots of open green space	Busy area with a lot of ameneties. Might make the space overwhelming if another venue is added		Kennington Park parking potential	Greenery River Roding near beckton gas works	Green space, organised (sports)	dead space (brownfield+paved)	paved area river cray	field Surrey Water parking potential	dead brownfield
Surrounding programs Amenities around (good for community)	assembly commercial industrial institutional residential	Assembly Park, playground Football field Gym Sports centre Bars, restaurants Commercial Supermarket Pet grooming Taylor Accountant Contracting companies Industrial Cadent Gas Company (distribution of nat gas) Institutional Jewish community school Jewish community school Primary/Nursery Residential	Commercial • Tesco • Supermarket • Toy store • clothing stores • Restaurant Industrial • Docklands Light Railway Ltd • Depots • Depots • Delivery offices large Eastern European community settled in the area	Industrial • DHL Depot • Manufacturer • Car inspection	Residential area for a community. Very personal Residential mostly Assembly elarge green park (Shenstone Park) evillage hall (gathering space for school) etennis club (fields) Institutional eschool echurch hall	Assembly • Art gallery • Pub/Bar • 2 event venues • Garden Commercial • Art Store • Pharmacy Institutional • Offices • Post Office Residential	Assembly Rockclimbing Commercial Supermarket General store Institutional Offices Residential	Assembly Art gallery Stadium Football field Pub/Bar Kennington Park Commercial Supermarket Institutional Highschool Primary School Office Gin distillery Residential	Commercial Clothing stores supermarket hair salon building material store Industrial train depot (store trains) Self storage facility contractors warehouse engineering company construction services (east) Institutional church Residential (all of west side)	Assembly • Football fields • Basketball court • Kennington Park Commercial • Supermarket Institutional • 2 Cemetaries • Crematorium • Primary School • Office • Gin distillery Residential	Assembly • Small café & small brewery • a few small restaurants • football field (+club) Commercial • Kitchen suppies Industrial • Reuse and Recycling Centre • Electric Utility centre • Waste Management Facility Institutional • Churches • 2 Primary Schools Residential + their green space	Assembly • park • golf course • starbucks café • a few restaurants • trampoline park indoor • small village hall (for community events) Commercial • 4 supermarkets • stores constuction (flooring, tile,electronics, kitchen, plumbing) Industrial • waste management • distribution service • solar energy company • car inspection • building restoration services Institutional • 2 primary schools • church • SGN offices • SGN Depot • SGN Workshop	Residential surrounding gasholder Assembly • Bacon's community sports centre (College Function & Event Hall Football club/terrain Tennis court) • Event Venue (Printworks London, Broadwicklive event management company) • Bow Arts Studio • Fishing pier • Parks Commercial by the dock • Cafe, Restaurant • Decathlon Sports store Institutional • Alfred Salter Primary School • Bacon's College • Canada Water Library	Commercial related to industrial sector • construction • construction • accessories • plumbing • metals Industrial • car service • industria equipment supplier • construction company • food supplier Institutional • school + facilities sports, green space) • Church •
Movements (+ accessibility)	river rail/public transp roads	road, bus walk not easy 51.653688537587705, -	underground network (Barking or Plaistow) + bus Road not easy to get to 51.51394183881501,	Road, bus Bow Creek 51.5250532397, -	Rail (crayford) I + bus Underground (Woolwich)+ bus	Road, rail Rail network, bus Regent's canal 51.533437678423205, -	Underground network (Imperial whard) 51.4772014694, -	Road, rail Rail network, bus 51.485631035415324, -	Underground network (east ham) 51.54112472151783,	rail network (Worcester Park)+walk Bus 51.3902959668, -	Road, bus	Residential around public area + residential North rail network St Mary Cray + walk Orpington + bus	Road, rail Rail network, bus Thames River 51.50252267758361, -	Rail network (Belvedere) Road 51.4934335988,
Present/Features	at risk? redevelopment plans?	D.17227492560199803 AT RISK OF ENTIRE REMOVAL OS STRUCTURE Redevelopment schemes. 539 residential units (13 buildings,4-7 storeys) + retail/commercial spaces+community space+pedestrian routes+parking (overdevelopment of the site) https://publicaccess.barnet.gov.u k/online- applications/applicationDetails.do ?activeTab=summary&keyVal=QV MN3Gil09100 https://www.theresavilliers.co.uk /news/high-rise-blocks-new- barnet-victoria-quarter-are- betrayal	0.07794401999716147 http://www.lddc-history.org.uk/beckton/index.html https://weeklytales.com/articles/beckton-alps https://boltancestry-uk.weebly.com/beckton-london.html	0.00357402176827	Is currently being demolished. To be replaced with 14 warehouses https://www.yourlocalguardian.co.uk/news/19858790.croydon-gasworks-site-pulled/https://www.mylondon.news/news/south-london-skyline-change-forever-22248637	0.06040929172773984 Plan 1: Conservation of Gasholders (No2 & No5) with new development schemes put in place (housing inside one and green open space insode other) "positive contribution to the character or appearance of the Regent's Canal Conservation Area	0.186421286929 Redevelopment plans 1,800 new homes and 100,000 sq ft of commercial space https://www.plowmanc aven.co.uk/projects/kin s-road-park-gasworks- i redevelopment/	0.11493224623193321 3 gasholders dismantled large gasholder kept for housing iniside Oval Village https://www.ovalvillagecommunity.co.uk	0.06480400119278792	0.240912312467	No dismantling good redevelopment plan with 60& to 40%	t	At risk of dismantlin structure; develop into residential space 40 dwellings for social rent 39 dwellings for discoun market rent 198 private dwellings	0.14824527006 Assumed not at risk. No redevelopment plans found









Imperial Gasworks Hammersmith and Fulham 1824 - 1970 Kennington Oval Lambeth

Marian Place Tower Hamlets, Hackney Old Kent Road Southwark 1833 - 1953 Rotherhithe Station Southwark 1849 - 1959

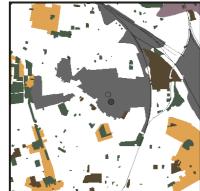
OVERLAPPED NETWORKS

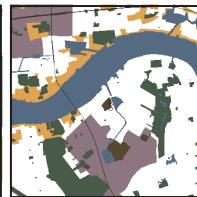






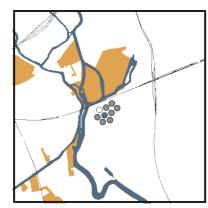






CONSERVATION AREAS

Areas where extra planning controls apply due to their special architectural and historic interest

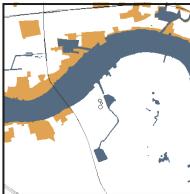






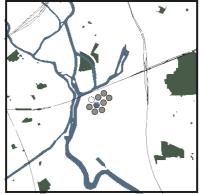


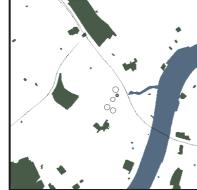




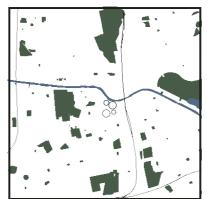
GREEN SPACES

Areas of vegetation that are currently publicly managed and publicly accessible, be these currently used of unused.

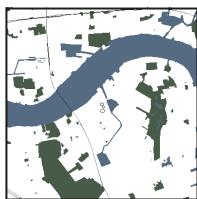












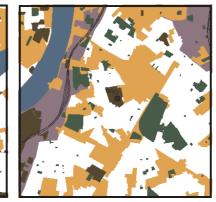
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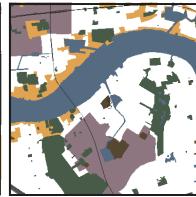








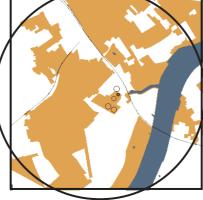




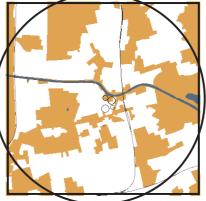
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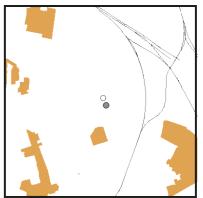
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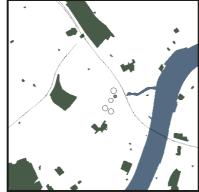




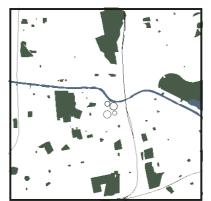
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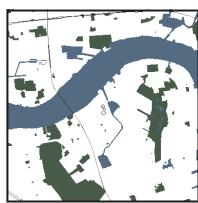








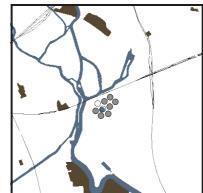


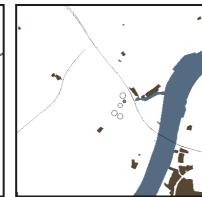


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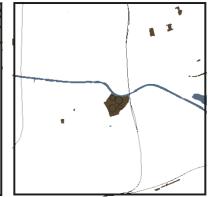
BROWNFIELDS

Areas of previously developed industrial lands available for residential and mixed-use developments.

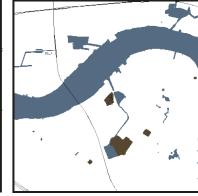






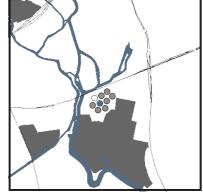


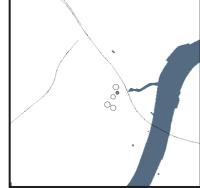


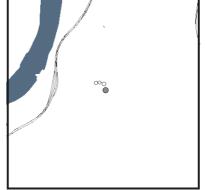


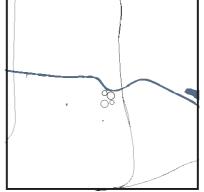
STRATEGIC INDUSTRIAL LOCATIONS (SIL)

London's main reservoirs of industrial and related capacity. There are two types of SILs: Preferred Industrial Locations (PIL) and Industrial Business Parks (IBP). Development proposals within or adjacent to SILs should not compromise the integrity or effectiveness of these locations in accommodating industrial type activities.

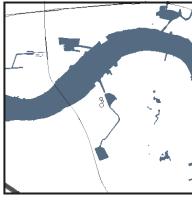




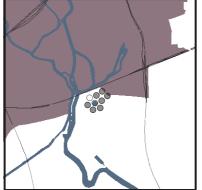


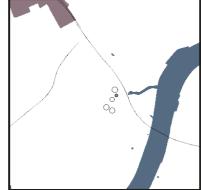


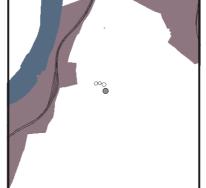


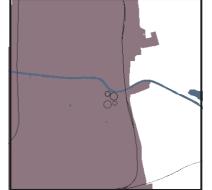


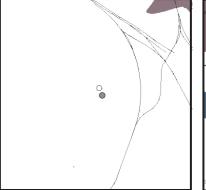
OPPORTUNITY AREAS













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Kennington Oval Lambeth 1847 - 2014

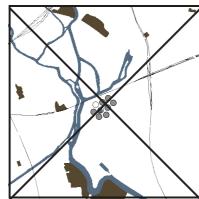
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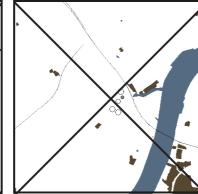
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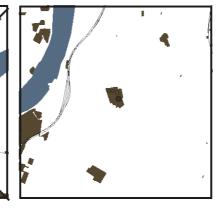
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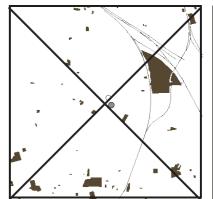
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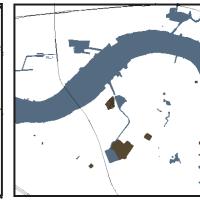






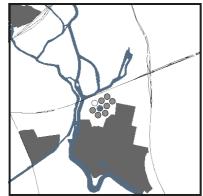






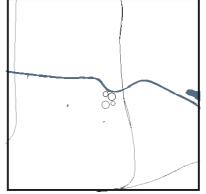
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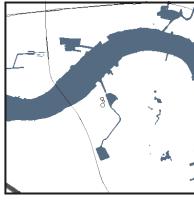




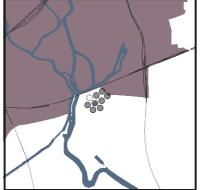


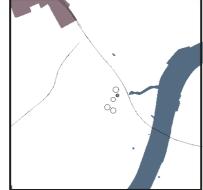


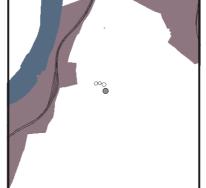


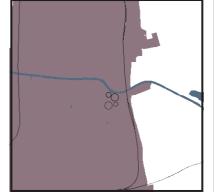


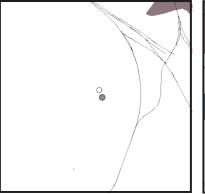
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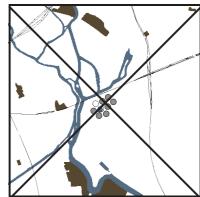
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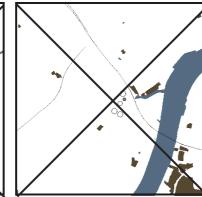
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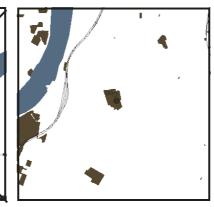
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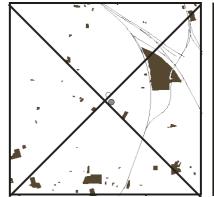
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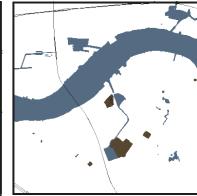






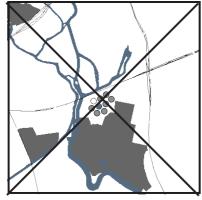


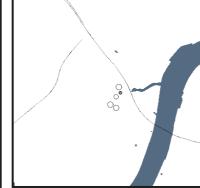


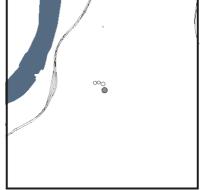


STRATEGIC INDUSTRIAL LOCATIONS (SIL)

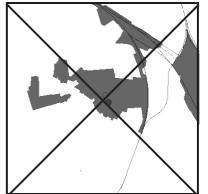
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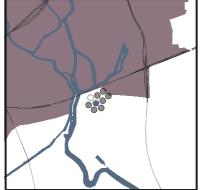


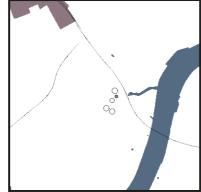


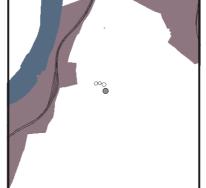


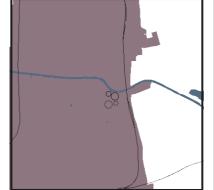


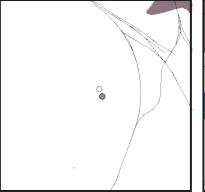
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Imperial Gasworks Hammersmith and Fulham 1824 - 1970

Kennington Oval Lambeth

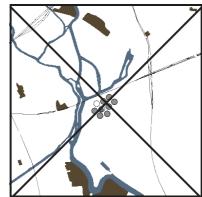
Marian Place Tower Hamlets, Hackney

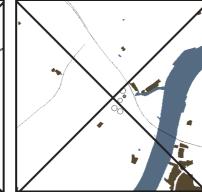
Old Kent Road Southwark 1833 - 1953

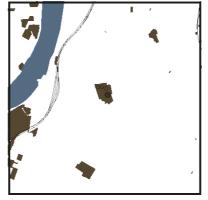
Rotherhithe Station Southwark 1849 - 1959

BROWNFIELDS

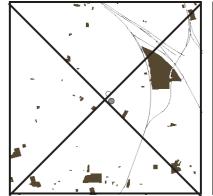
Areas of previously developed industrial lands available for residential and mixed-use developments.

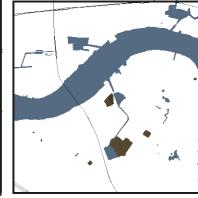






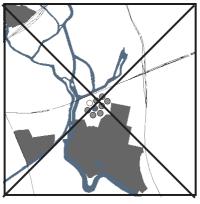


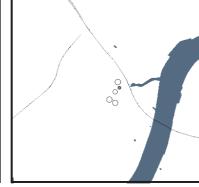


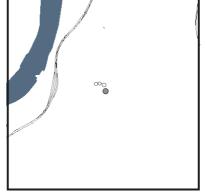


STRATEGIC INDUSTRIAL LOCATIONS (SIL)

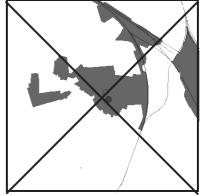
London's main reservoirs of industrial and related capacity. There are two types of SILs: Preferred Industrial Locations (PIL) and Industrial Business Parks (IBP). Development proposals within or adjacent to SILs should not compromise the integrity or effectiveness of these locations in accommodating industrial type activities.

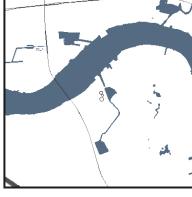




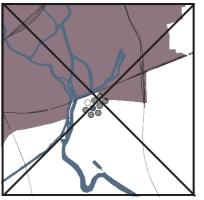


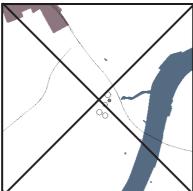


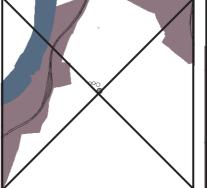




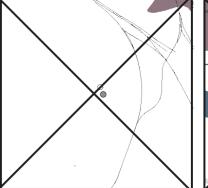
OPPORTUNITY AREAS

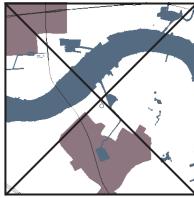


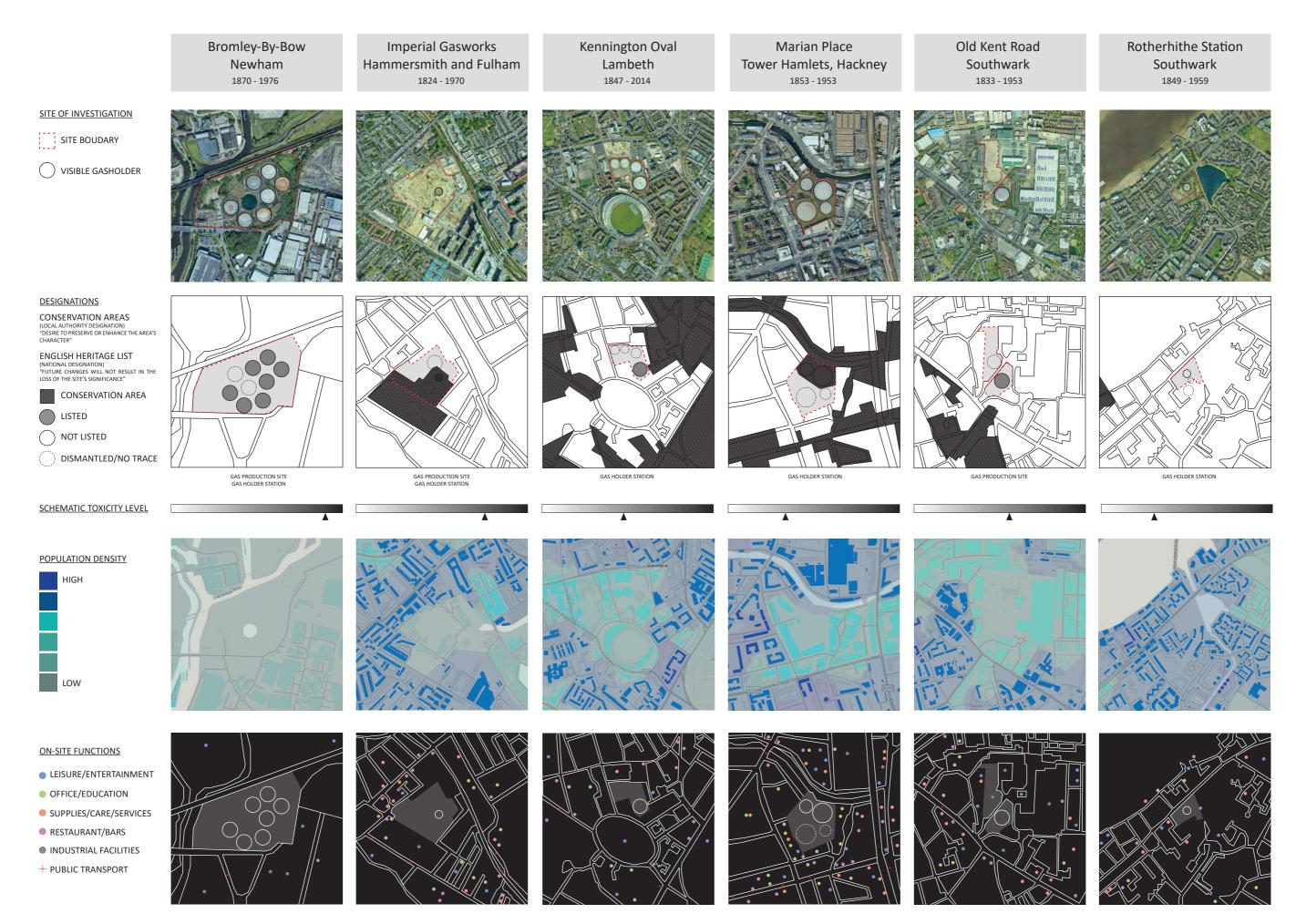


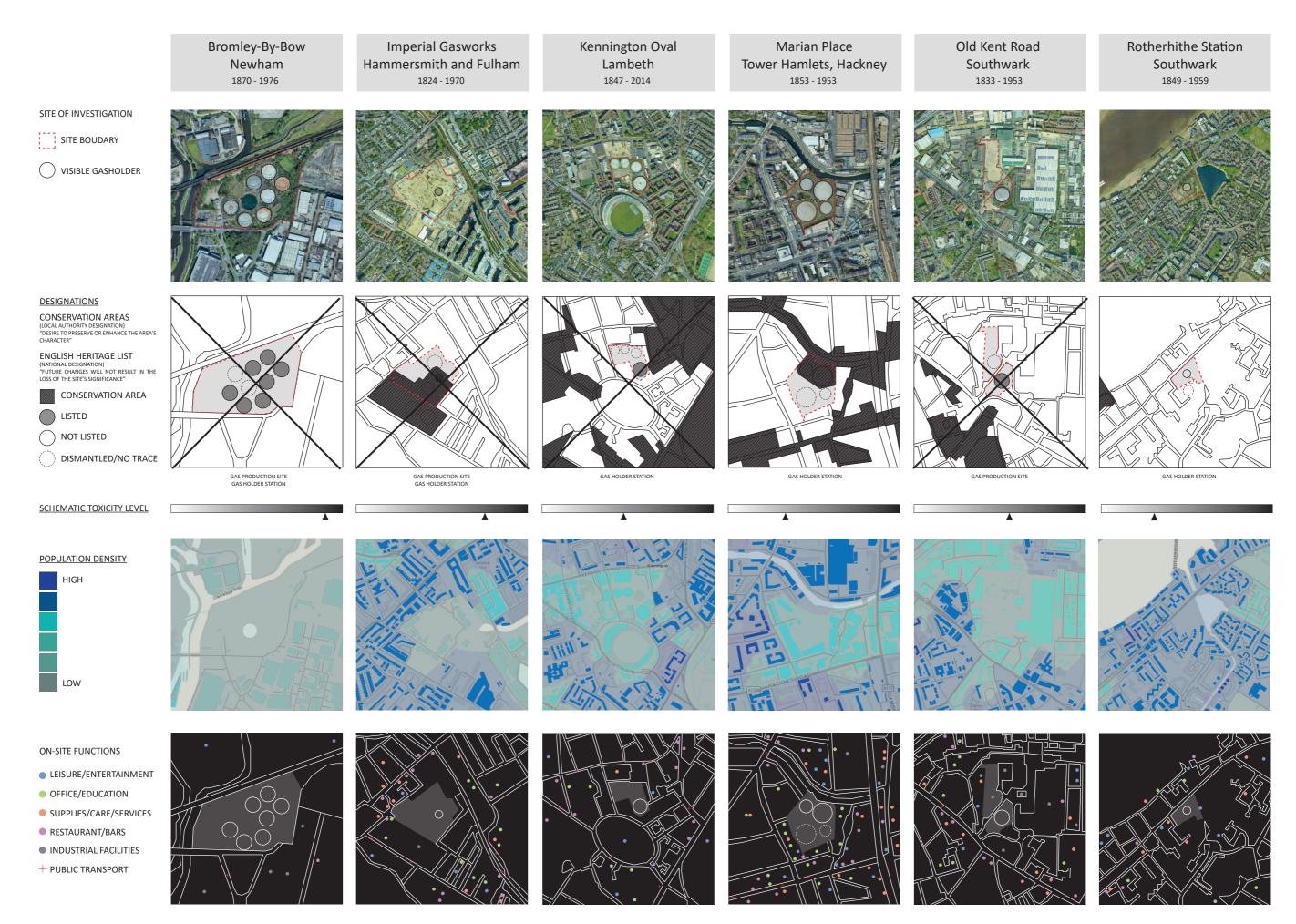




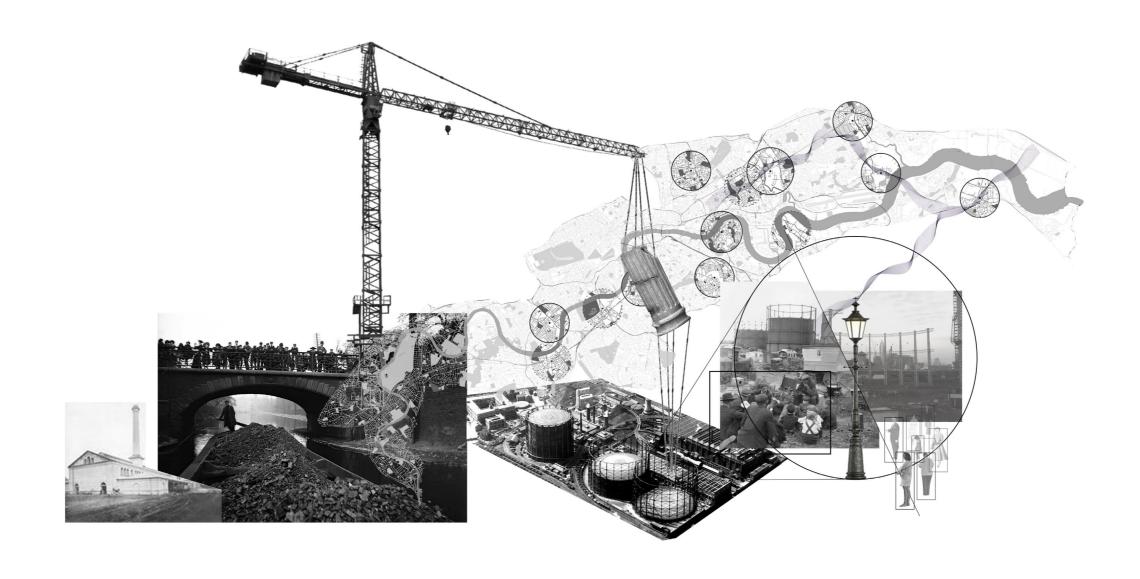




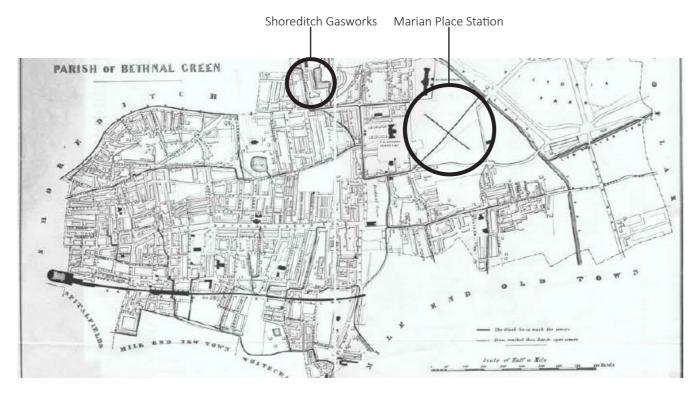




Marian Place as the Site of Investigation

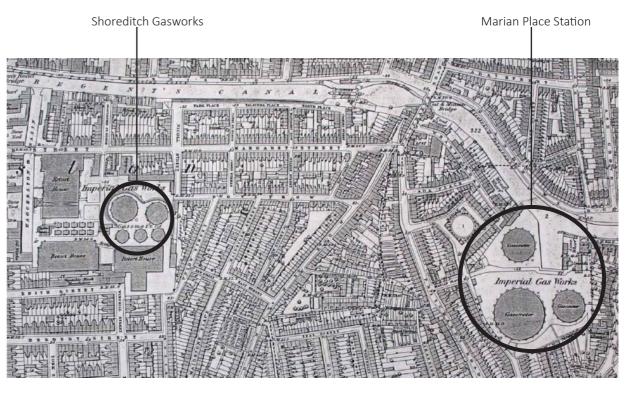


"No understanding of a site is conceivable without communal history, or conceivable with a substitution of history." (Forster, 1983).



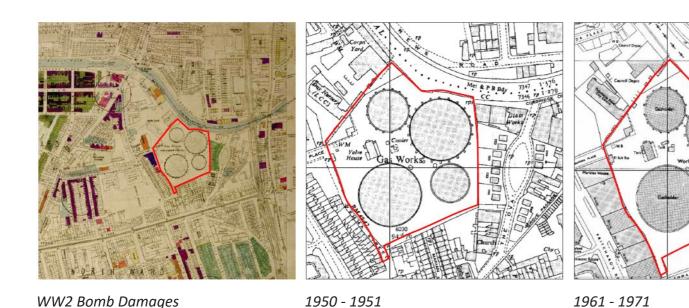
Bethnal Green Parish Map, 1848

Due to the necessity of gas in the city, when Shoreditch gasworks site was established, it needed a complementary gasholder site nearby to store large amount of gas for the community.



Imperial Gasworks, 1876-1877

Marian Holder Station was built and occupied the location of the prior fish pond. As the need for gas to the community increased, so did the number of gasholders on site.



Following a V1 strike, Shoreditch Gasworks site was damaged and production stopped. The site was demolished entirely to create Haggerston Park. Marian Gasholder station continued to operate as a holder station for gasworks in other boroughs – it took on a supporting role, to provide for the community once more. All the while Victorian terraced houses were being replaced by larger commercial buildings, to make way for common amenities. (commercialised area)

Summary

1821: The Imperial Gas Light and Coke Company was established.

1823: Shoreditch and St Pancras Gasworks was built.

1853: Marian Place was established as a satellite storage station, and Gasholder 1 was constructed.

1856: Gasholder nos. 2 and 4 were constructed.

1889: Gasholder no. 5 was constructed.

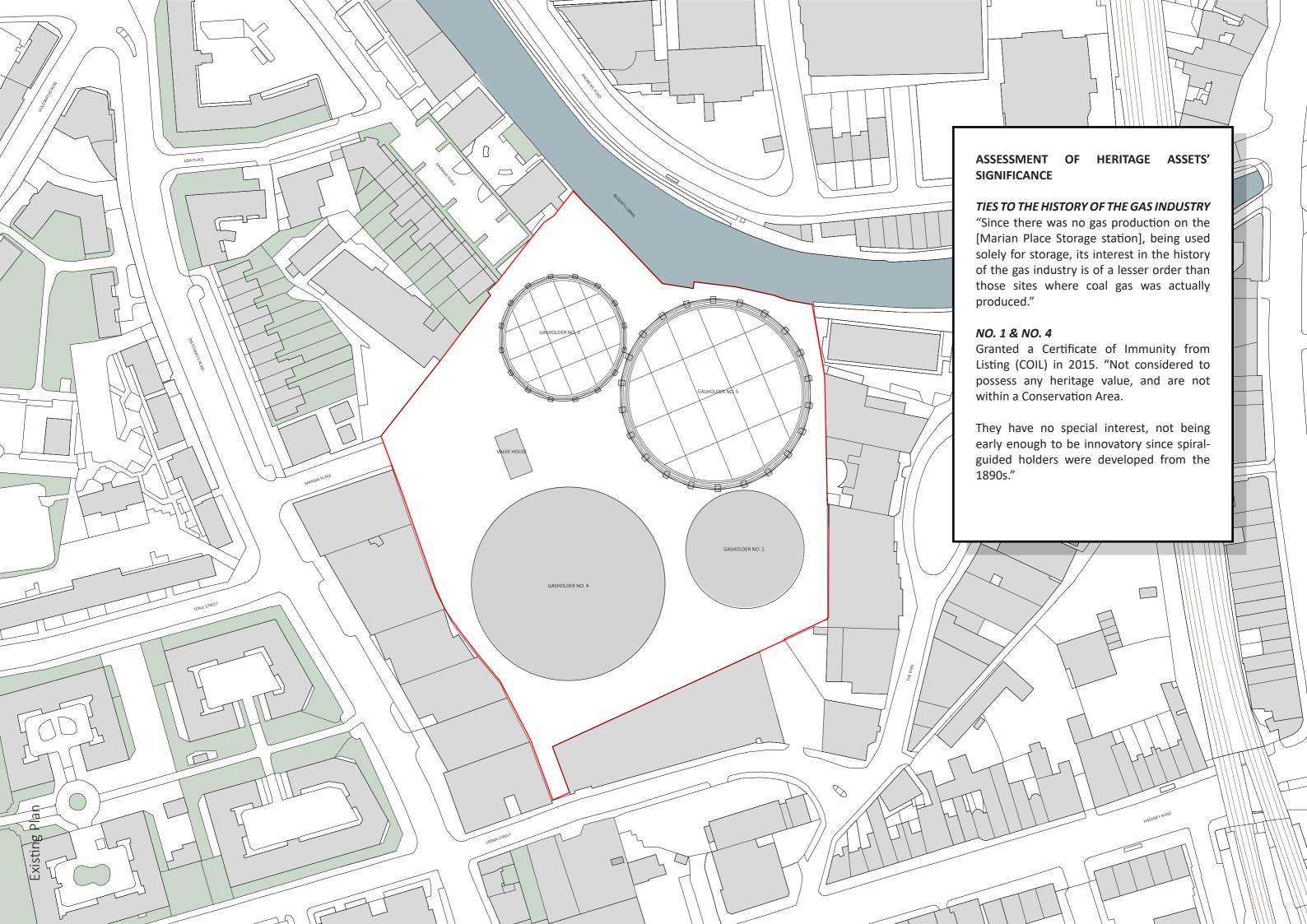
1925: Gasholder no 1 was converted to a spiral guided.

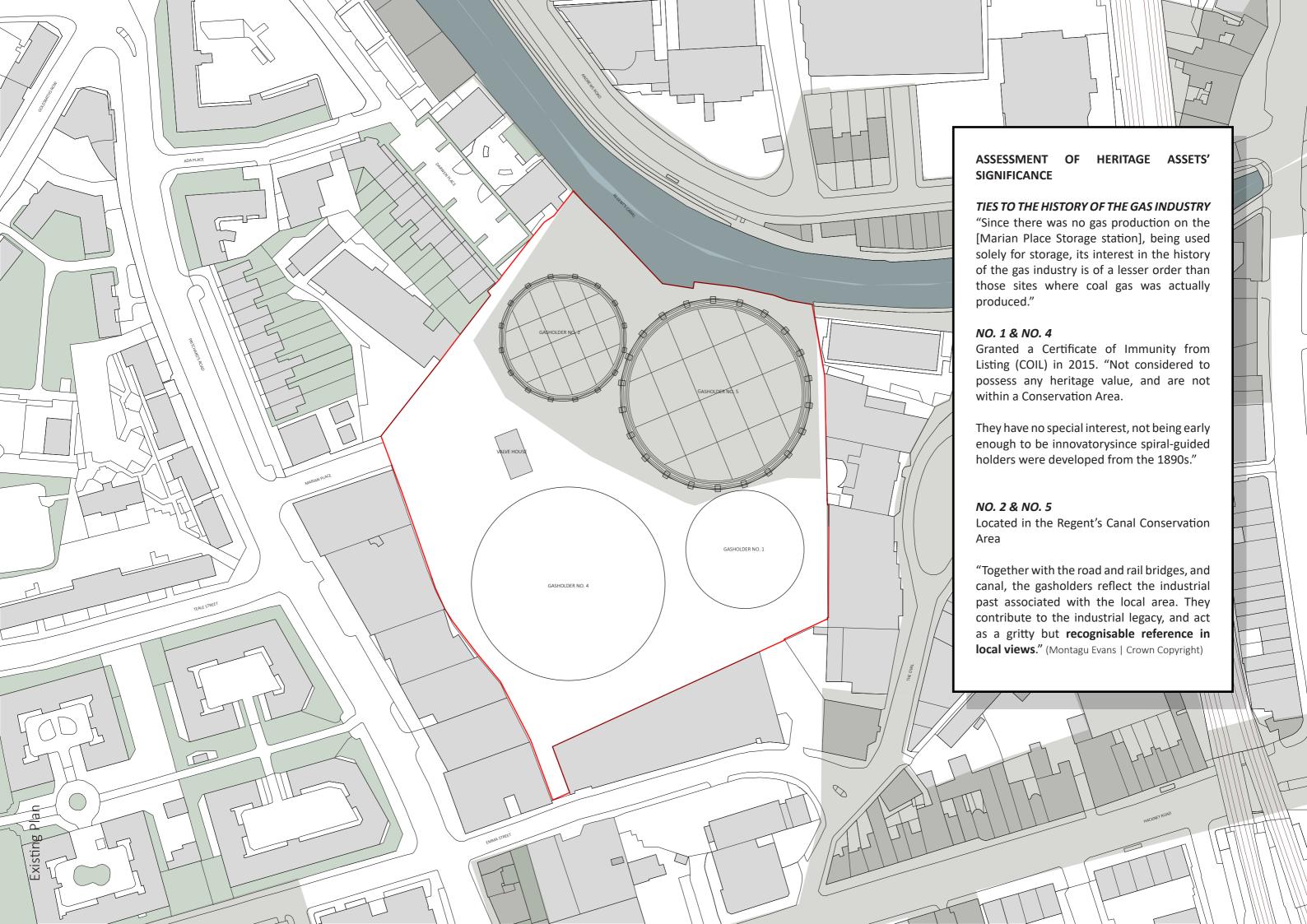
1931: Gasholder no. 4 was converted to a spiral guided holder.

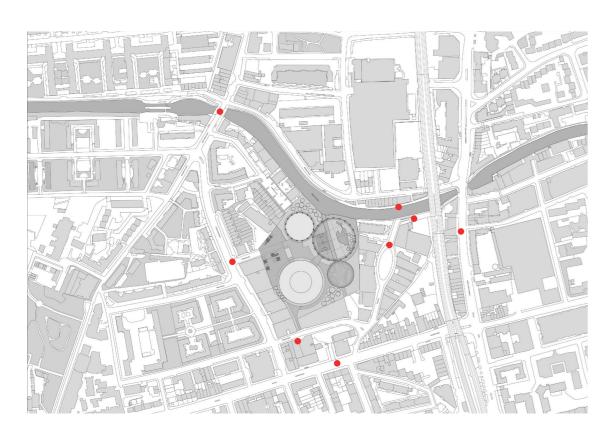
1944: Production of gas at Shoreditch stopped after a V1 strike.

1949: Shoreditch works demolished and land used to create Haggerston Park.

1953: Marian Place is decommissioned and ceases to be a holder station. It has been left vacant since then.









View from Pritchard's Rd (Broadway Market CA) "From this location the viewer can appreciate the industrial history of the area, signified by the gasholder"



View from The Oval
Gasholder No. 5 can be seen through the passageway of Containerville, and positively contributes to the character of the area.



"Reminder of an industry that used to be prevalent throughout the Hackney section of the canal. As with the Tower Hamlets bank, the holders make a contribution to the industrial character and heritage of the north bank."



View from Corbridge CrescentProminent view of Gasholder No. 5, framed by the tunnel and the railroad bridge above



View from Marian PlaceGasholder No. 2 and 5 seen from the main entrance of the gas storage station site



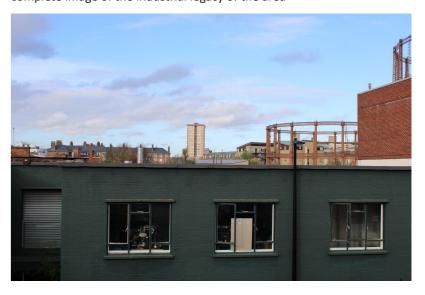
View from Hackney Road

The lightweight structure of the Gasholder seen in the background gives a glimpse of the industrial heritage of the area while contrasting with heavy brick building in the foreground.



View from Cambridge Heath Road

In combination with the rail bridges and roads, the gasholders form a complete image of the industrial legacy of the area

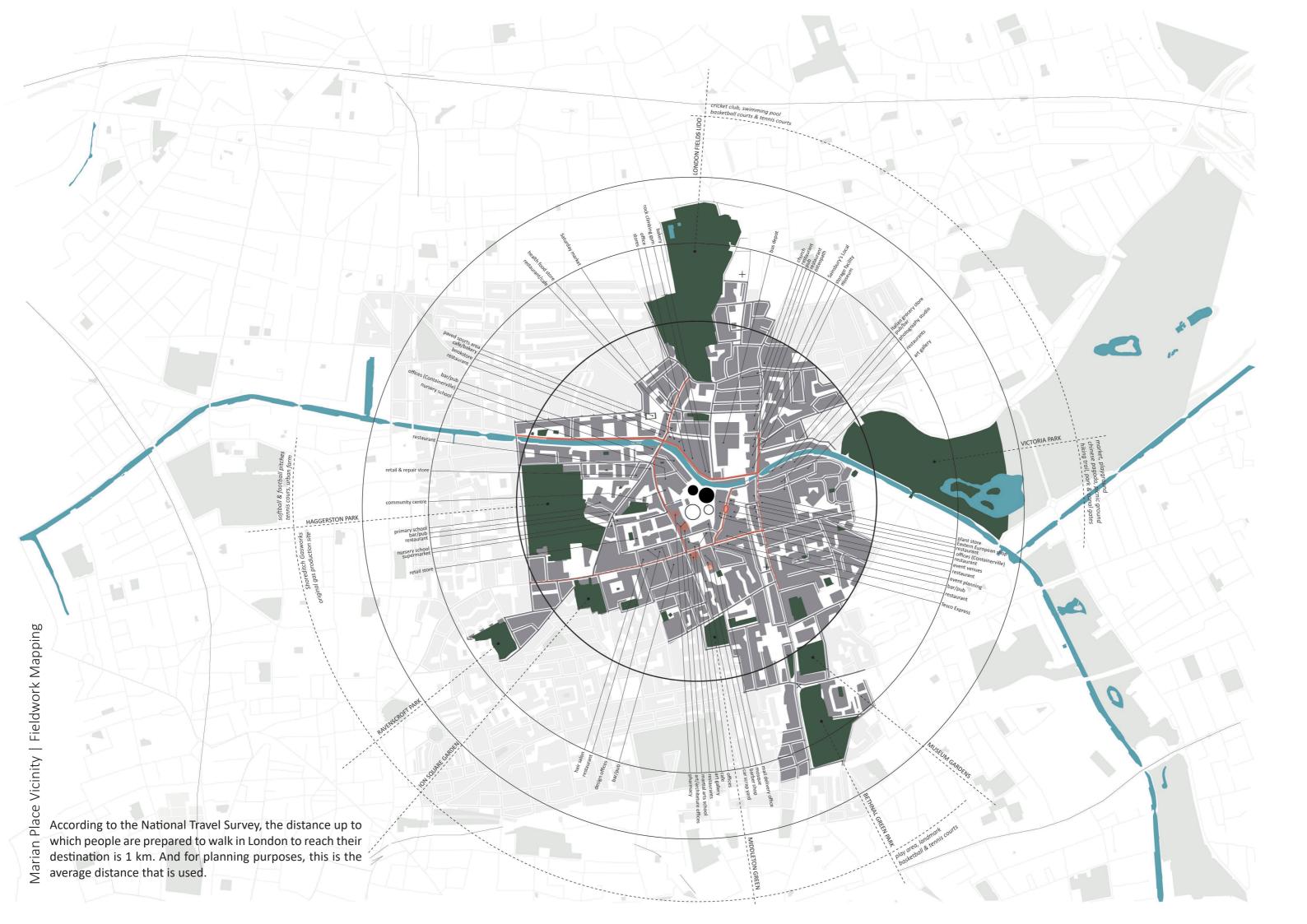


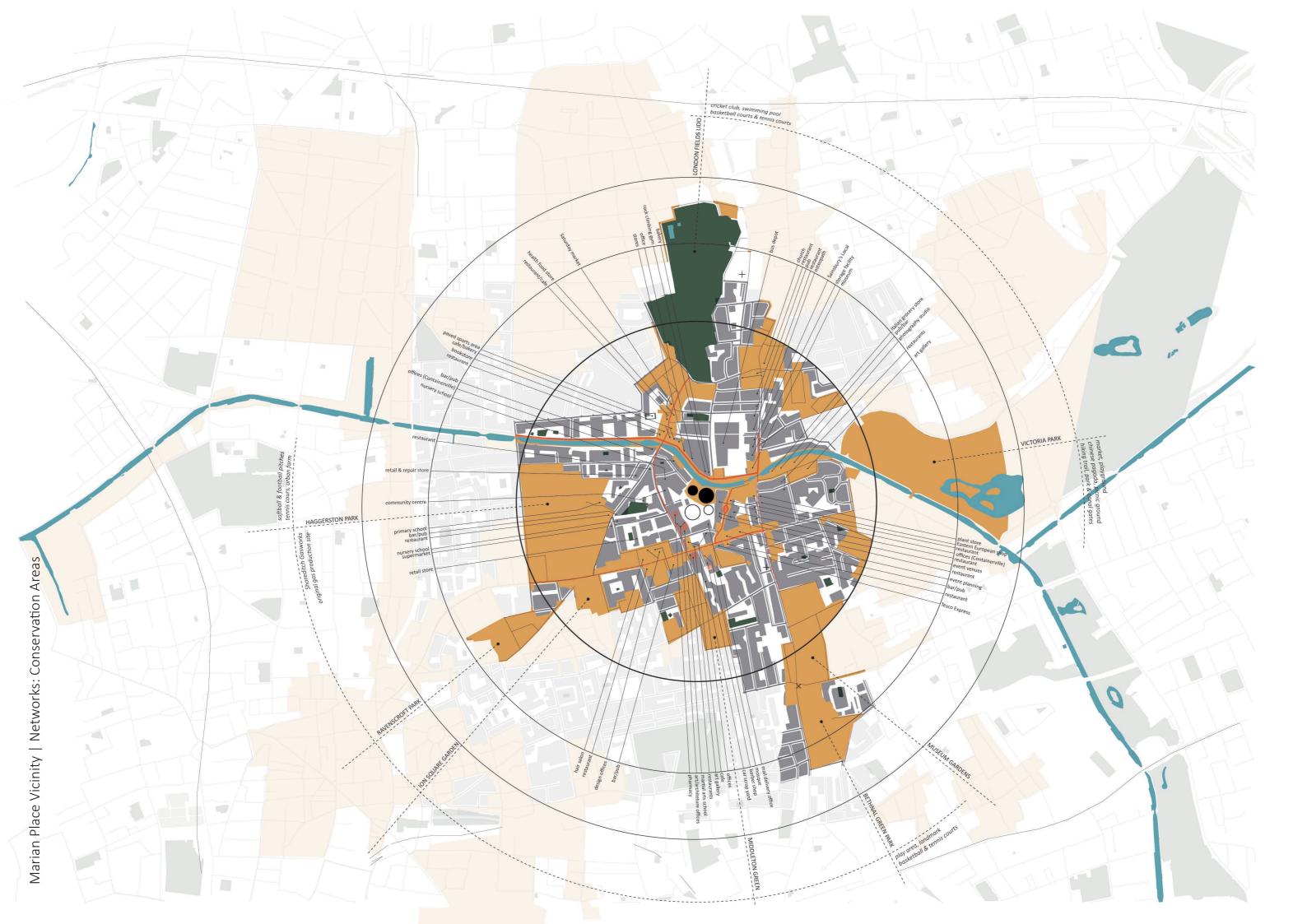
View from Emma Street

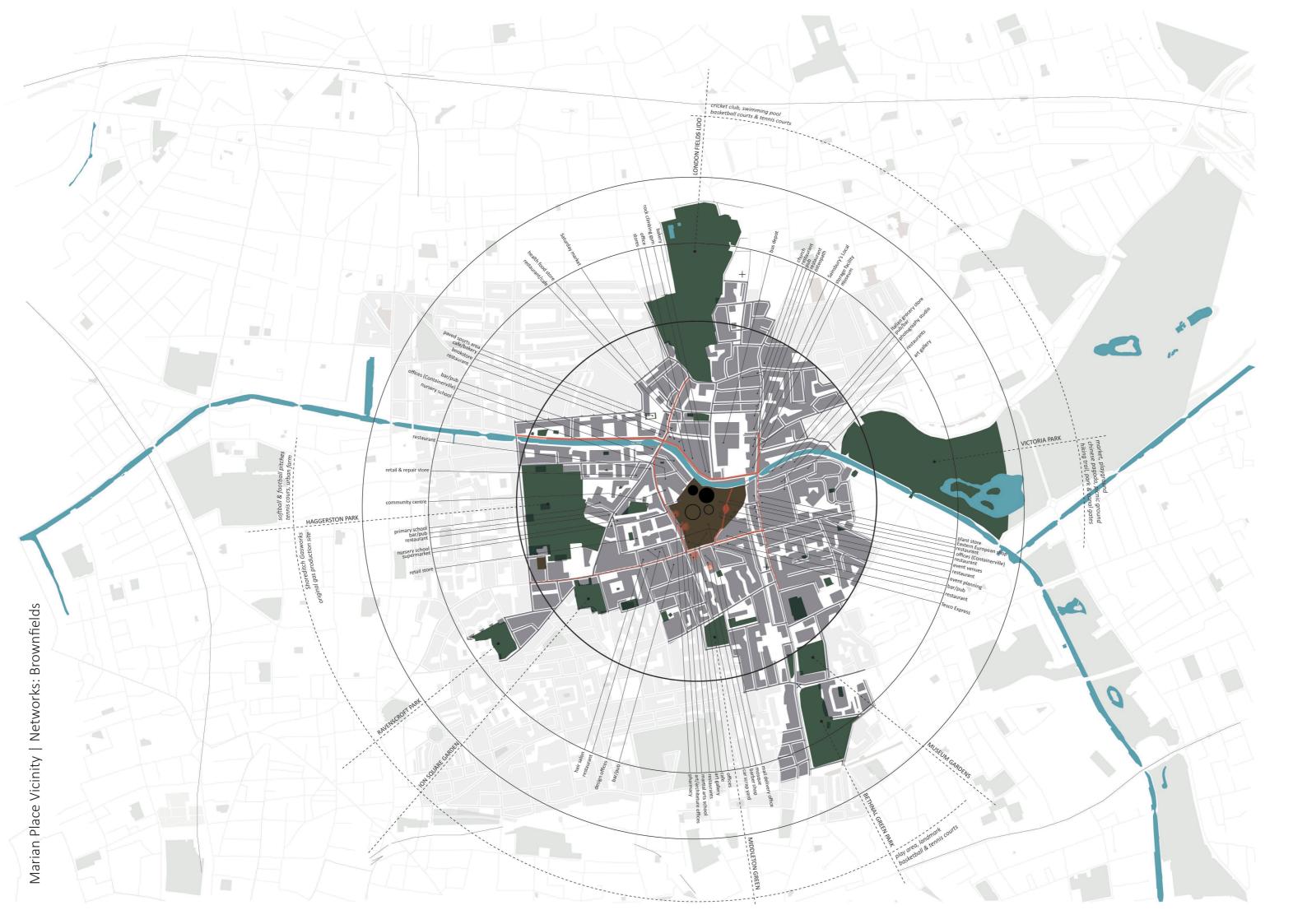
Both Gasholders are visible above the near buildings' skyline, from upper office terraces of Containerville, allowing for a comparison in scale.

FINDING THE GAP

What are the current flows? What is missing in the neighbourhood?

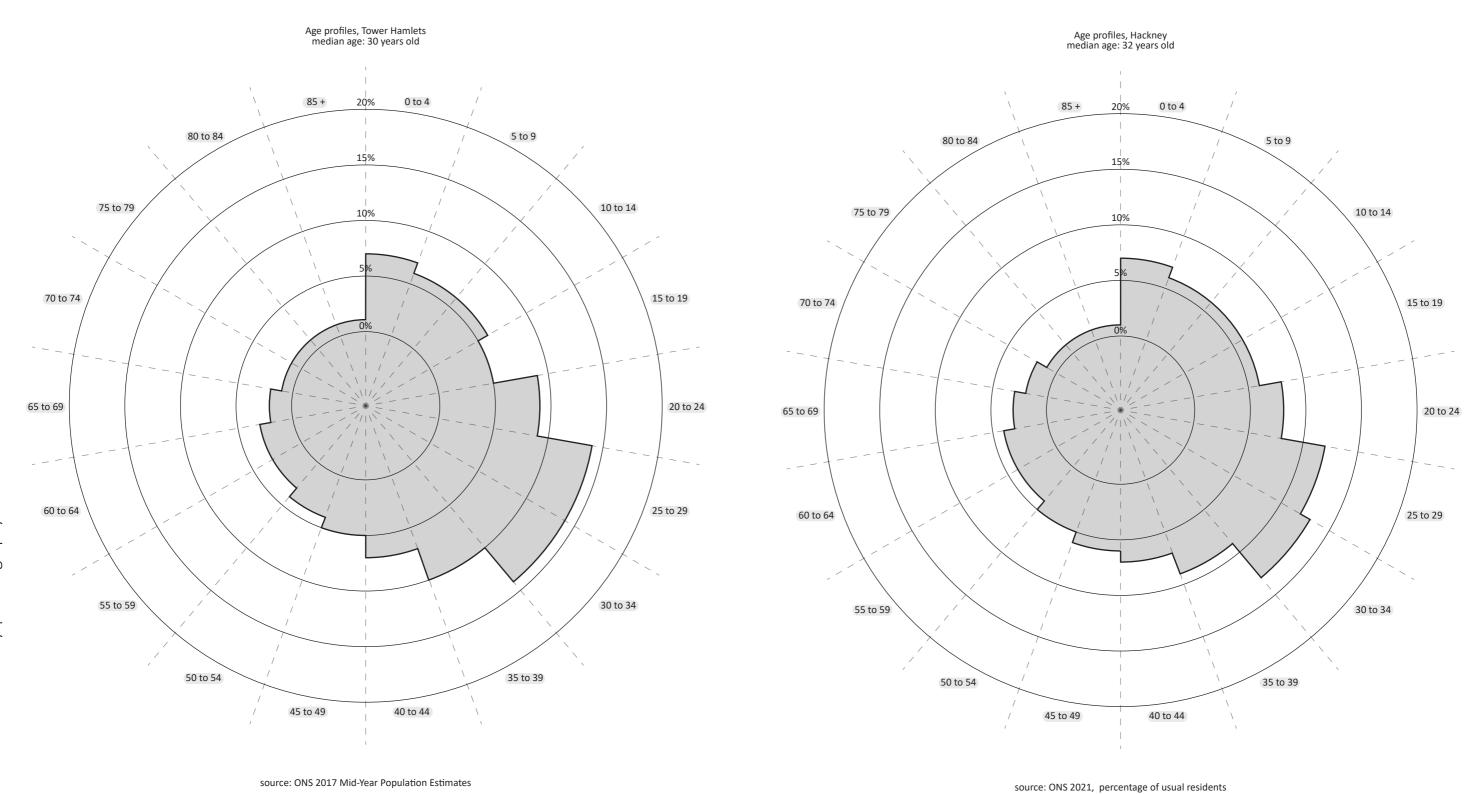


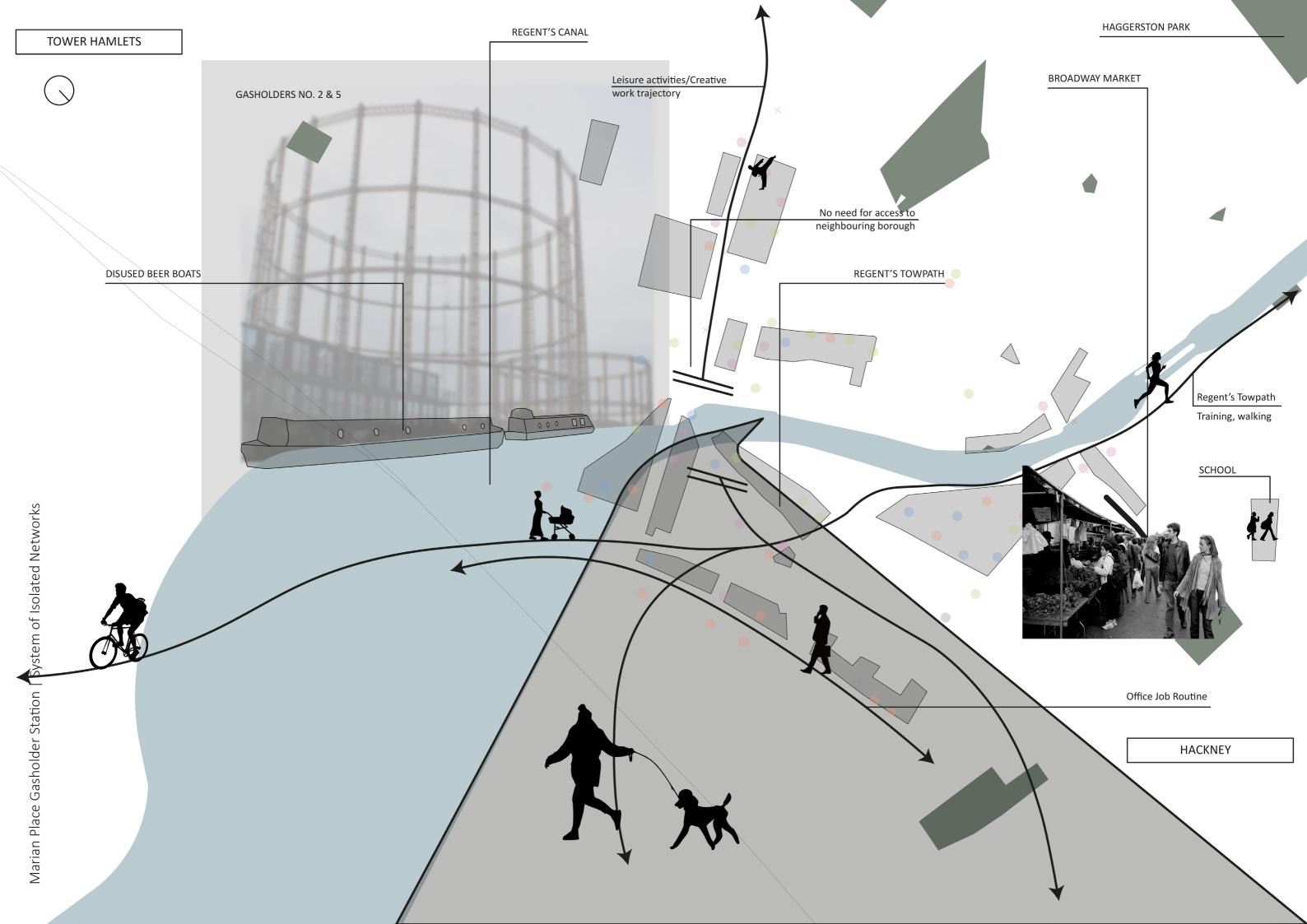
















Nature morte à la pile d'assiettes | Still Life with a Stack of Plates, 1920 by Le Corbusier

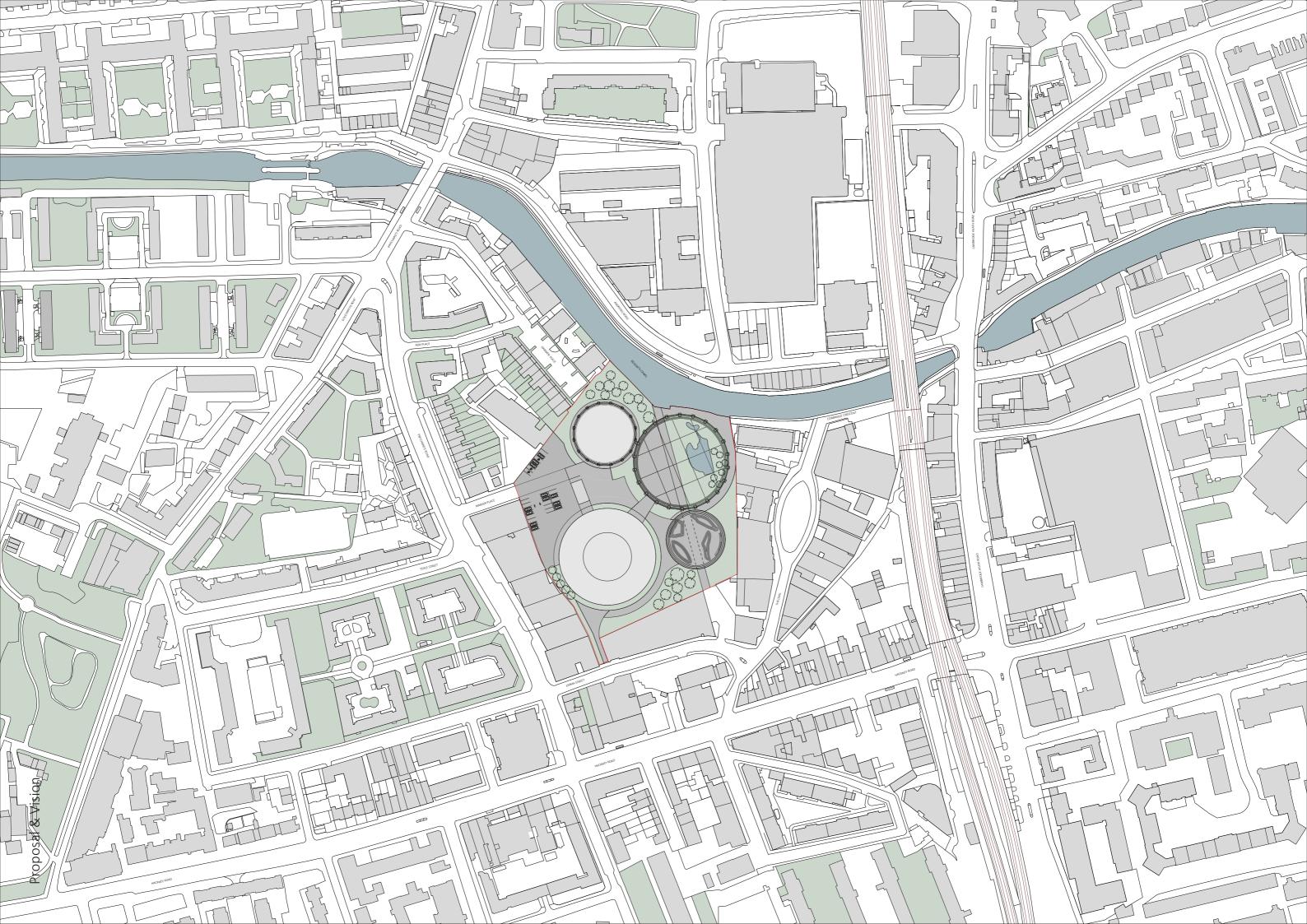
Le Corbusier "experimented with themes of phenomenal transparency [and] ambiguity of figure and field" (Shields), indicating that an object should be open to more than one interpretation.

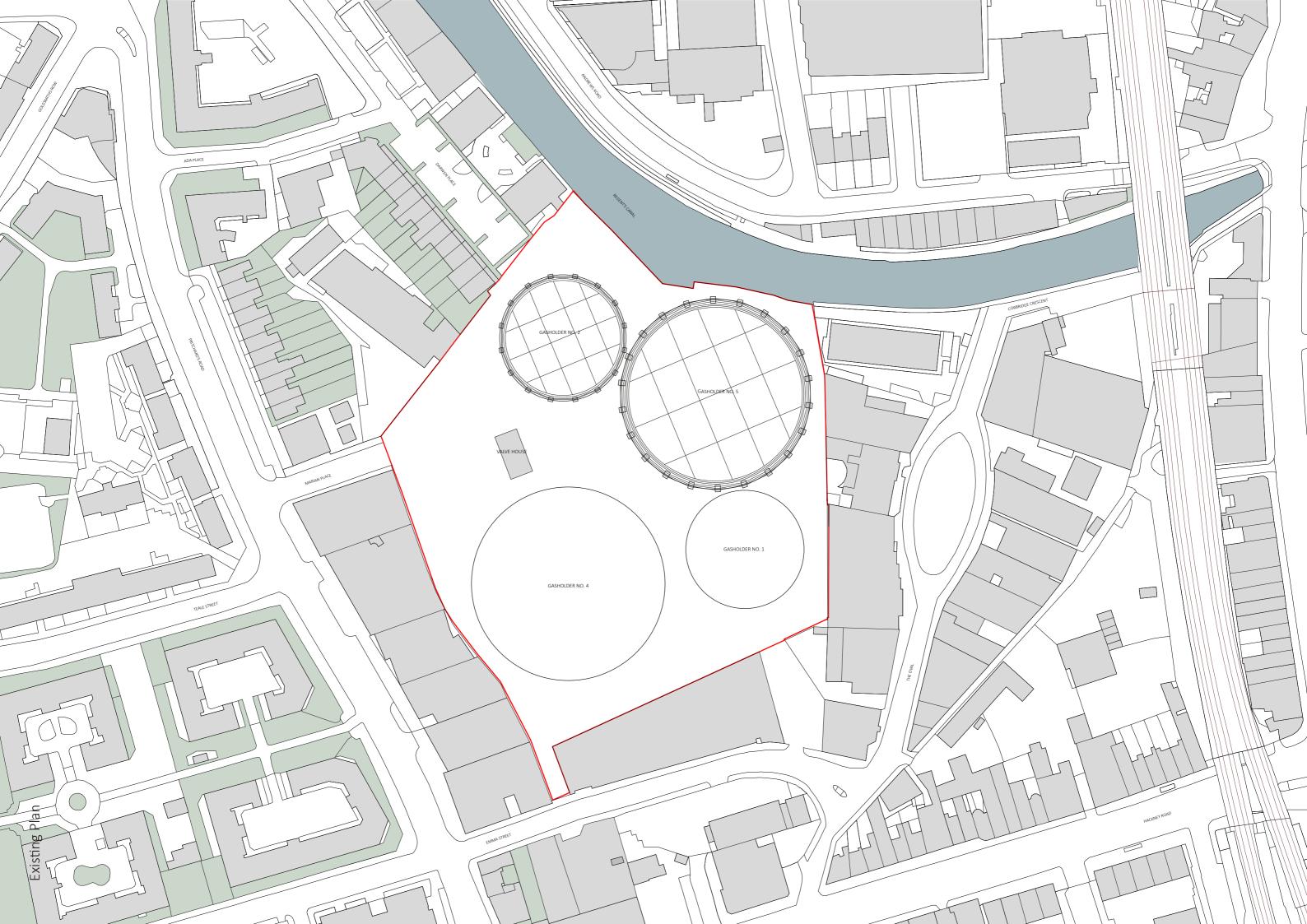
The combination of these pure shapes and their accompanying colours creates a pleasing arrangement, worthy of attention.

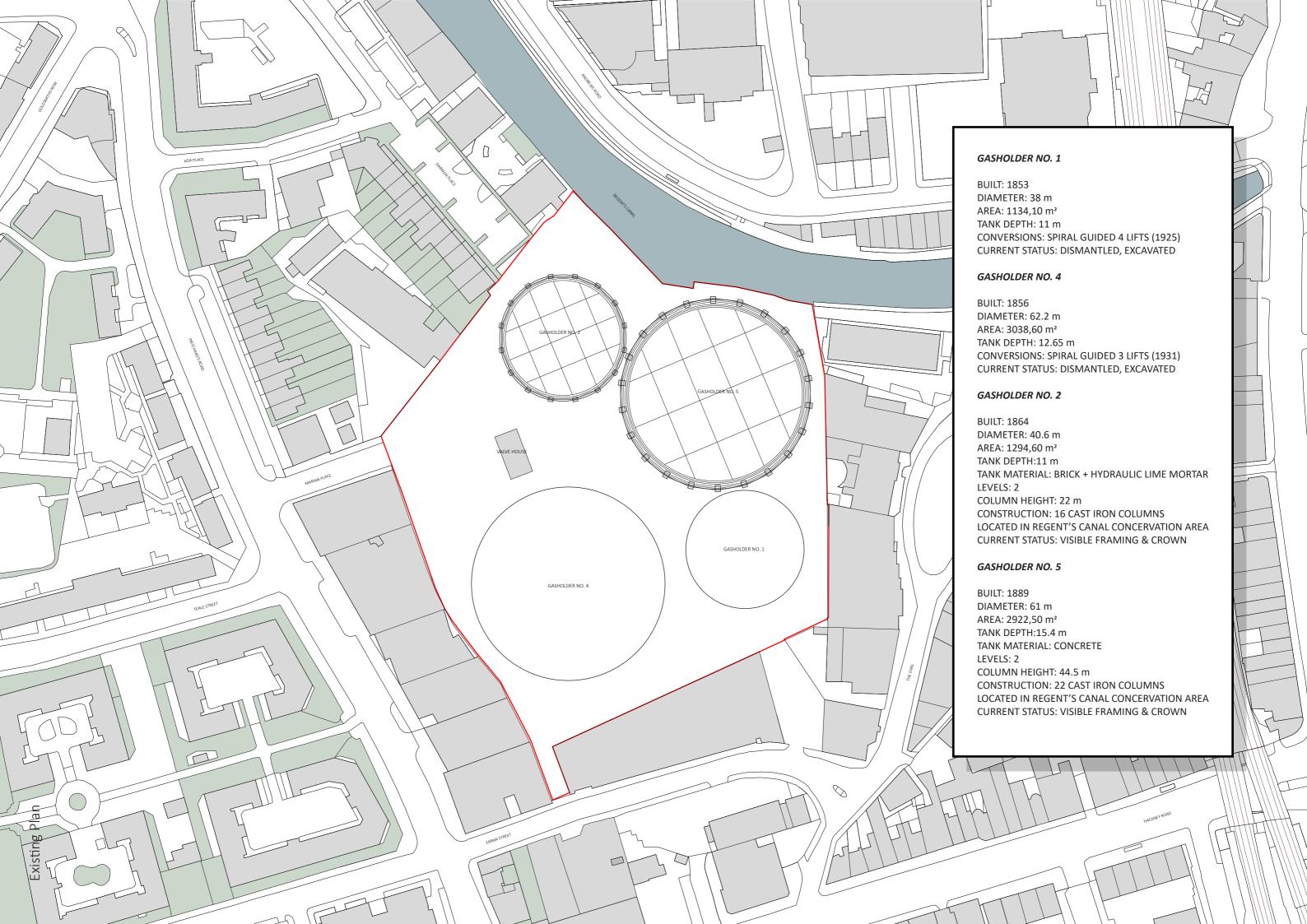
Gasholders are relics that are part of the character of the city and have the potential to be understood and experienced through various perspectives by similar or dissimilar peoples;

CATALYST OF THE CITY

Enhance the interplay between peoples (age, backgrounds, interests), timelines (past and future), and the fabric, by introducing a package of various community-driven activities and stimulate urban dynamics.

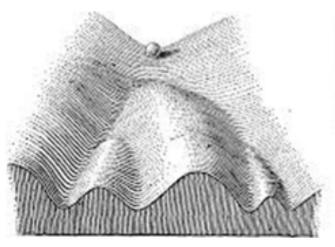


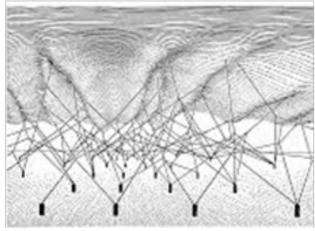




Proposal & Vision | Epigenetic Landscape

Epigenetic Landscape, seen from above and below, Conrad Waddington, 1957





Waddington portrays the view underneath the landscape, as the functional networks that are controlled by genes, "suggesting a territory thickened by forces, which are dynamic, responsive, and networked to each other." (Sheppard, 2012).

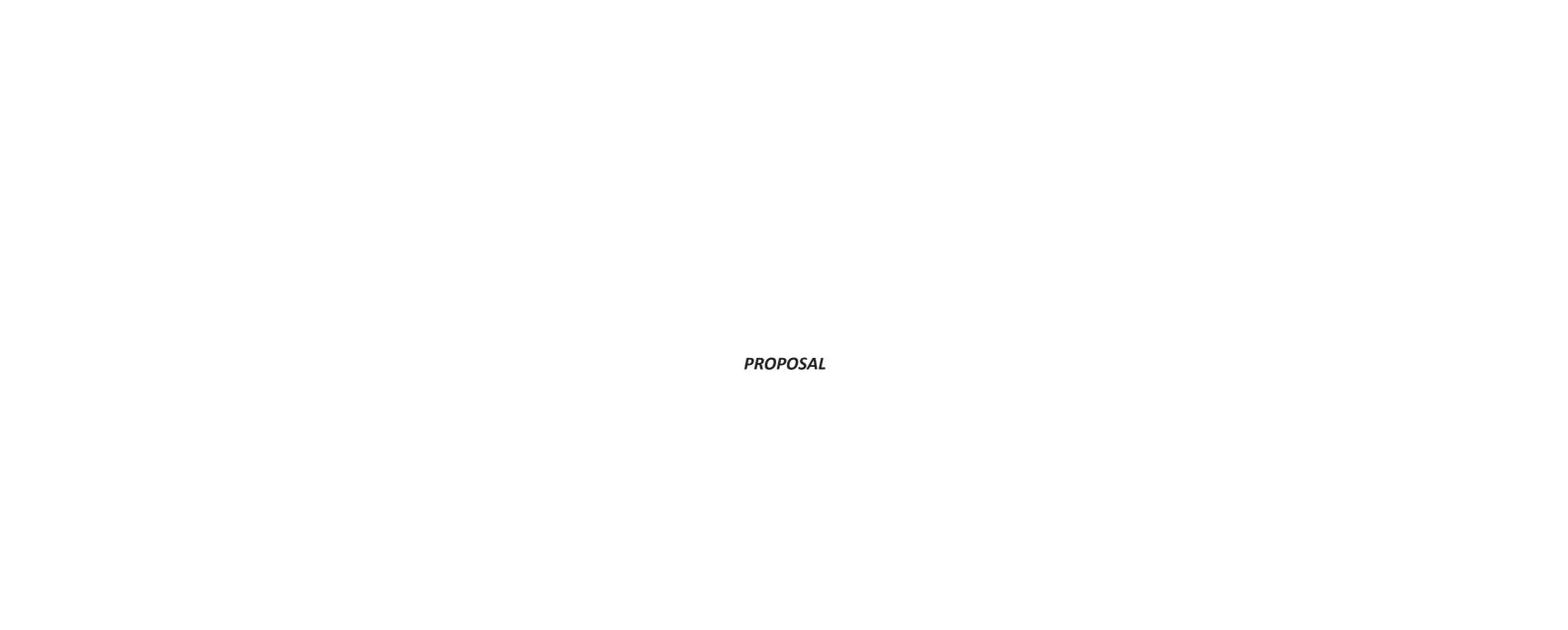
Technique:

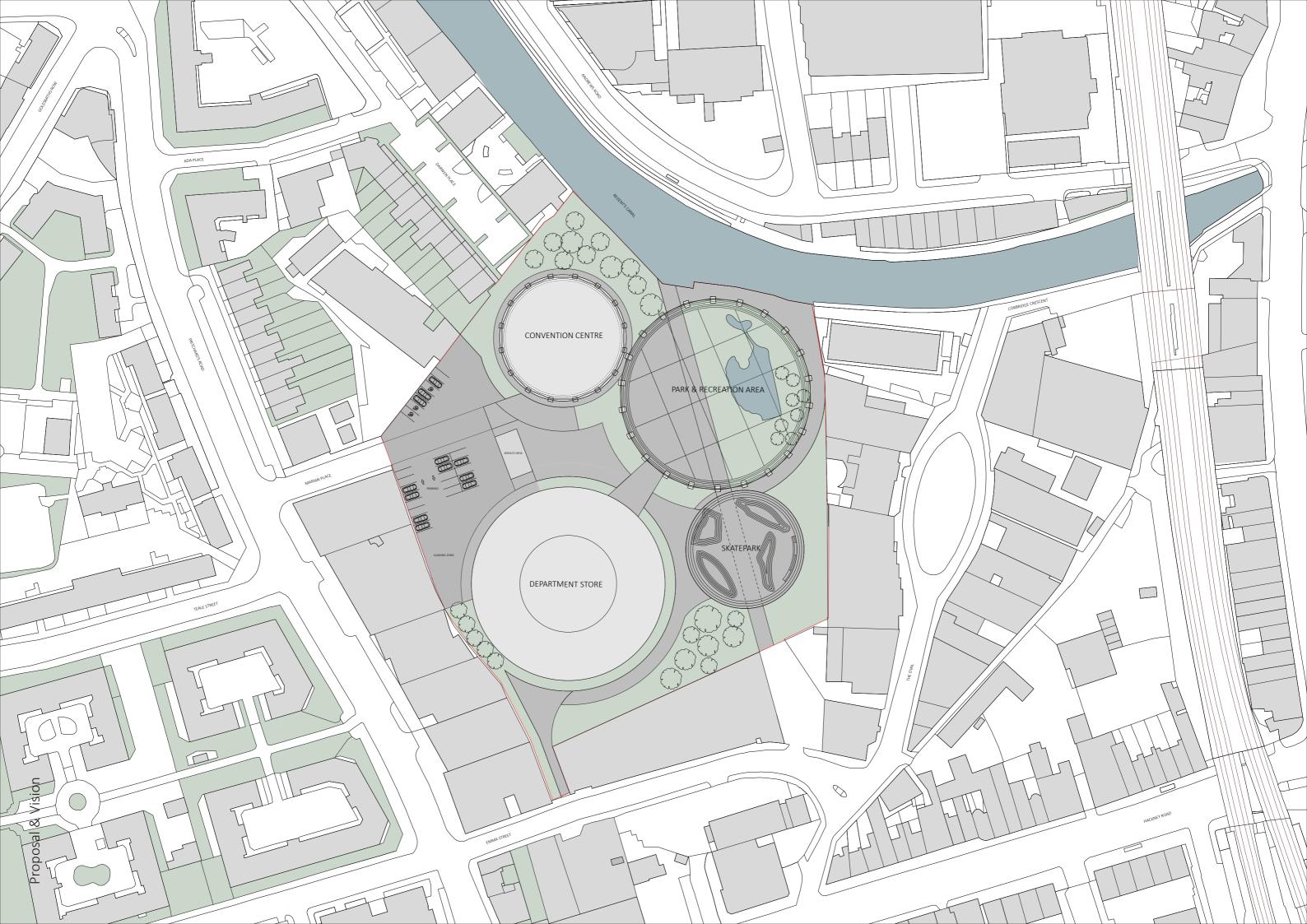
Isolating independent forces

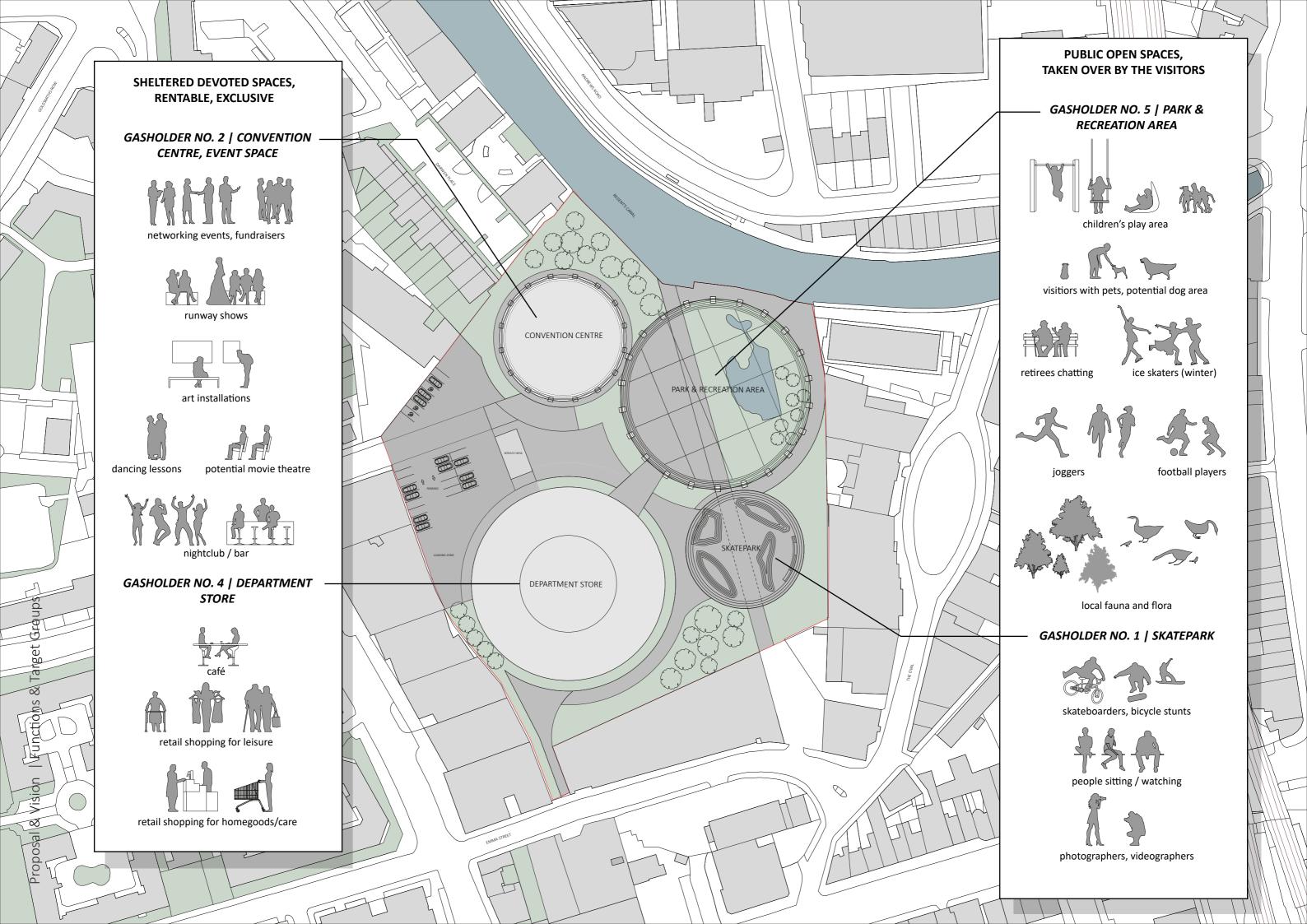
- identity of the chosen site typologies
- surrounding networks,
- systems they are or can be part of

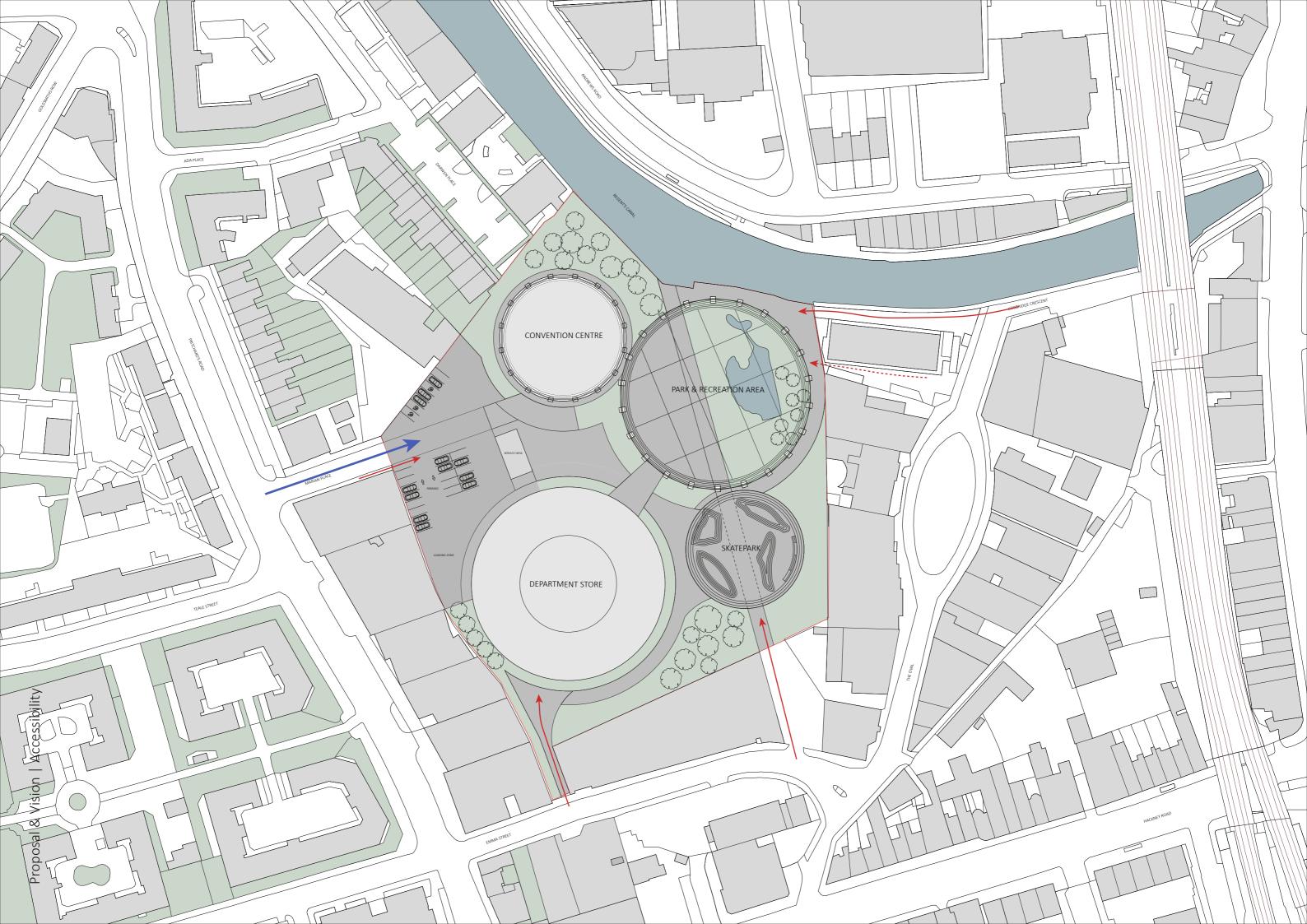
Predominant Vision as a Catalyst

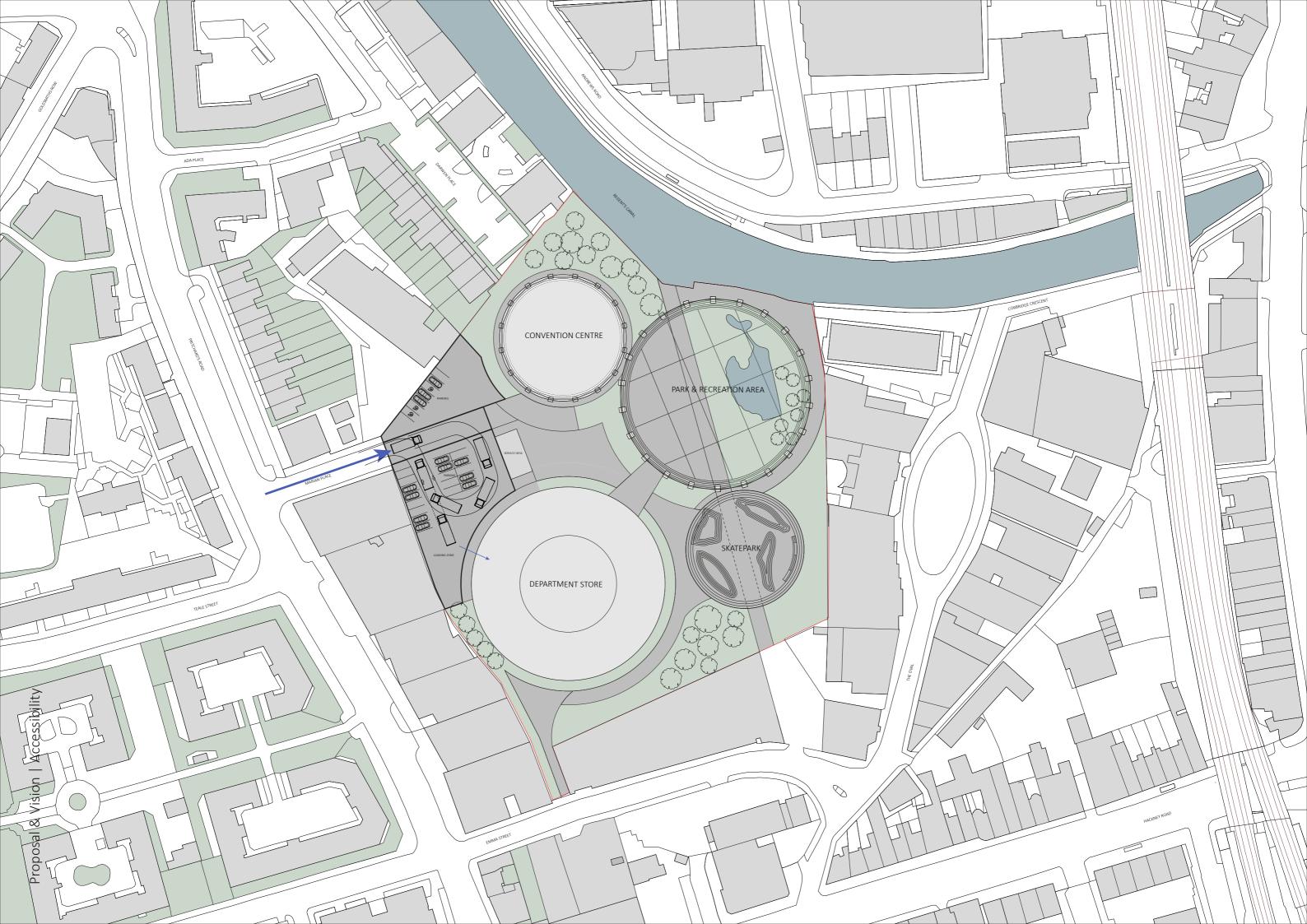
- stimulate additional dynamics
- open-endedness

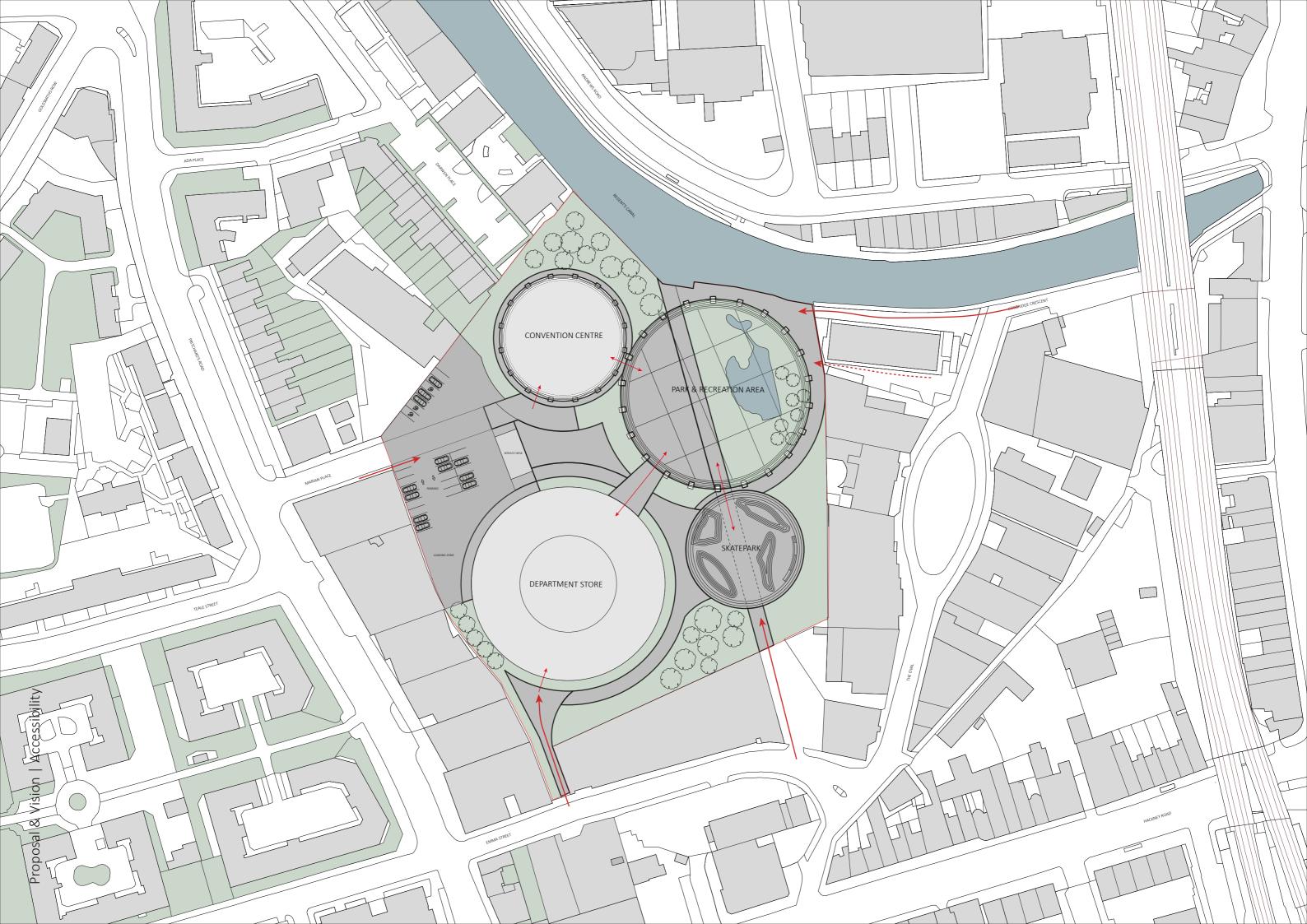


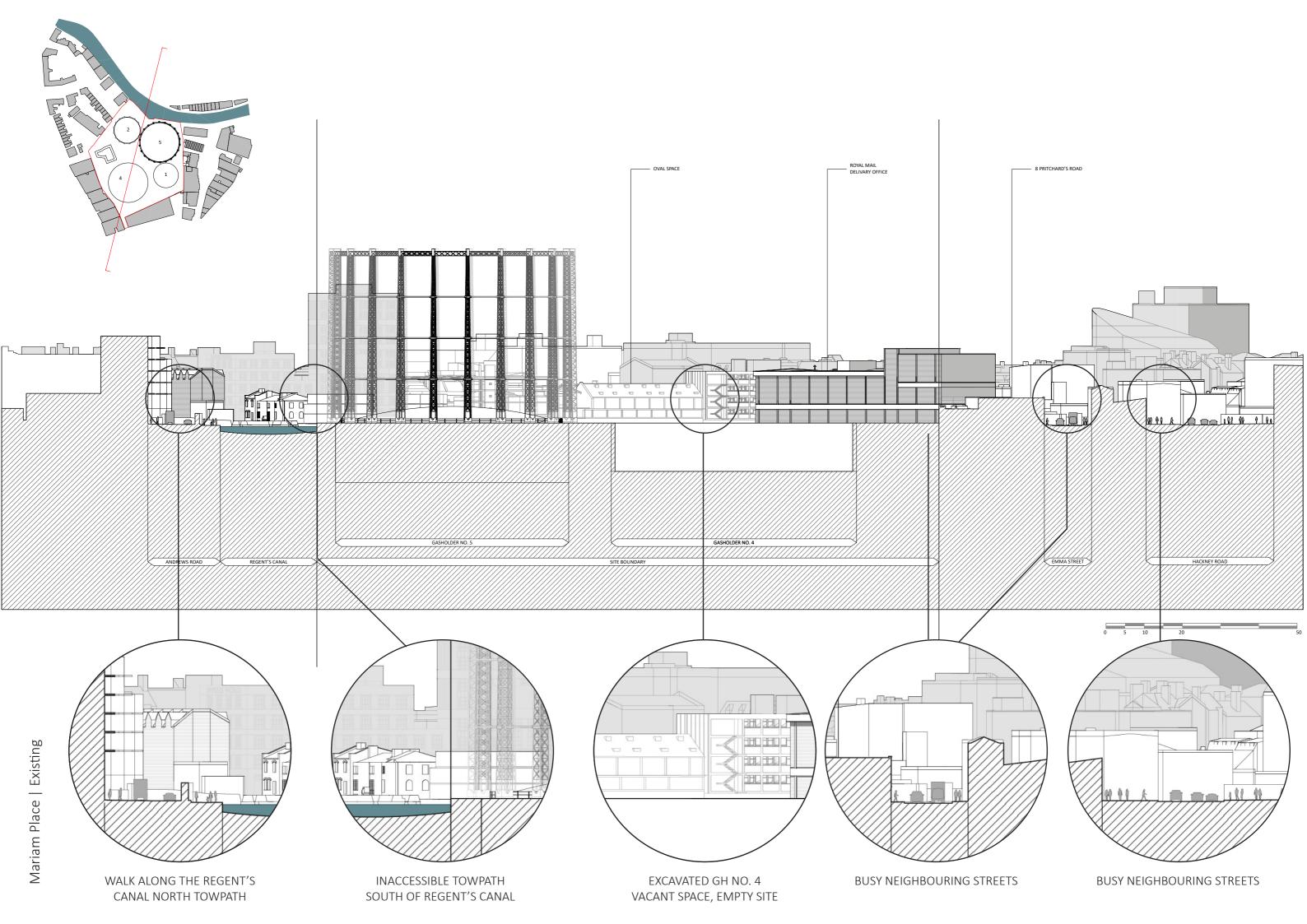


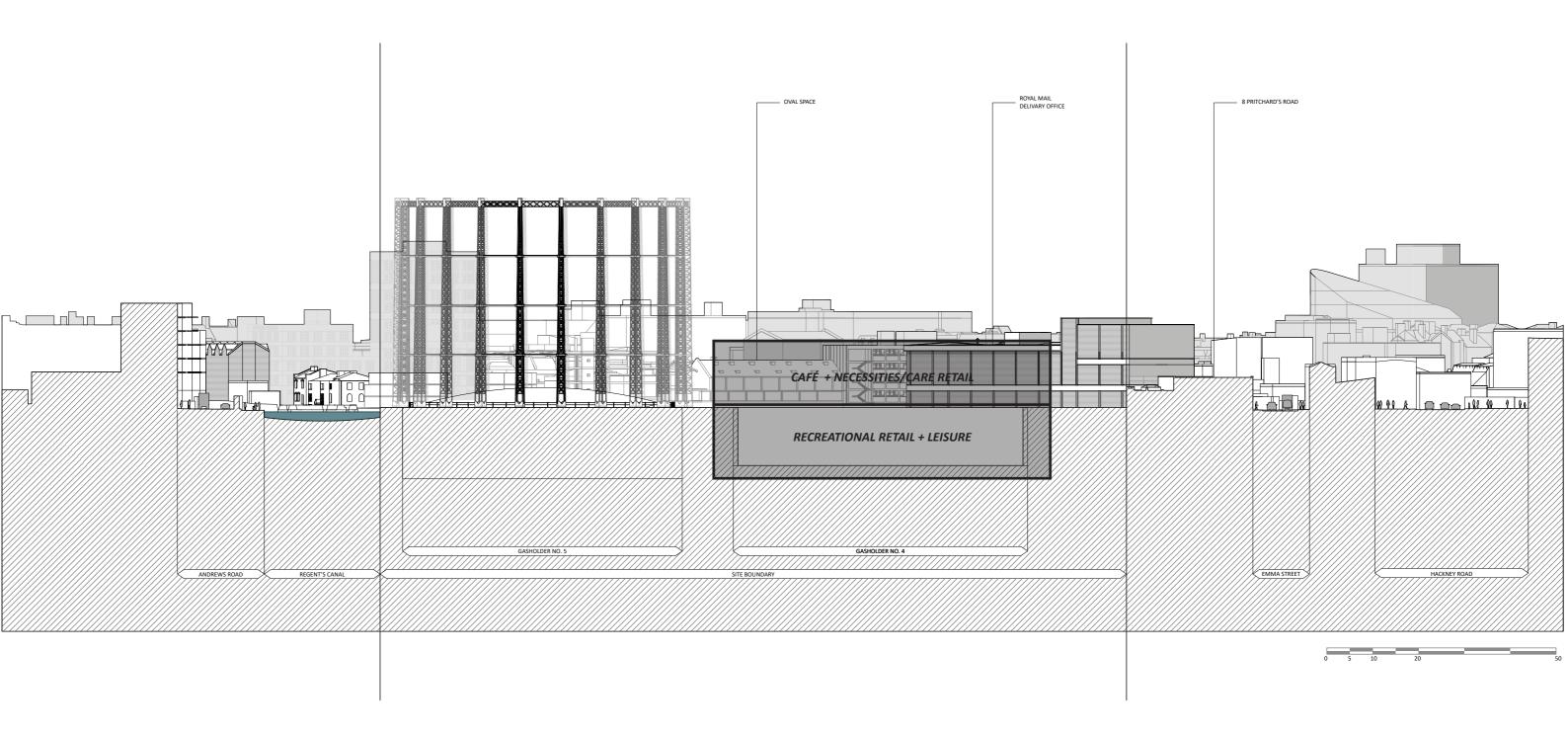












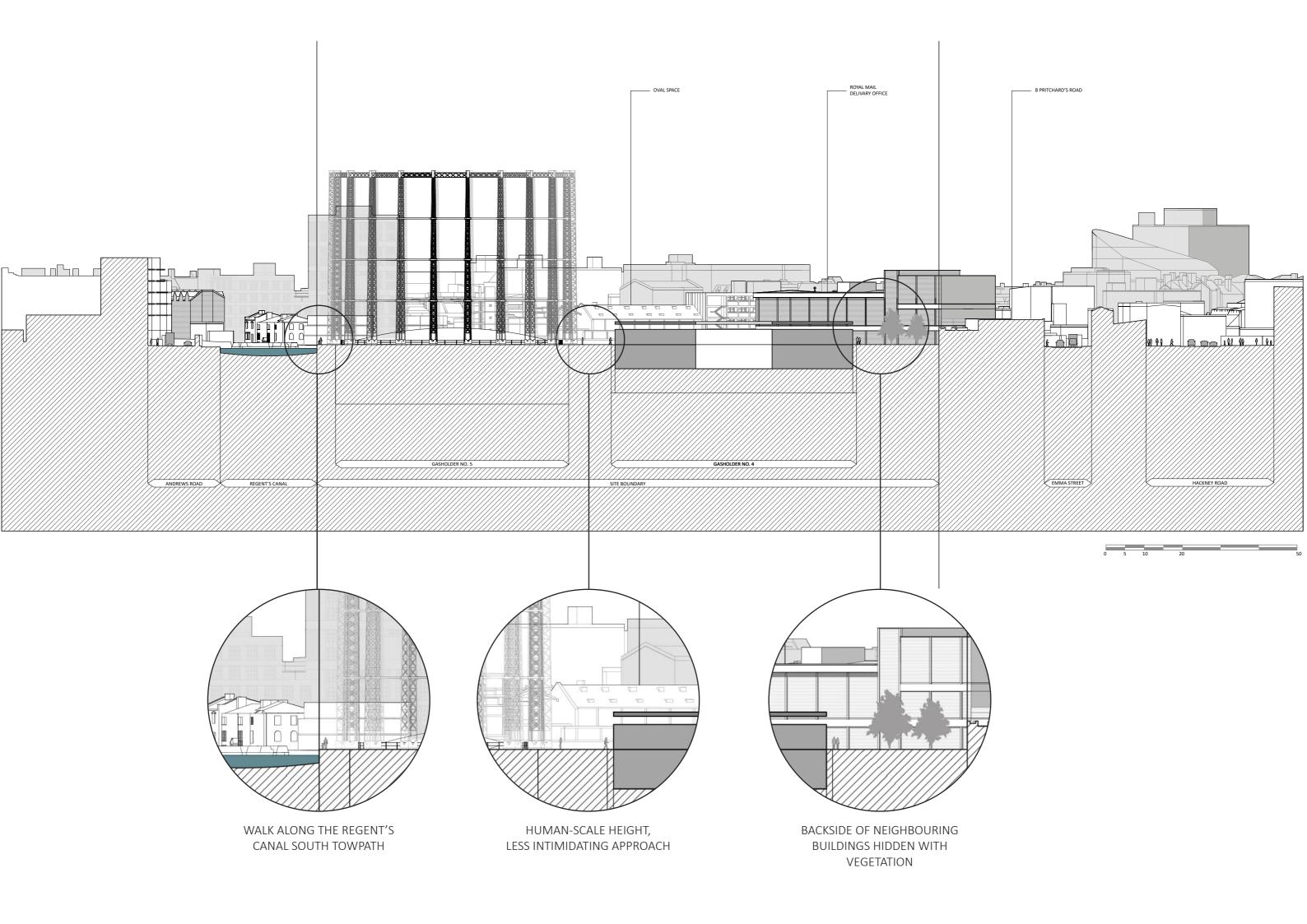
GASHOLDER NO. 4

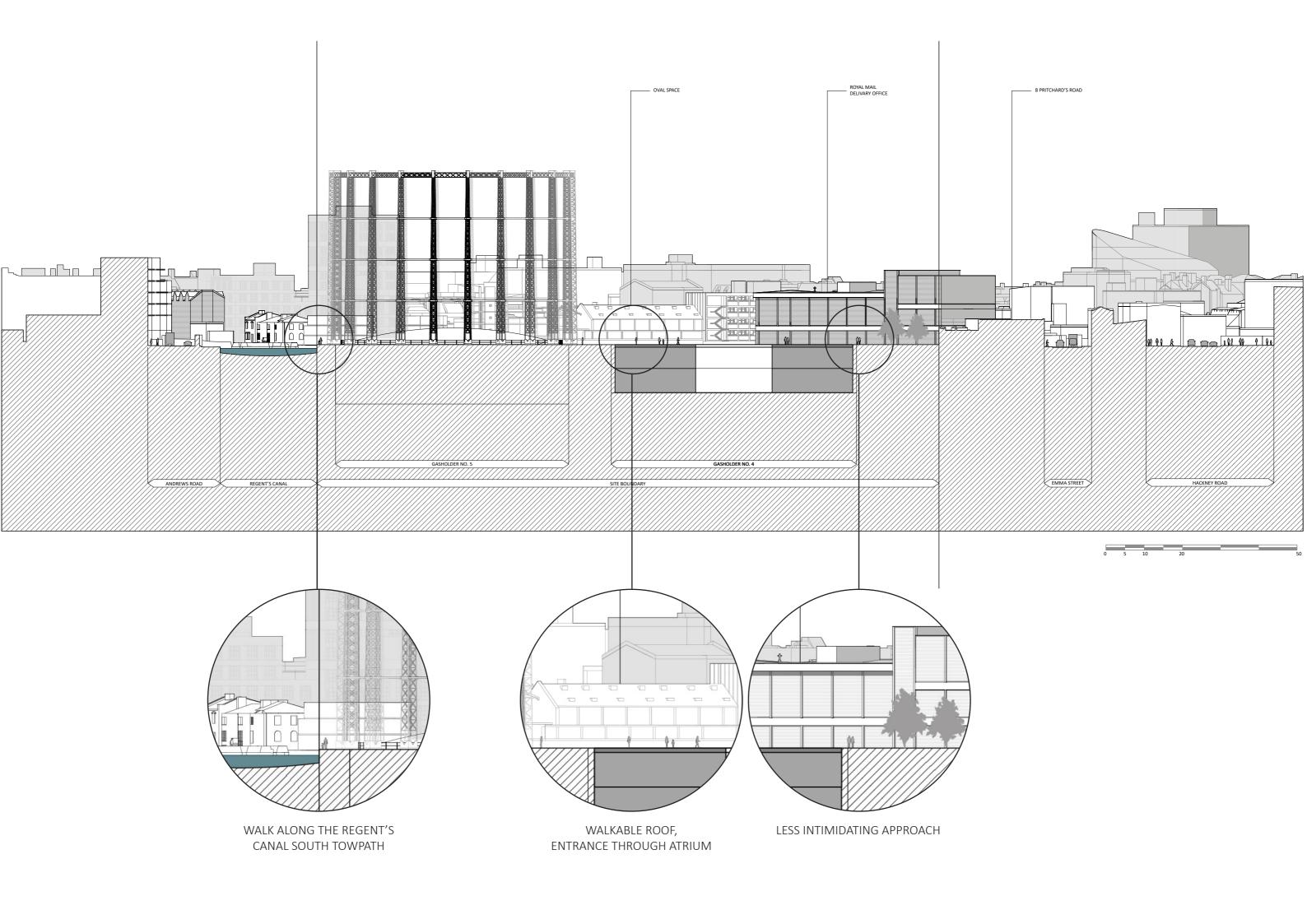
BUILT: 1856 DIAMETER: 62.2 m AREA: 3038,60 m² TANK DEPTH: 12.65 m

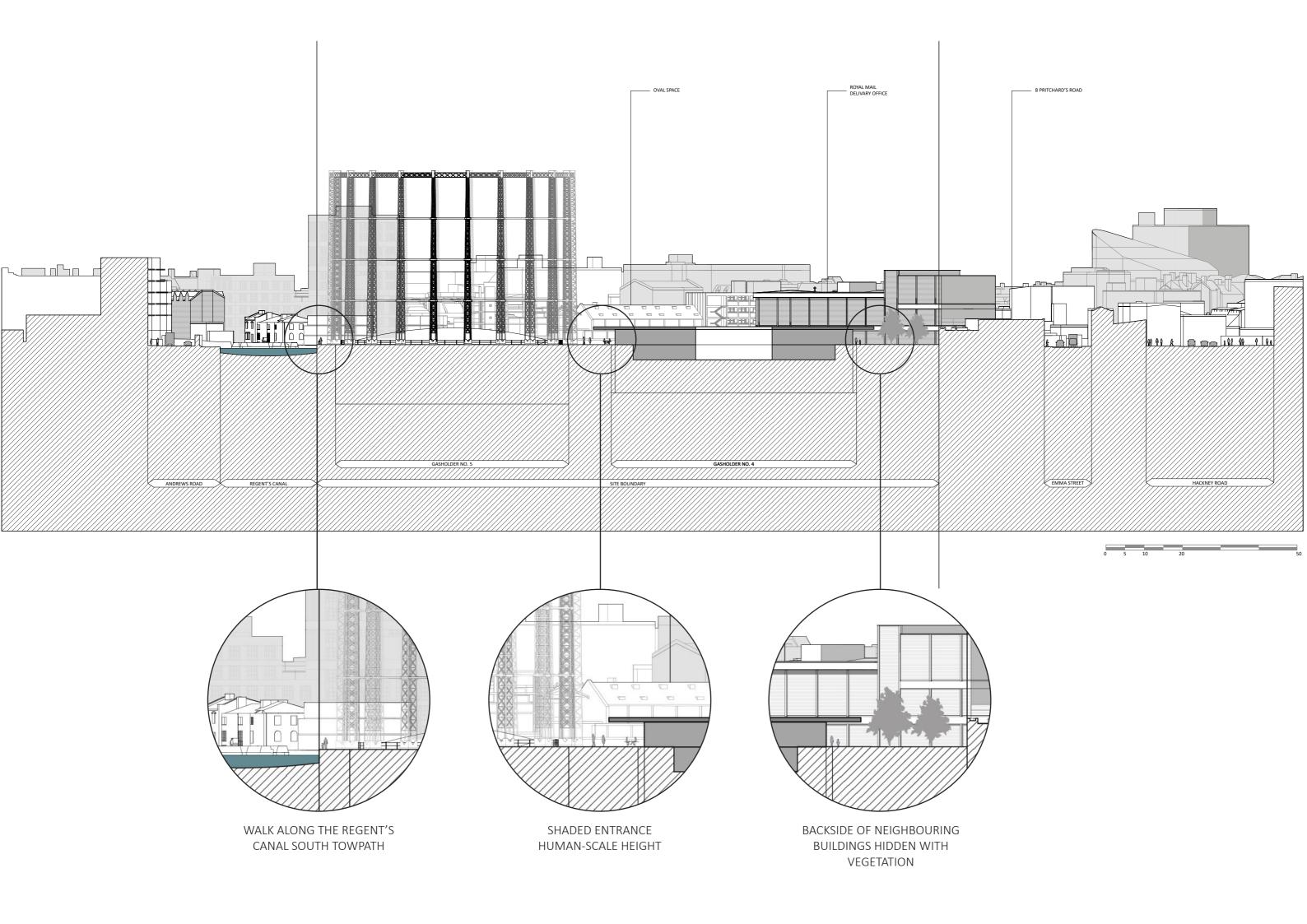
CONVERSIONS: SPIRAL GUIDED 3 LIFTS (1931) CURRENT STATUS: DISMANTLED, EXCAVATED REDEVELOPMENT SCHEME: DEPARTMENT STORE (2 FLOORS)
RETAIL ESTABLISHMENT SELLING A VARIETY OF GOODS

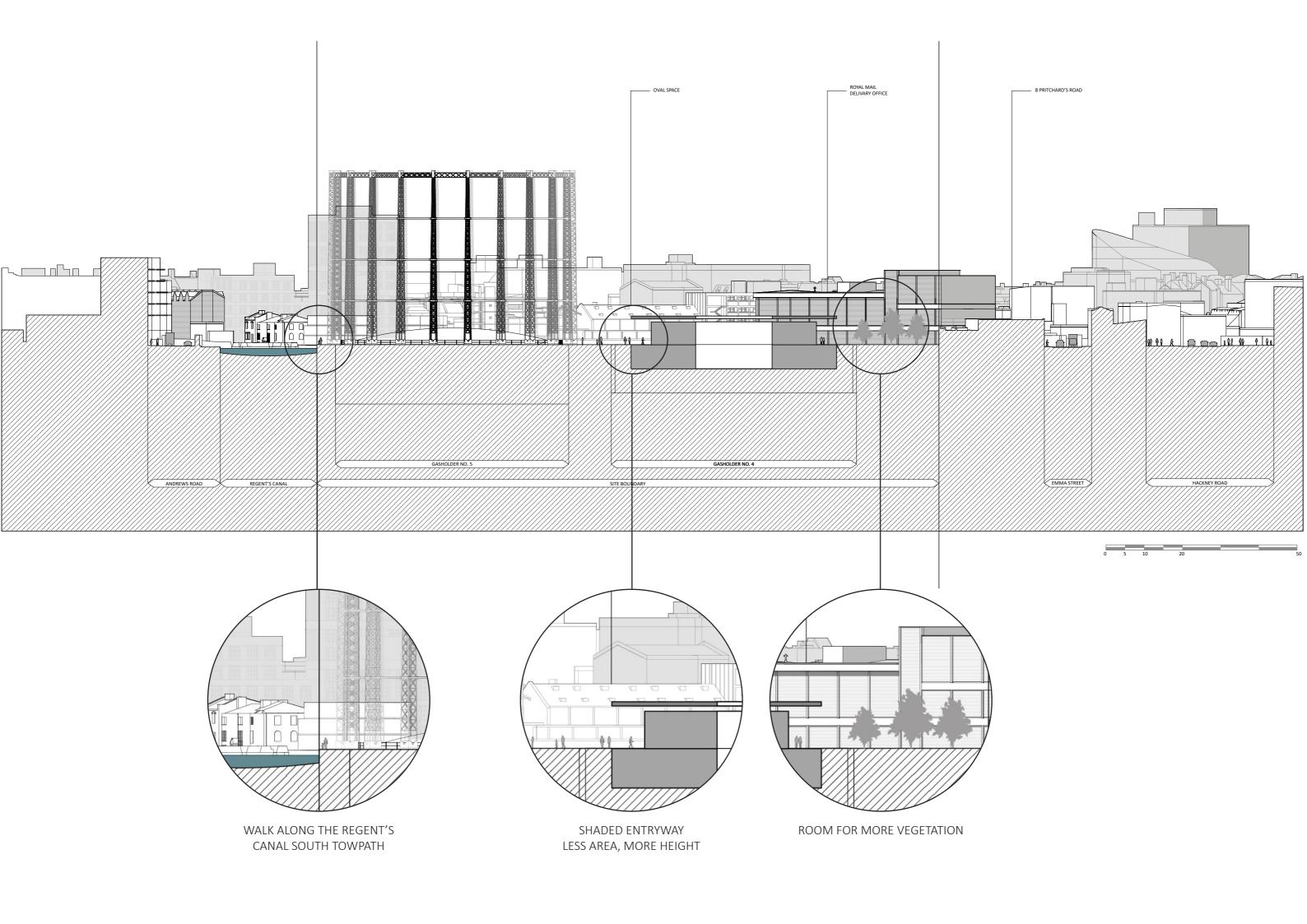
1ST FLOOR: CAFE + NECESSITIES/CARE: HOUSEGOODS, LARGE SUPPLY SUPERMARKET, PHARMACY 2ND FLOOR: RECREATION: APPAREL, ACCESSORIES, POTENTIAL FOR INDOOR LEISURE ACTIVITY

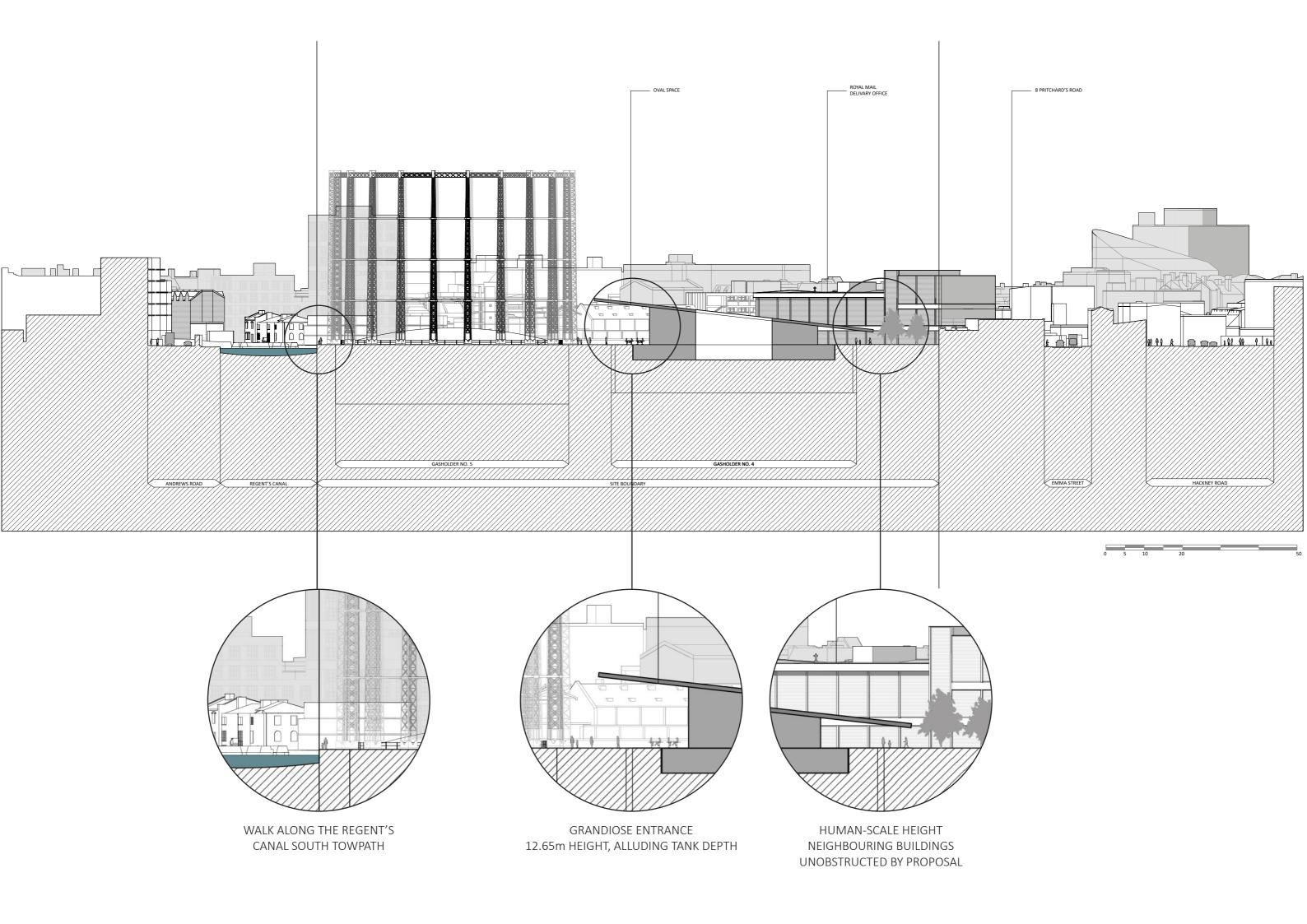












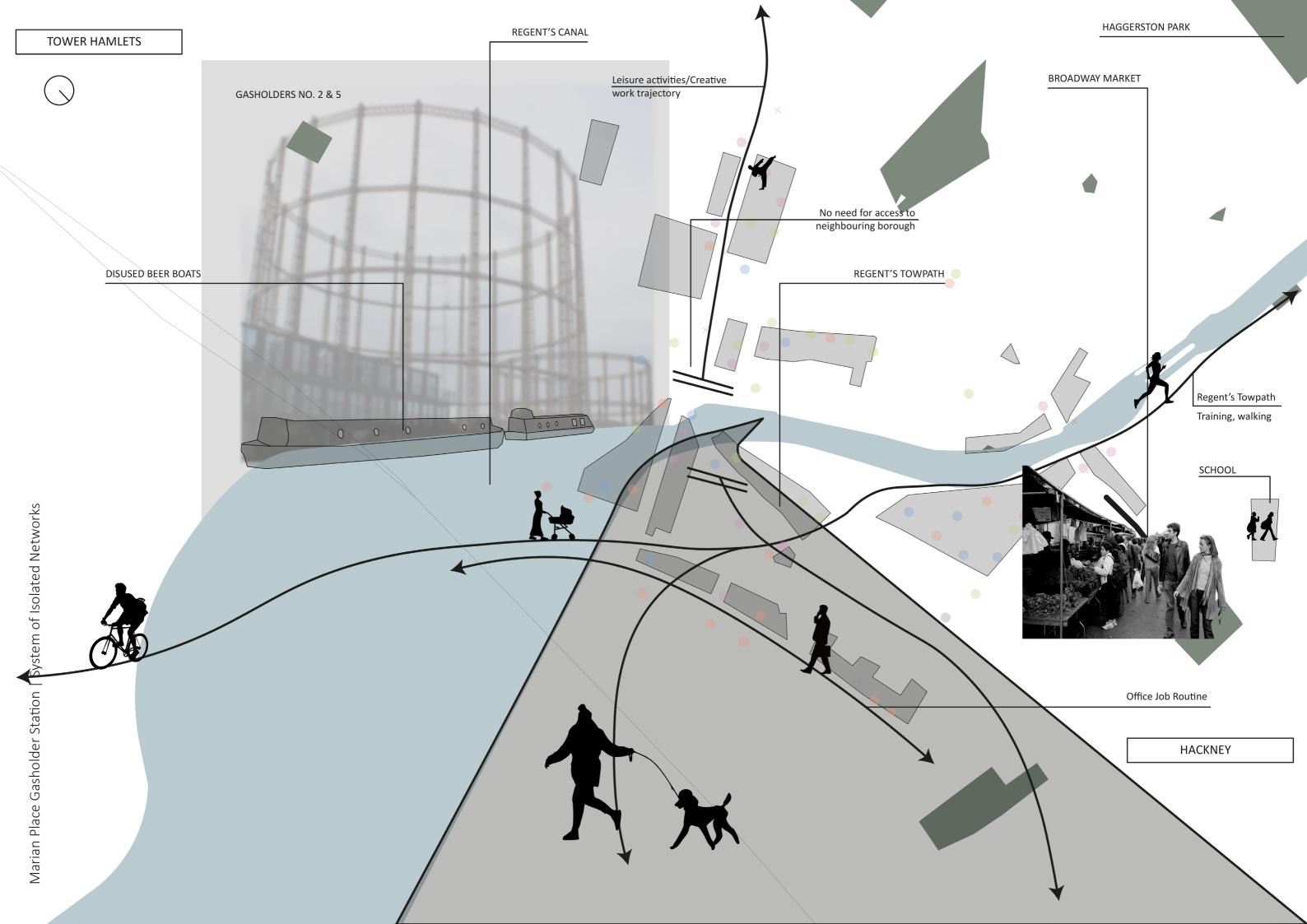
HOW DOES THIS PROPOSAL TRY TO COMPLEMENT THE SITE?

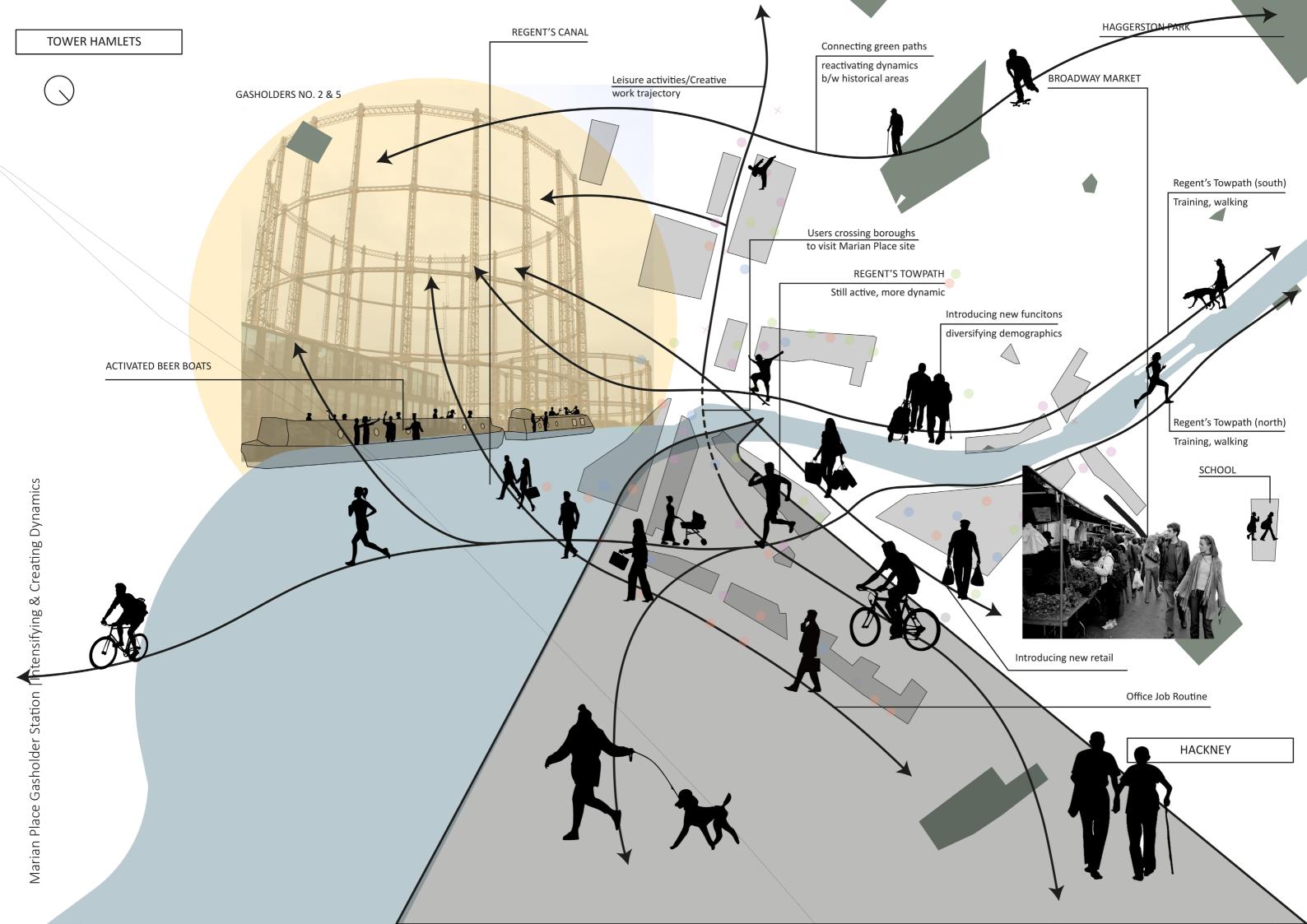
Complementarity through demographics (residents & visitors)
Package of varied programs

- -Satisfy average age group's interests
- -Providing new functions to merging peoples (ages, interests)

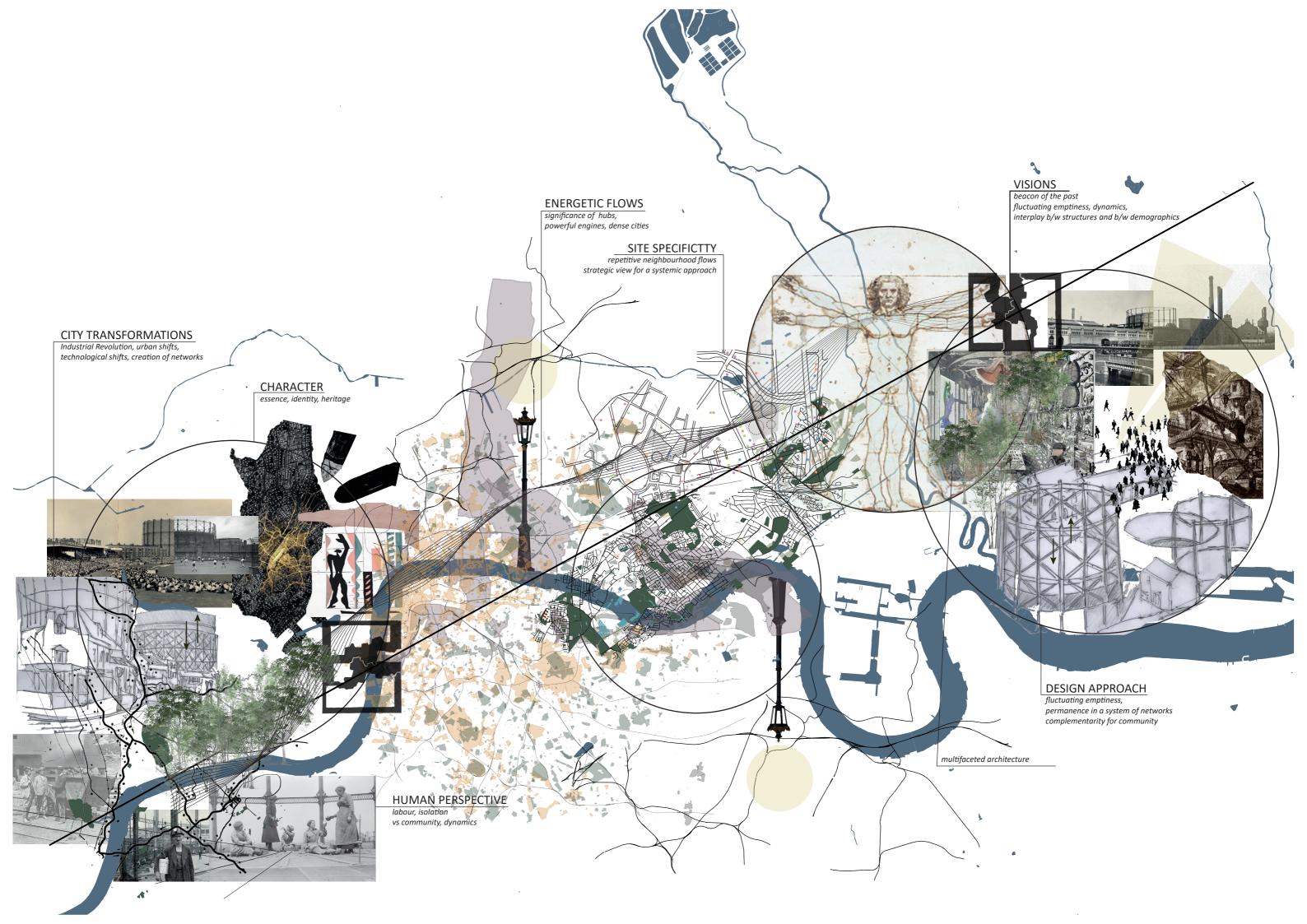
Complementarity through functions

- Offices: break spaces
- Event planning offices: provide venue for events
- Supporting retail









Registered in England No. 2727193

THE MORTON PARTNERSHIP LTD.

CONSULTING CIVIL & STRUCTURAL ENGINEERS, HISTORIC BUILDING SPECIALISTS Old Timber Yard House, 55 The Timber Yard Drysdale Street, London N1 6ND Tel: 020 7324 7270 Fax: 020 7729 1196 email: london@themortonpartnership.co.uk www.themortonpartnership.co.uk

Our ref: EJM/CH/18810~01

13th December 2018

Dear Tom.

Tom Ridge East End Waterway Group Tower Hamlets London E3

by email only: EAST.END.WATERWAY.GROUP@gmail.com

RE: BETHNAL GREEN GAS HOLDERS, BETHNAL GREEN, LONDON

As you are aware, we have reviewed in outline an indication of the costs for repair and retention of Gas As you are aware, we have reviewed in outline an inducation of the costs for repair and reterition of Gas Holders No 2 and No 5 at Bethnal Green. The costs have been prepared by Russel Turner of Eura Conservation, a well known iron work specialist contractor, who we have worked with on projects such as the Albert Memorial, Gravesend Town Pier and currently Russel is helping us as Clerk of Works on the Iron Bridge in Ironbridge Shropshire. Russel Turner's CV is attached.

I attach a spreadsheet produced by Russel who has visited the site to get a better feel of the scale and complexity, albeit at a distance. He has also based the estimate on the additional information available on the history of construction etc. which has been kindly provided. Clearly some judgements have had to have been made such as the extent of repairs - however please see my considered views below.

As you will see the costs for the Gas Holder No 2 are £1,059.212.00 plus VAT with Gad Holder No 5 being £2,907,445 plus VAT. Thus the total for both is £3,966,657 plus VAT, say £4.0ml. It should be noted that a 15% contingency has been included in these figures, but it does exclude any contamination mitigation, works to the bells, fees etc. These costs are at current rates and do not allow for inflation.

As there has not been the possibility for detailed inspection and investigation I suggest an additional 20% contingency should apply to the works, which would bring the total to approx. £5.0ml + VAT.

I consider this is reasonable based on my own experience of iron structures, including the Palace of Westminster re-roofing (currently in our 12th year), as lead consultant for works to the Iron bridge for English Heritage, the Glass House in Ballyfin Southern Ireland and many others. My own CV is attached.

I hope this is of assistance and that it is possible to retain these important and significant structures as part of

Yours sincerely FOR THE MORTON PARTNERSHIP LIMITED,

Edward Montan

EDWARD MORTON B.Eng(Hons), C.Eng, FICE, IHBC

Engineer Accredited on Conservation

cc Paul Latham

Encls - Estimated costs and CV's

Registered Office: Leonardo House, 11 Market Place, Halesworth, Suffolk IP19 8BA Tel: (01986) 875651 Fax: (01986) 875085 London Office: Old Timber Yard House, 55 The Timber Yard, Drysdale Street, London N1 6ND Tel: 020 7324 7270 Fax: 020 7729 1196 Essex Office: 8 Church Street, Coggeshall, Essex. CO6 1TU Tel: 01376 563883 Fax: 01376 563894

Appendix F

Budget costs for access blast repair and paint to Gas Holders No.2 and No. 5

Dec-18

Gas holders Benthal Green Notes

No 2 16 cast columns 2 tiers of comp girders columns approx 22m 40.6 m dia

no 5 22 standards 45m high 4 tiers of girders 61m dia

Budgets

GAS HOLDER NO. 2

Desc Item No.	Dims Dims	Height/	length Area (Complexity Rate	Pric	· e	Notes		
columns Blast to Sa2	16 0.76 Dia + .15 guic	0.9	22 995.29	1.2 £ 65.00		77,632.66			
Girders Blast to Sa2	32 1.0+.25	2.5	8.5 2136.36	1.3 £ 65.00		180,522.08			
Bell	52 2.0 - 125	2.5	0.5 2100.50	1.0 2 05.00	£	-	not included		
Paint above 3 coats			3131.65	1 £ 60.00		187,898.79		(Blast paint and repair total)	£ 521,053.54
repairs to above Prov	50		50.00	1 £ 1,500.00		75,000.00		or 20% blast and paint cost	£ 104,210.71 Alternative contingency
Scaffold					£	350,000.00			,,
Encapsulation					£	50,000.00			
Contingency 15%					£	138,158.03			
					_				
Budget total					£	1,059,211.57			
GAS HOLDER NO.	. 5								
columns	22 1.93 x 1.37	6.5	45 6435.00	1.2 £ 65.00	£	501,930.00			
Girders top ring	22 1.93 x 1.37 22 1.93 x 1.37	6.5	8.5 1215.50	1.3 £ 65.00		102,709.75			
Girders lower 3 tiers	66 1.37 x 0.5	3.74	8.5 2098.14	1.2 £ 65.00		163,654.92			
Bell	00 1.37 x 0.3	3.74	0.00	1.2 1 03.00	£	103,034.32	not included		
Paint above			9748.64	1 £ 60.00		584,918.40			
repairs to above Prov	100		100.00	1 £ 1,500.00		150,000.00			
Scaffold	100		0.00	1 2 1,500.00	£	950,000.00			
Encapsulation			0.00		£	75,000.00		(Blast paint and repair total)	£ 1,503,213.07
Contingency 15%			0.00		£	379,231.96		or 20% blast and paint	£ 300,642.61 Alternative contingency
0,						,			,
Budget Total					£	2,907,445.03			
Padasastina Padasta			m2	rata					
Redecoration Budgets			IIIZ	rate					
Gas Holder No. 2									
Clean local corrosion and lig	htly abrade		3131.65	£ 8.00	£	25,053.20			
Apply undercoat to degraded	d areas	say	50.00	£ 25.00	£	1,250.00			
apply top coat to entire surfa			3131.65	£ 15.00	£	46,974.75			
Estimate for scaffold tower a	ccess				£	60,000.00			
Gas Holder No. 5									
Clean remove local corrosion and lightly abrade			9748.64	£ 8.00		77,989.12			
Apply undercoat to degraded areas		say	100.00	£ 25.00		2,500.00			
apply top coat to entire surface			9748.64	£ 15.00		146,229.60			
Estimate for scaffold tower a	ccess				£	140,000.00			
Redecoration Budget Total					£	499,996.67			

2

