July 2023

Architectural Design Crossovers
TU DELFT

P5 PRESENTATION

Nadia Antoniadis
Student No. 4703774

Roberto Cavallo
Florian Eckardt
Alper Alkan

Reviving the Forgotten Gasholders

Harnessing the potential of heritage sites through complementary architectural gestures

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
P5 Presentation | July 2023

1800-1900: Functional Pieces of Engineering
Prime locations to deliver gas/electricity to the area

Dark, toxic sites - isolation and health problems
Large imposing industrial structures

1950s: Transition to natural gas
Abandoned, desolate, gloomy sites & relics of the past as a backdrop

Decommissioned: reference point in the skyline
Start to see the beauty of these majestic structures

Spectacular on landscape
Part of the character of the city

CITY TRANSFORMATIONS

Industrial Revolution, urban shifts,
technological shifts, creation of networks

CHARACTER

essence, identity, heritage

ENERGETIC FLOWS

significance of hubs,
powerful engines, dense cities

SITE SPECIFICTTY

repetitive neighbourhood flows
strategic view for a systemic approach

VISIONS

beacon of the past
fluctuating emptiness, dynamics,
interplay b/w structures and b/w demographics

DESIGN APPROACH

fluctuating emptiness,
permanence in a system of networks
complementarity for community

multifaceted architecture

HUMAN PERSPECTIVE

labour, isolation
vs community, dynamics

Outline


by Richard Chivers

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)

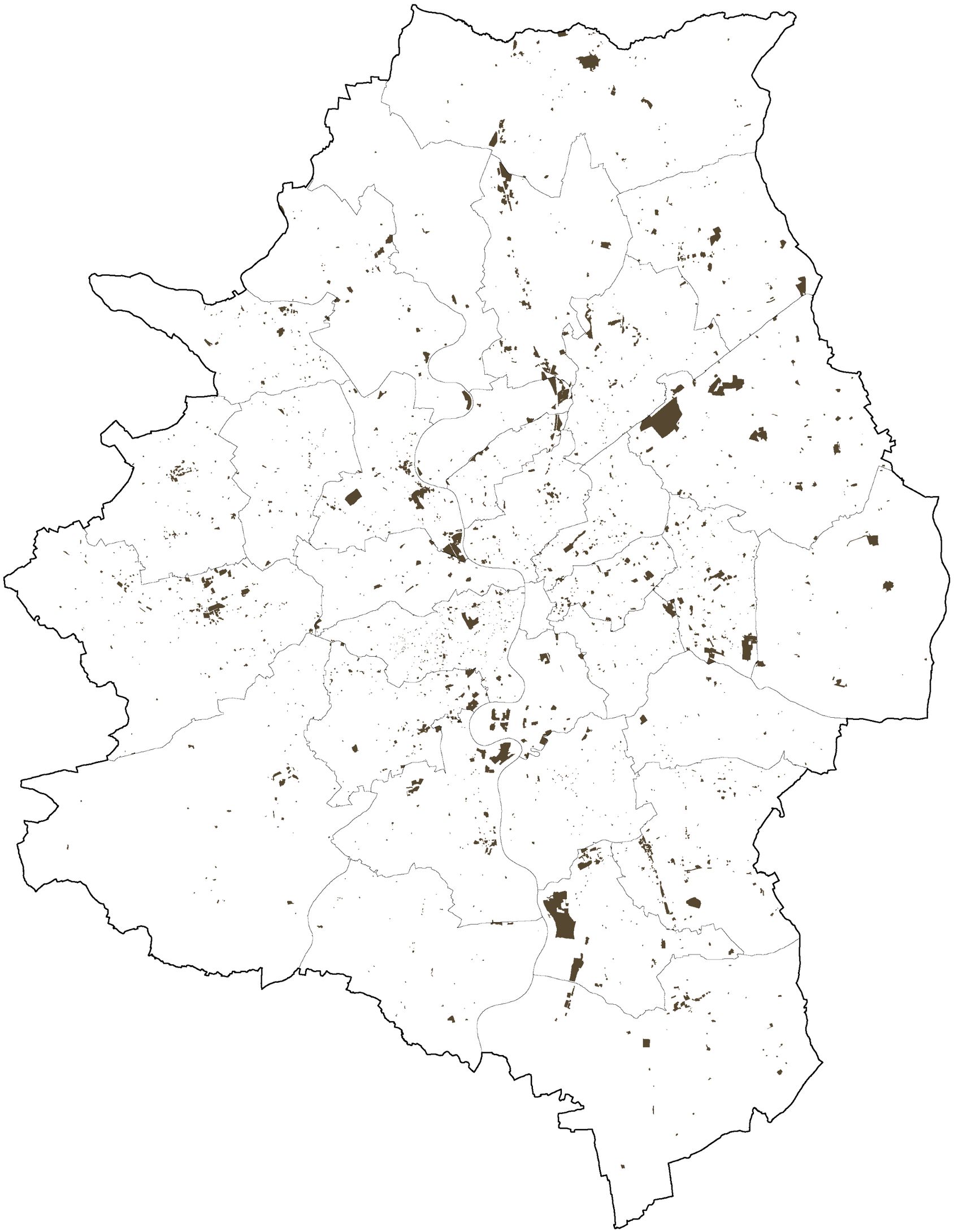
Embody the symbolic emptiness to creaye a sense of belonging

In the pursuit of urban revitalisation, how can complementary architecture serve as a transformative mediator, enabling the revival of vacant heritage sites in a dense urban city while transcending their physicality, stimulating a collective reimagining of community, and embodying the essence of the city's evolving identity and values?

A Post-Industrial City and its Relics

Potential Locations using city-scale studies

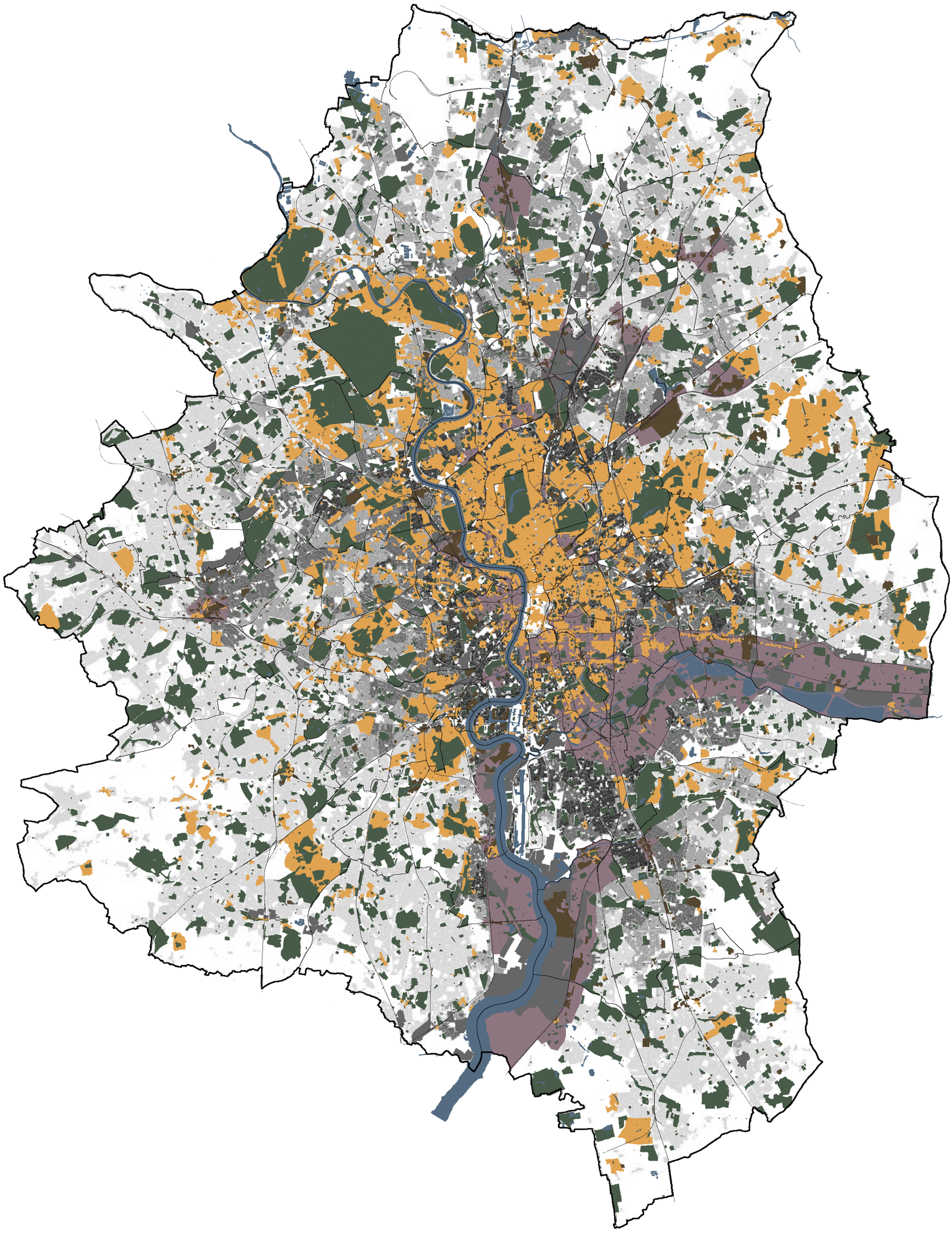
LONDON | Vacant Spaces due to industrial shifts

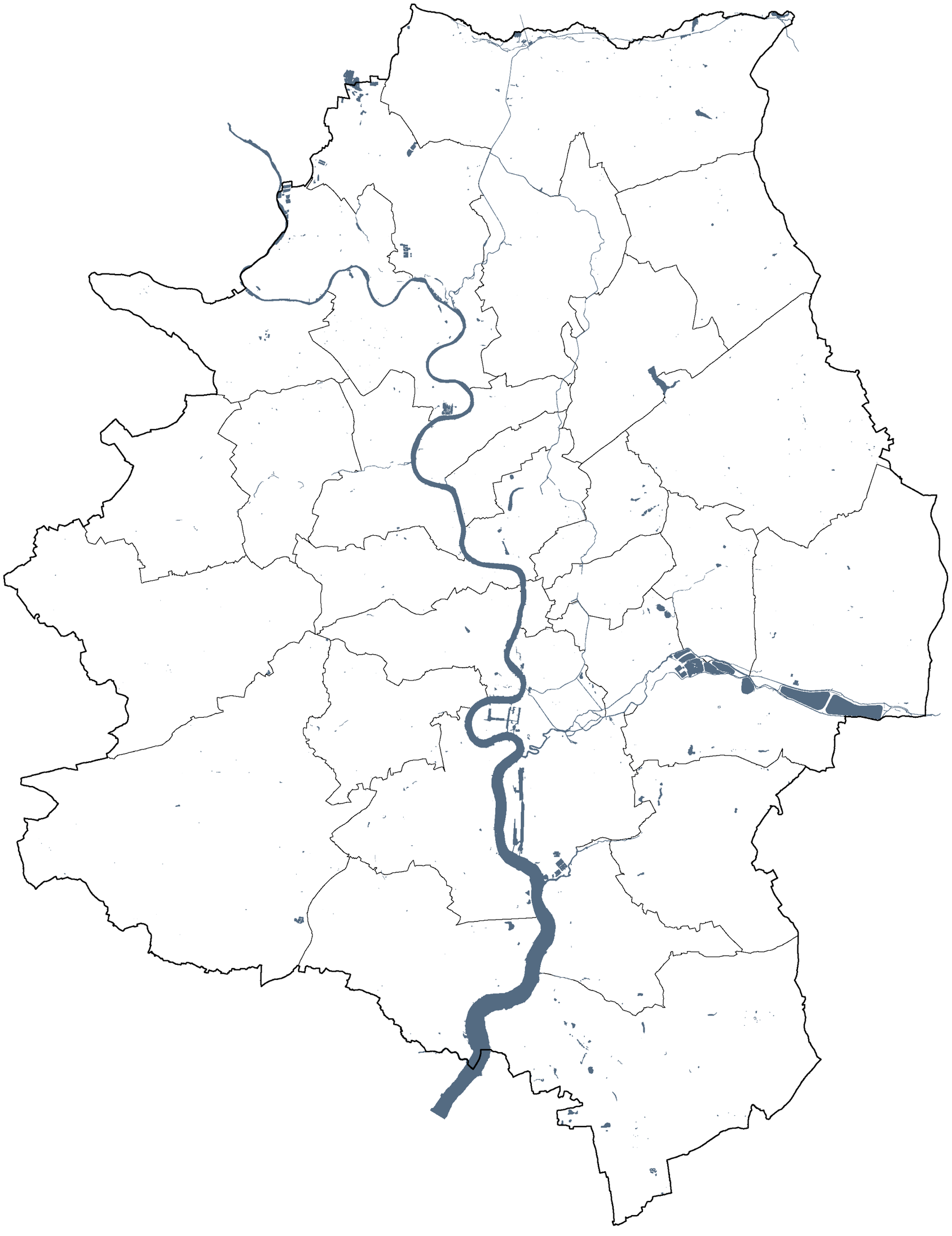


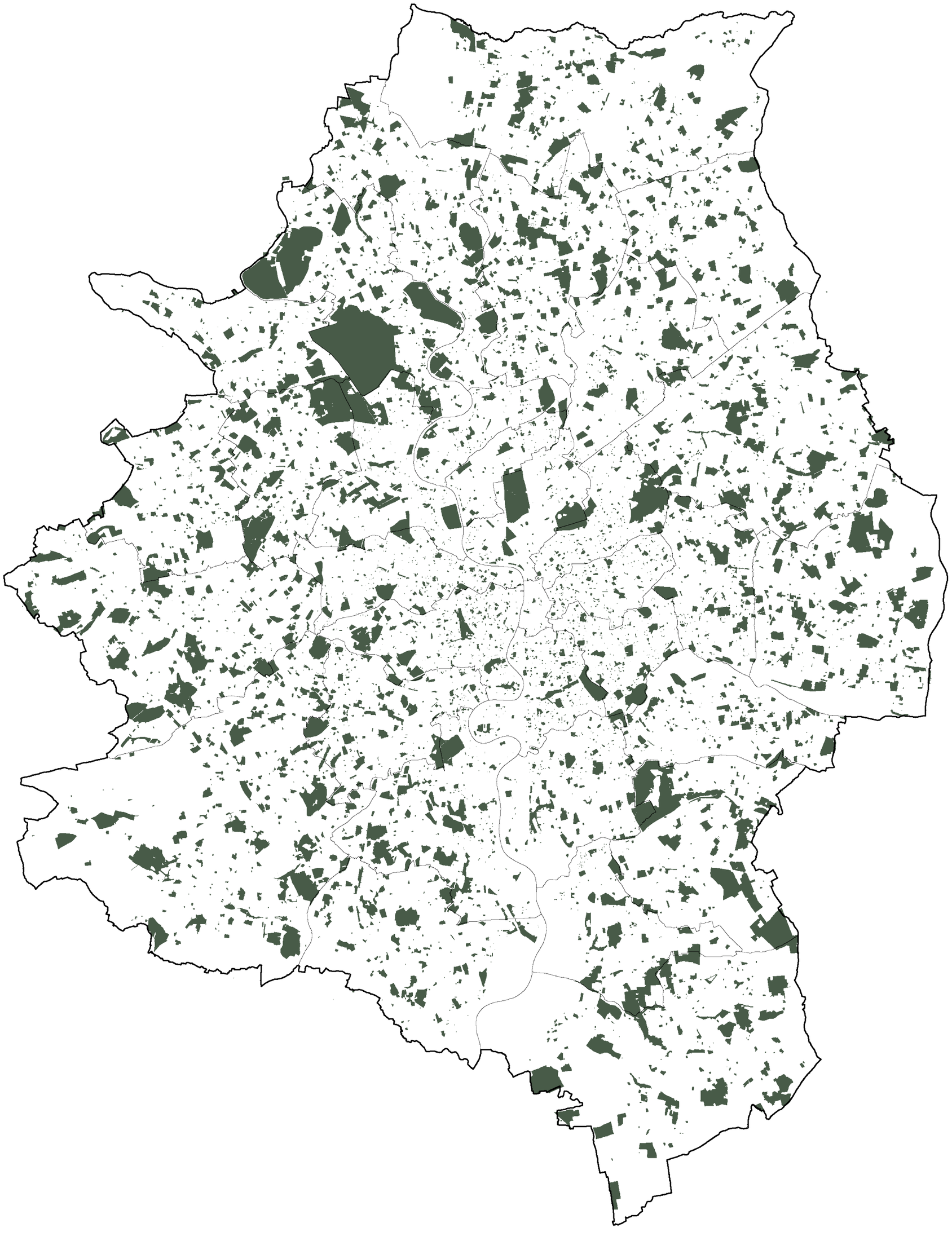
Determining a Site

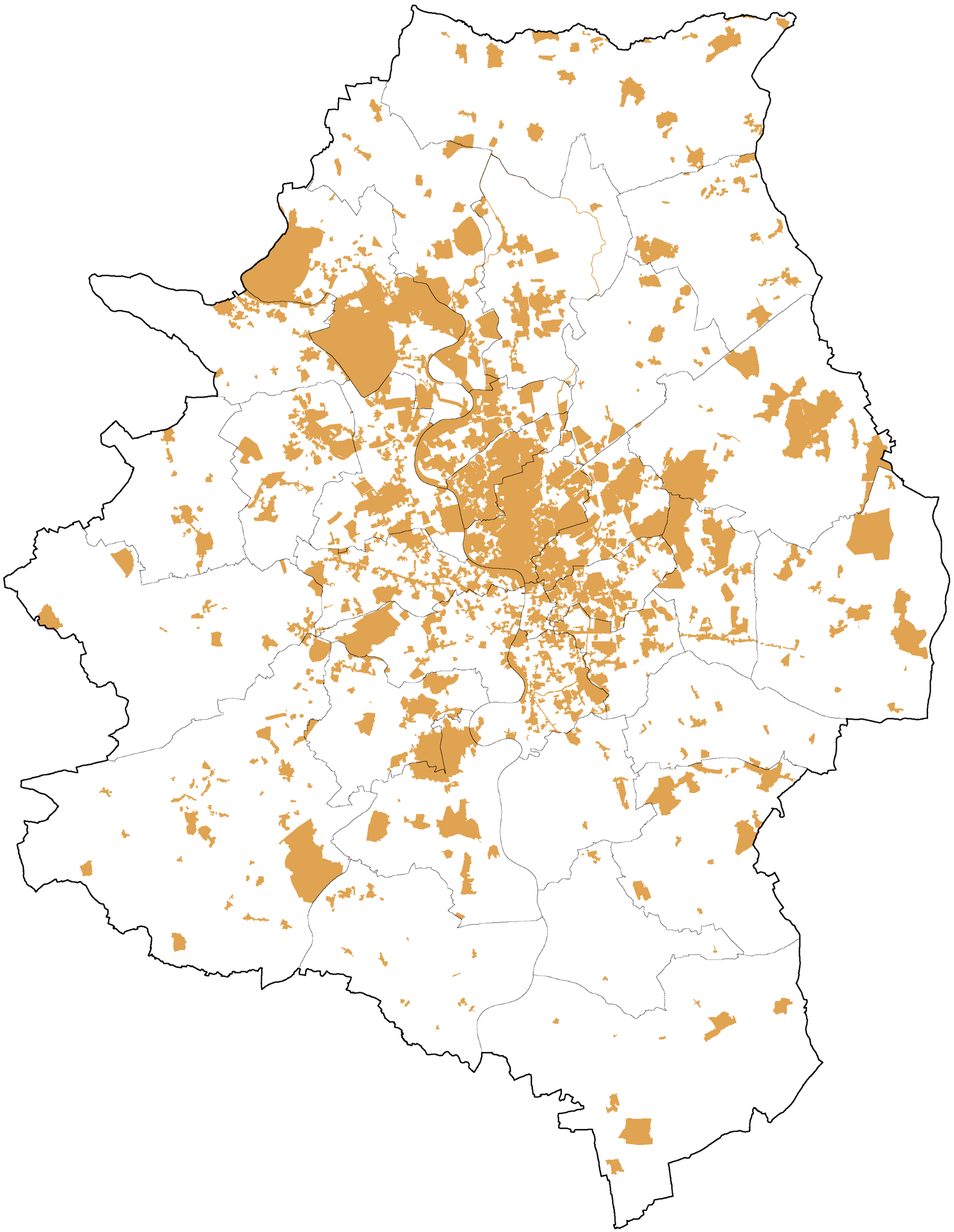
System of networks in London
Setting parameters and contraints
Refining study through single site specific research

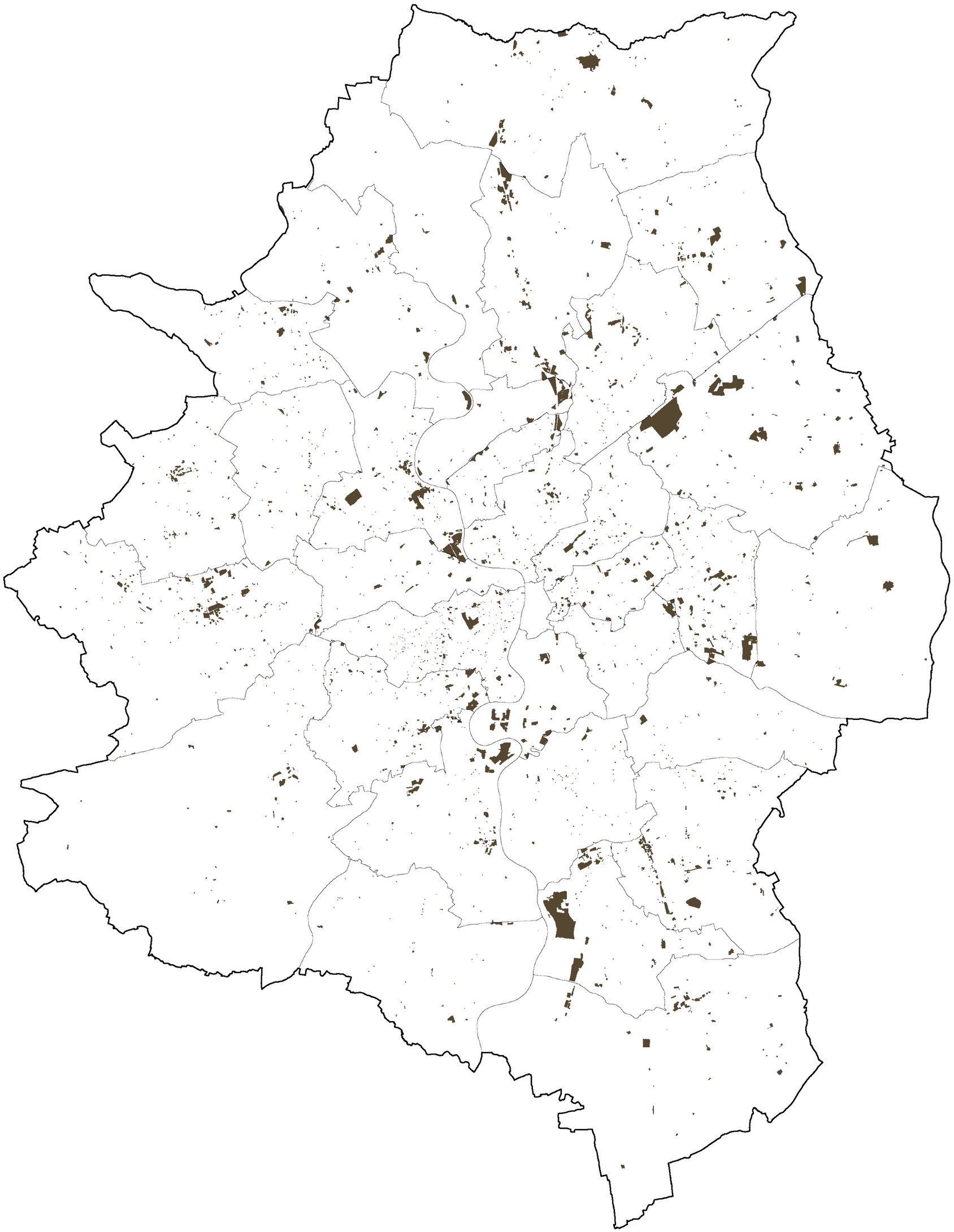
Areas of Investigation



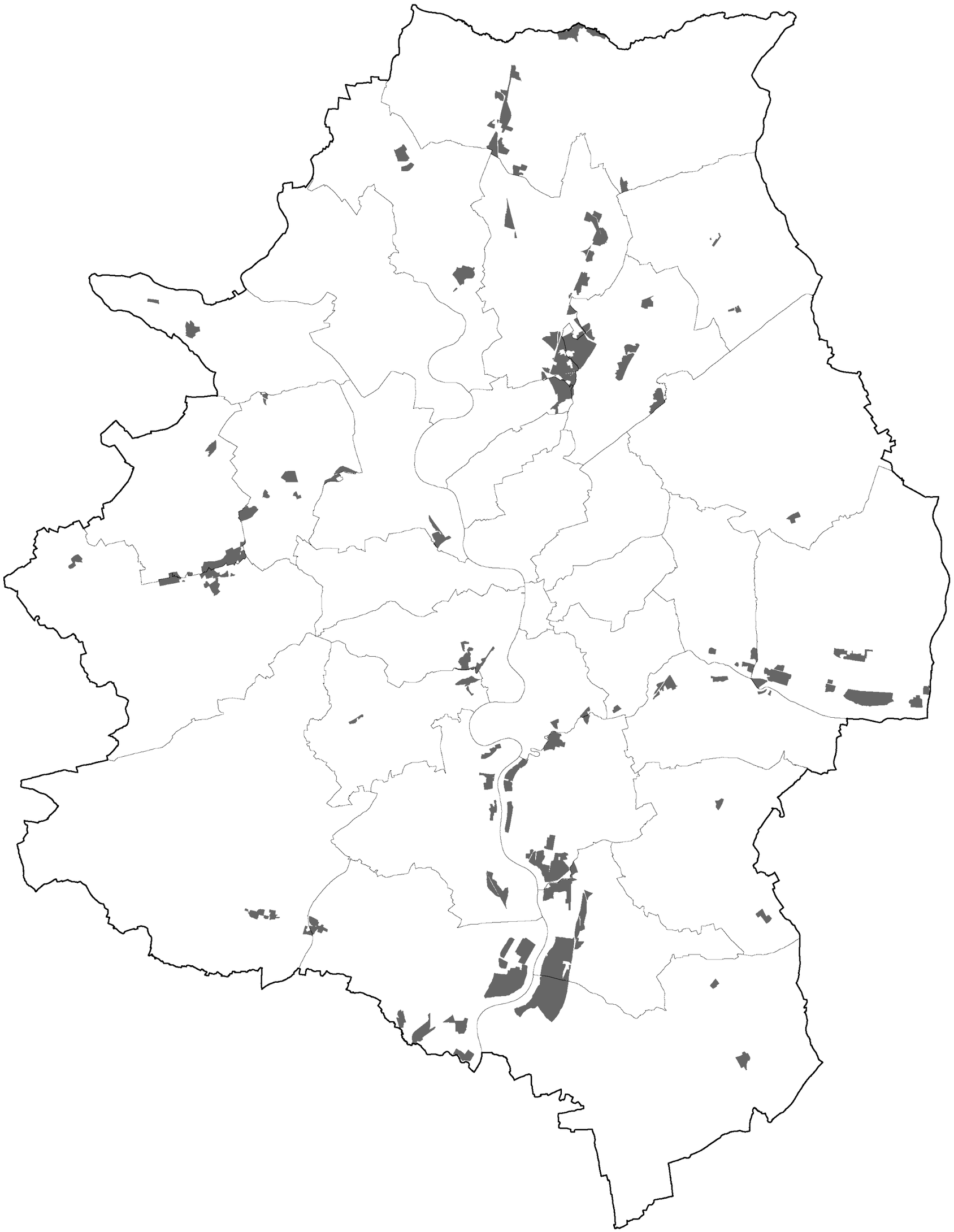


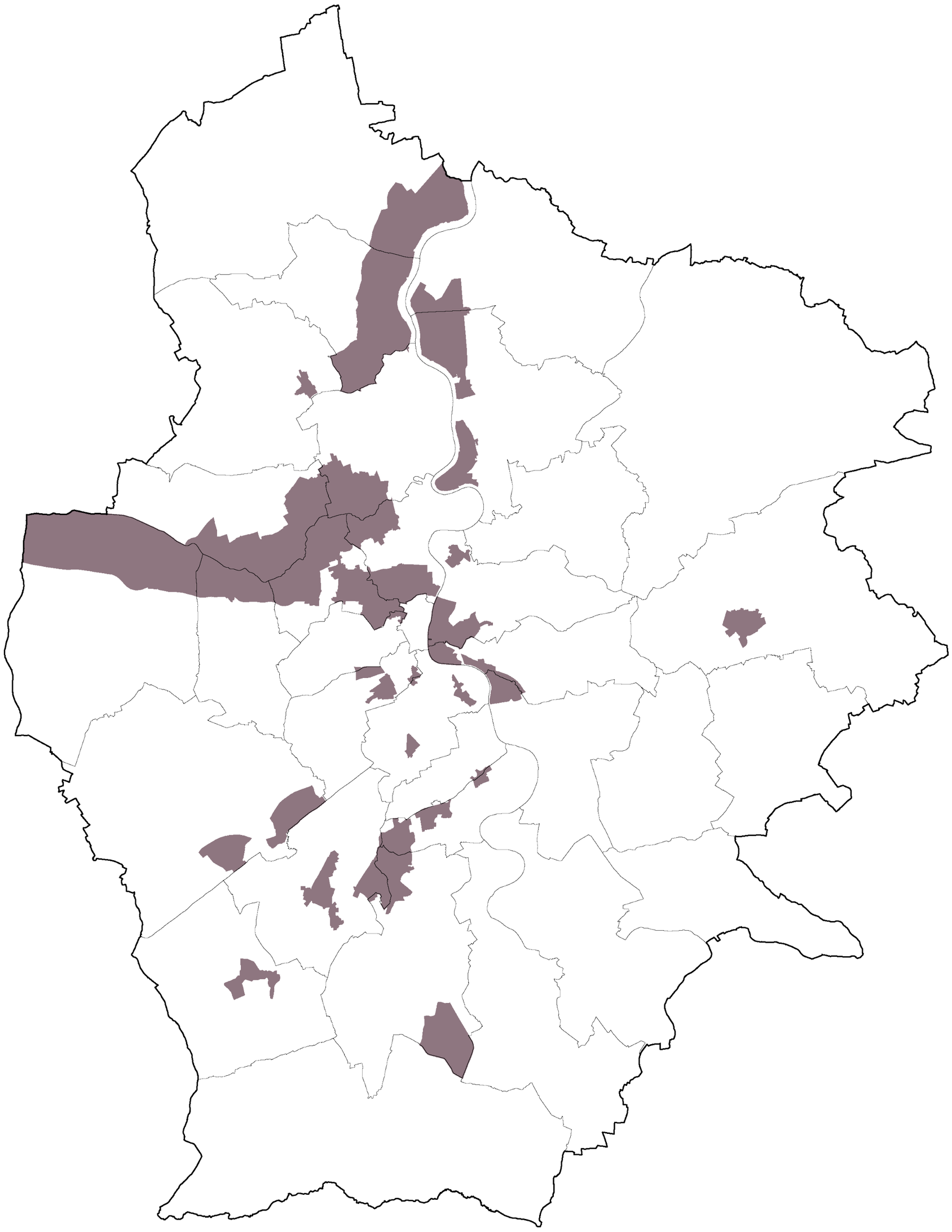






LONDON | Strategic Industrial Land (SIL)





LONDON | Opportunity Areas

Location Map of existing, redeveloped, and dismantled gasholders of London

Location Map of existing gasholders of London (remains)

Logbook of Typologies

Programme, Location, Building Technology
Successful Aspects, Petitions

Comparative Matrix

		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.	NOT SURE IF A STRUCTURE REMAINS 1 or 2 possible present frames?? + 4 flat areas below ground? OTHER REMAINS: The gasworks had its own pier for loading coal. Remains: jetties on water rotting away some modern gas infrastructure. The workers cottages on Winsor Terrace and the Entrance gates still survive.	7 column guided skeletons present (Grade II) with crown all below ground tanks	1 frame belowground with crown + 1 crown only (with minimal to no framing?) - 2/3GH OTHER REMAINS: A whitewashed red brick building, parts of the boundary wall and two gasholders survived in 2018.	2 skeletons with crown + 2 crowns no frame below ground tanks No5 (big) No2 NOT LISTED	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 below ground tank	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) + 1dismantled (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	dead space possibility for parking	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** • Tutoring school • Jewish community school •Primary/Nursery **Residential**	**Commercial** • Tesco • Supermarket • Toy store • clothing stores • Restaurant **Industrial** • Docklands Light Railway Ltd • 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** •large green park (Shenstone Park) •village hall (gathering space for school) •tennis club (fields) **Institutional** •school •church 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** around public area + residential North	**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 accessories •plumbing •metals **Industrial** • car service • industria equipment supplier •construction company •food supplier **Institutional** • school + facilities sports, green space) •Church •pharmacy supermarket •consultant offices **Residential (east)**
Movements (+ accessibility)	• river • rail/public transp • roads	road, bus walk not easy	underground network (Barking or Plaistow) + bus Road not easy to get to	Road, bus Bow Creek	Rail (crayford) l + bus Underground (Woolwich)+ bus	Road, rail Rail network, bus Regent's canal	Underground network (Imperial whard)	Road, rail Rail network, bus	Underground network (east ham)	rail network (Worcester Park)+walk Bus	Road, bus	rail network St Mary Cray + walk Orpington + bus	Road, rail Rail network, bus Thames River	Rail network (Belvedere) Road
Coordinates		51.653688537587705, -0.17227492560199803	51.51394183881501, 0.07794401999716147	51.5250532397, -0.00357402176827	51.4534954148, 0.16638259522	51.533437678423205, -0.06040929172773984	51.4772014694, -0.186421286929	51.485631035415324, -0.11493224623193321	51.54112472151783, 0.06480400119278792	51.3902959668, -0.240912312467	51.482239, -0.059760	51.3983790523, 0.11196355185	51.50252267758361, -0.048031474636269104	51.4934335988, 0.14824527006
Present/Features	• at risk? • redevelopment plans?	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.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=QVMN36JI09100 https://www.theresavilliers.co.uk/news/high-rise-blocks-new-barnet-victoria-quarter-are-betrayal	http://www.lddc-history.org.uk/beckton/index.html https://weeklytales.com/articles/beckton-alps https://boltancestry-uk.weebly.com/beckton-london.html Beckton is ethnically diverse, with large numbers of single people, lone parents and students	All are listed Grade II. Not at risk. No redevelopment scheme on site	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-news/south-london-skyline-change-forever-22248637	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 can and should be preserved" http://friendsofregentscanal.org/features/property-devt/Bethnal-Green-gasholders/planapp/docs/Marian-Place-Gas-Works-Report.pdf Plan 2: housing inside both holders + 2 more cylindrical towers housing https://www.architectsjournal.co.uk/news/rshp-gets-consent-east-end-gas-holders	Redevelopment plans 1,800 new homes and 100,000 sq ft of commercial space https://www.plowmancraven.co.uk/projects/kings-road-park-gasworks-redevelopment/	3 gasholders dismantled large gasholder kept for housing iniside Oval Village https://www.ovalvillagecommunity.co.uk/ owned by SGN Berkeley Group: tall buildings, 1250 apts mixed and affordable + public space 1hectare	Assumed not at risk. No redevelopment plans found	building homes, no info about status of gasholders	No dismantling good redevelopment plan with 60& to 40% market/ affordable split Old Kent Road area action plan (gasholder not included in this doc) https://consultations.southwark.gov.uk/corporate-strategy/okraapdec20/	1 dismantled, others at risk. land owned by SGN. Corke's Meadow has been urbanised: permanent housing built	At risk of dismantlin structure; develop into residential space 40 dwellings for social rent 39 dwellings for discount market rent 198 private dwellings	Assumed not at risk. No redevelopment plans found

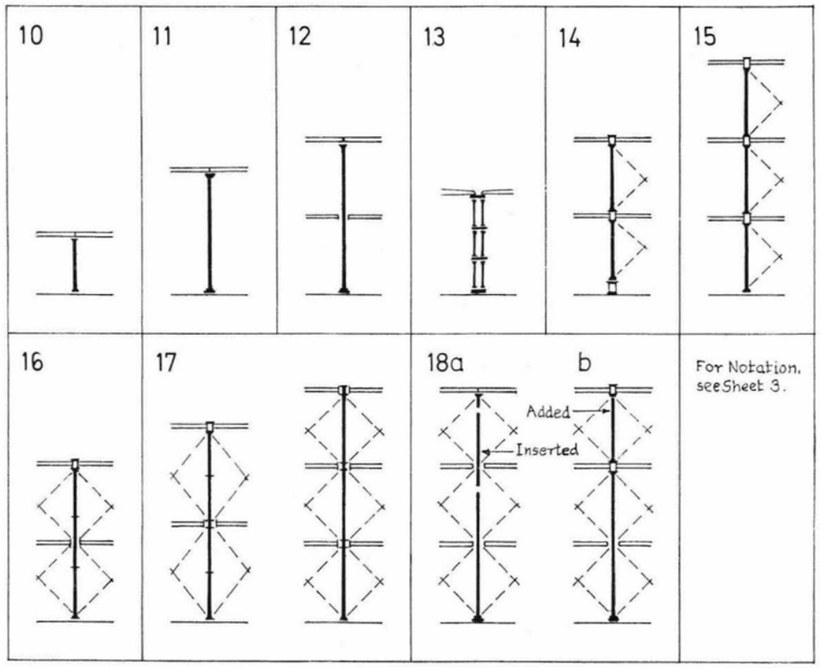
7 Appendix: Guide Frame Typology

Code	Frame Type	Bracing	Typical Girder Types		Approx Period	Original Numbers	Survival (GB)
			Top	Lower			
0: Early types							
1	Enclosing House	0	B	-	1800s–1830s	? Many	Saltisford
2	Enclosing Walls	0		-	1820s–1830s	Several	None
3	Wooden Frame	?	A	-	Early C19	?	None
4	Freestanding Columns	0	-	-	1810s–midC19	? Many	None
5	Diametrical Beams	0	A, E	-	c1815–?	? Many	None
6	Transverse Trusses	0	B	-	1820s–1830s	? Many	None
7	Central Guide Pole	0	-, A, E	-	c1817–1830s	Several	None
1: With hollow cast-iron columns							
10	Small single order	0	**E**, F, **G**	-	1820s–1890s	Many	Lavenham
11	Giant single order, single tier of girders	0	**E**, F, **G**, **H**	-, C	1847–1870s	Many	Fakenham
12	Giant single order, double tier of girders	0	G, (G2)	G, (G2)	c1870	Several	Battersea
13	Paired columns in multiple order	0	**E**	-	c1835–c1855	Many	None ?
14	Double order, double tier	+	**F**, **G**, H	**F**, **G**, H	1858–1880s	Many	None
15	Triple order, triple tier	+	**G**, H	**G**, H	1861–1890s	Many	Many
16	Giant single order cols with external joints, lower girders abutted	X	**G**	**G**	1870s–1890s	Many	Several
17	Giant single order cols with external joints and joint boxes	X	**G**, (L)	**G**, (L)	1880s	Several	Some
18	Giant single order, subsequently enlarged	X	G, H, R, T	G, H, R, T	Late C19–C20	Several	Some

Code	Frame Type	Bracing	Typical Girder Types		Approx Period	Original Numbers	Survival (GB)
			Top	Lower			
2: With cast-iron standards							
20	Tripods, free standing	0	-	-	c1829–1850	Several	Fulham
21	Tripods with ties	0	D	-	c1850	Few	None
22	I-section CI stds, with girders	0	F, G	F, G	c1860–1875	Few	None
23	I-section CI stds, ties	0	D	D	1850	Few	None
24	I-section CI stds, with girders	+	**G**	**G**	c1865–1879	Several	None
3: With rivetted lattice standards							
30	T-section lattice standards	X	G, (GV) (G2)	G, (GV) (G2)	1876–c1890	Several	Few
32	Equal-I-section lattice standards	X	**G**, L, **M**, O, P	**G**, L, **M**, **N**, O, P	c1880–c1930	Many	Several
34	Box-section standards with vertical-web girders	+	**G**	**G**	1882–1890s	Several	Some
35	Box-section standards with horizontal-web girders	+	**L**, M, N	**N**, O	1886–c1930	Many	Several
36	Narrow-box standards, considerably tapered	X	GV, G	(LV), G	1882–c1890	? Few	? None
37	Narrow-box standards, lightly tapered	X	G, **L**, P	M, **N**, O, P	c1890–1930	Many	Many
38	Dumbell-section standards	XX	K	(NV)	1886	1 pair	Windsor St
39	Cutler's Patent (shallow I-section lattice standards and helical girders)	★	**L**, G	**NZ**	1889–c1935	Many	Several

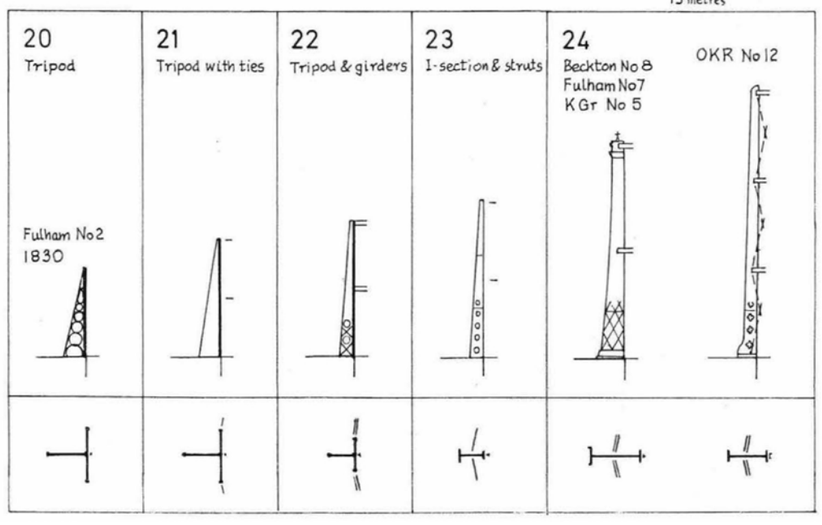
*from Historic England

I : WITH HOLLOW CAST-IRON COLUMNS (frontal elevations)



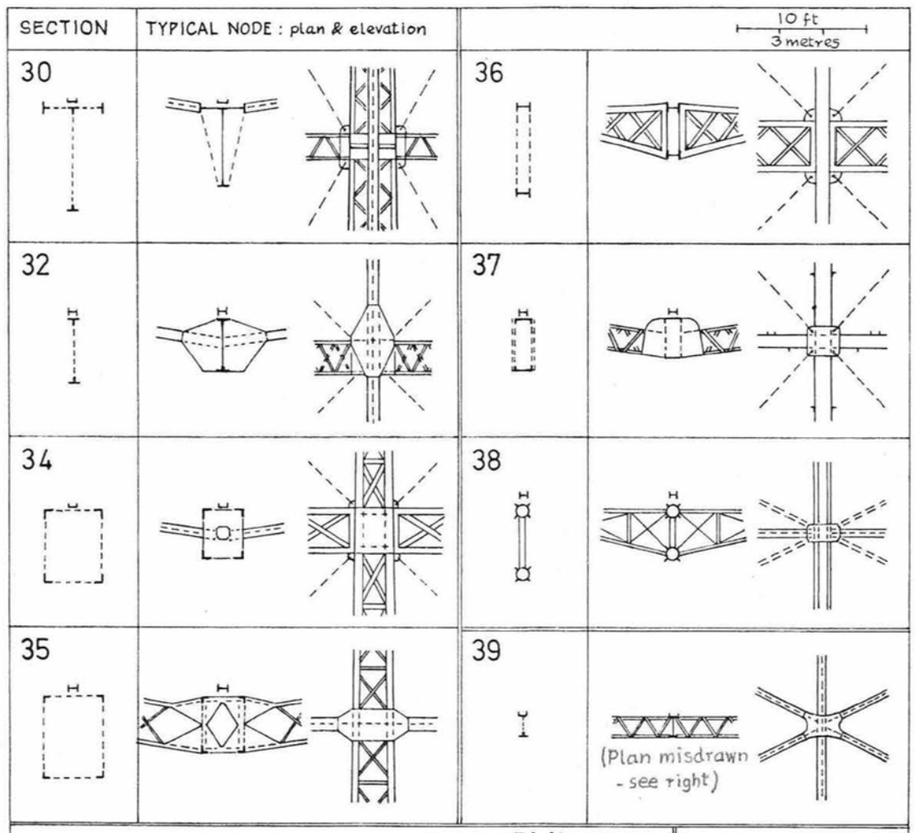
II : WITH CAST-IRON STANDARDS (side view & plan)

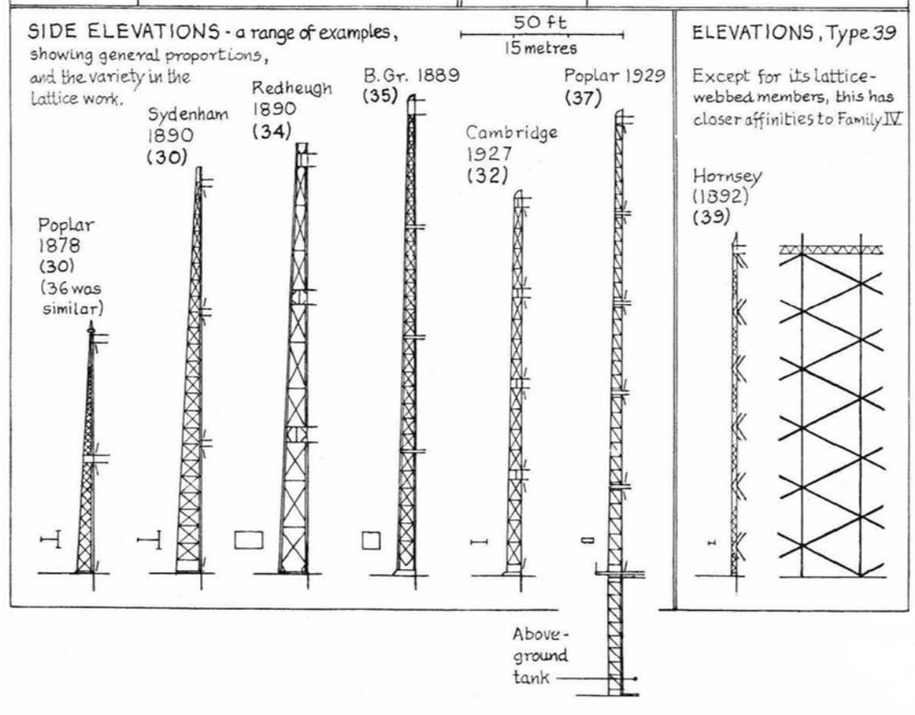
50 feet
15 metres



III : WITH RIVETED LATTICE STANDARDS

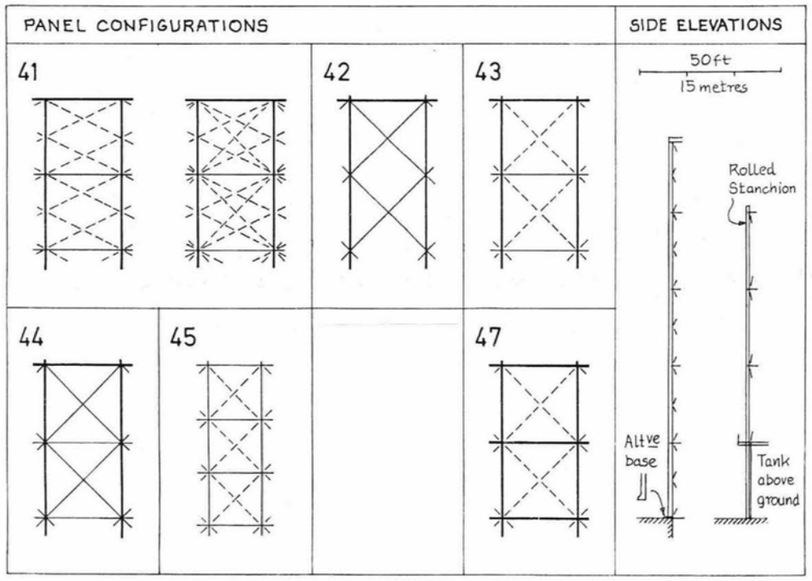
Types differentiated primarily by sectional form of the standards.





*from Historic England

IV: WITH SOLID-WEBBED STANDARDS



V: WITH TUBULAR FABRICATED COLUMNS

Frames with riveted wrought-iron tubes (50) or welded or spun steel tubes (51) followed the elevational principles of Types 11/12 in general, Type 51 incorporating gusset-plated connections and diagonal bracing rods in place of classical details.

NOTATION for the diagrammatic frontal elevations

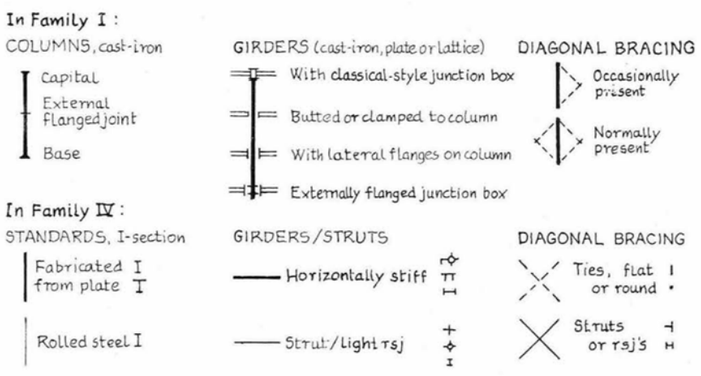


Figure A1, parts I to IV: Typology of guide frames. Source: Tucker (2000), pages 13-15.

GIRDERS

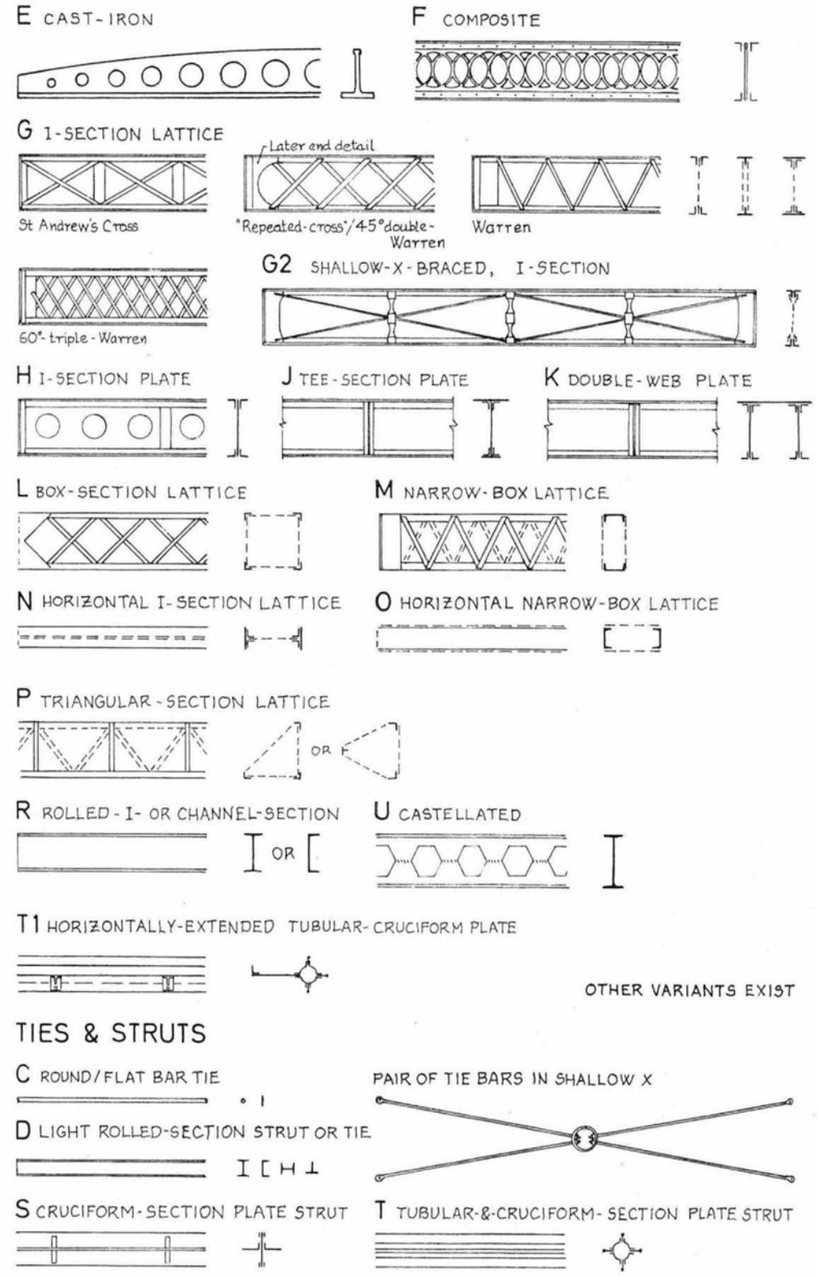


Figure A2: Types of girder used in guide frames. Source: Tucker (2000), page 16.

*from Historic England

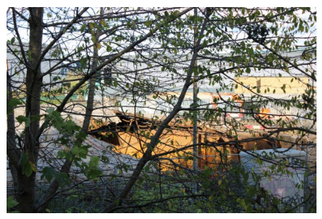
Fieldwork | Areas of Investigation & Visits


IMPERIAL GASWORKS
KENNINGTON OVAL
MARIAN PLACE
ROTHERHITHE
OLD KENT ROAD
BROMLEY-BY-BOW

Abbey Lane







Bromley by Bow





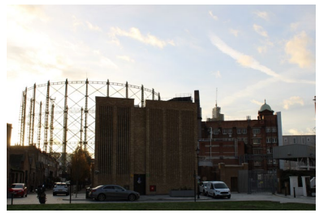
Bethnal Green





Kennington Oval

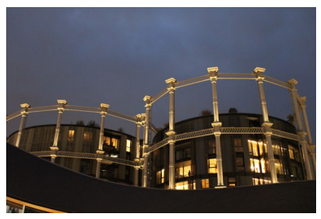




King's Cross







Old Kent Road

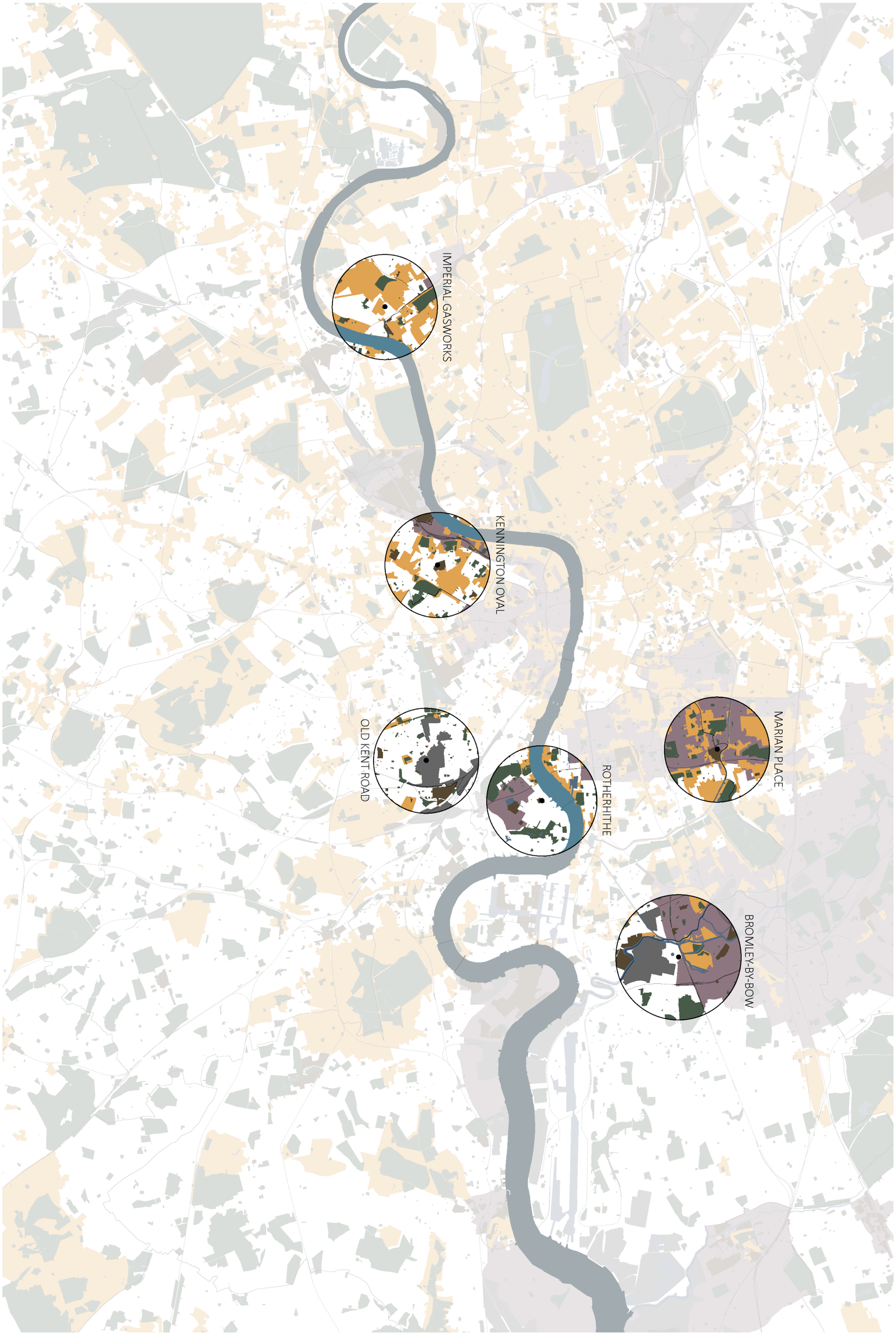




Rotherhithe

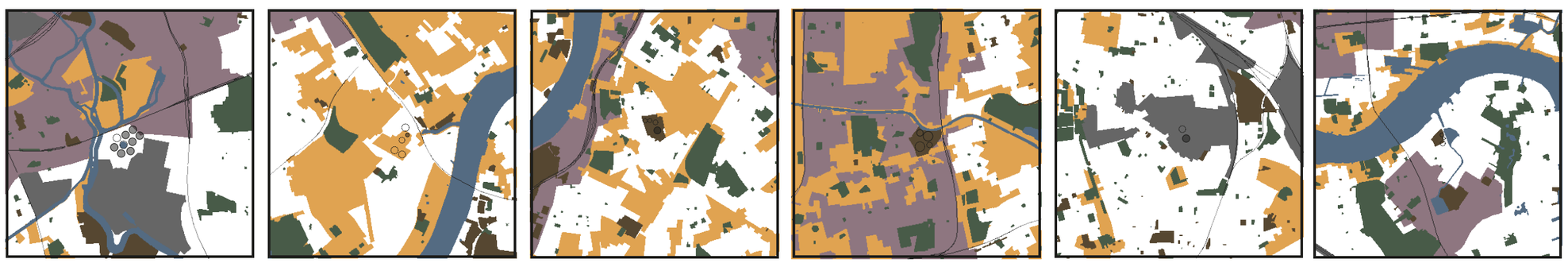





IMPERIAL GASWORKS
KENNINGTON OVAL
MARIAN PLACE
ROTHERHITHE
BROMLEY-BY-BOW
OLD KENT ROAD

Bromley-By-Bow Newham 1870 - 1976	Imperial Gasworks Hammersmith and Fulham 1824 - 1970	Kennington Oval Lambeth 1847 - 2014	Marian Place Tower Hamlets, Hackney 1853 - 1953	Old Kent Road Southwark 1833 - 1953	Rotherhithe Station Southwark 1849 - 1959

OVERLAPPED NETWORKS

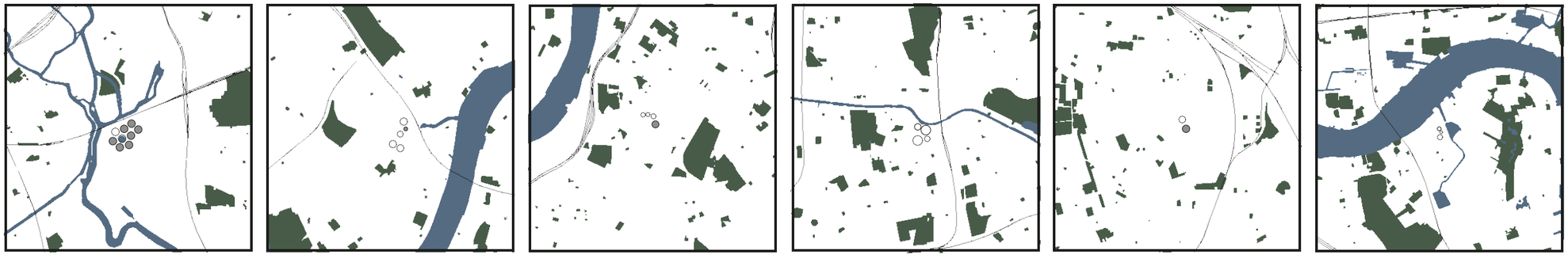


CONSERVATION AREAS

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

GREEN SPACES

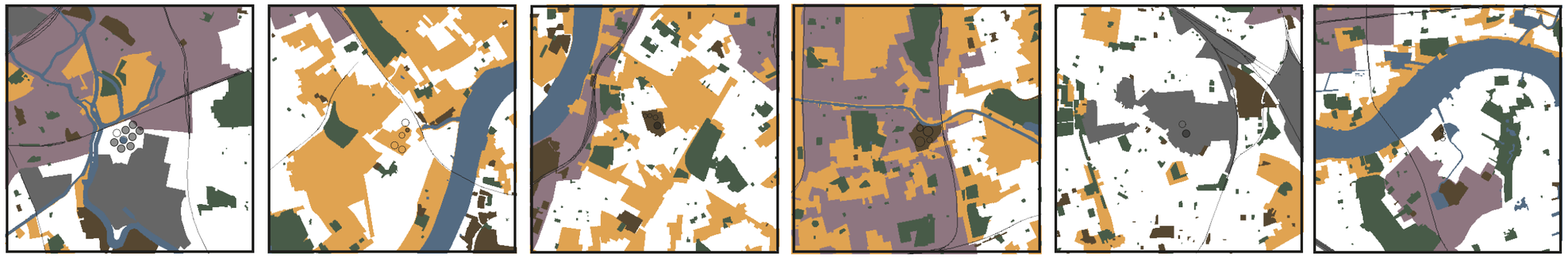
Areas of vegetation that are currently publicly managed and publicly accessible, be these currently used of unused.



definitions from the GOV.UK

Bromley-By-Bow Newham 1870 - 1976	Imperial Gasworks Hammersmith and Fulham 1824 - 1970	Kennington Oval Lambeth 1847 - 2014	Marian Place Tower Hamlets, Hackney 1853 - 1953	Old Kent Road Southwark 1833 - 1953	Rotherhithe Station Southwark 1849 - 1959

OVERLAPPED NETWORKS

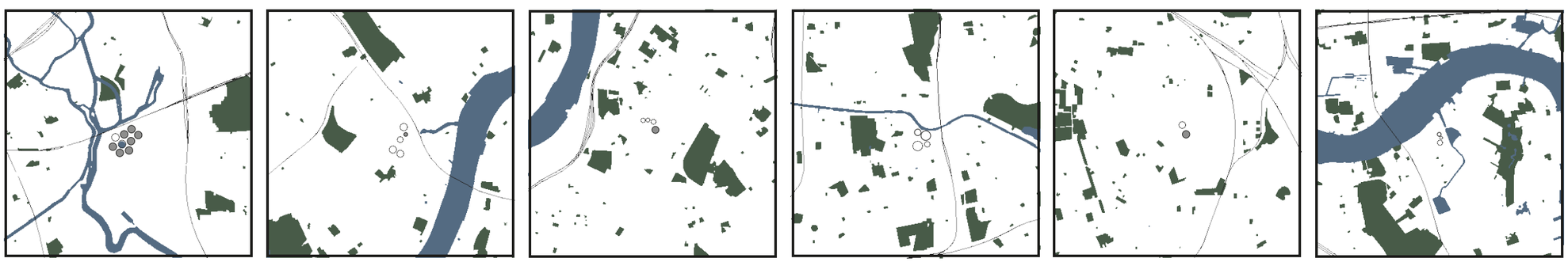


CONSERVATION AREAS

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.

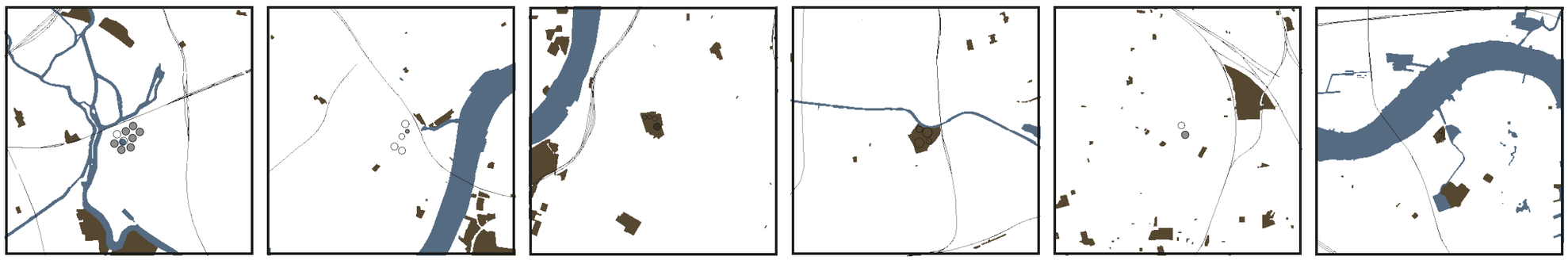


definitions from the GOV.UK

Bromley-By-Bow Newham 1870 - 1976	Imperial Gasworks Hammersmith and Fulham 1824 - 1970	Kennington Oval Lambeth 1847 - 2014	Marian Place Tower Hamlets, Hackney 1853 - 1953	Old Kent Road Southwark 1833 - 1953	Rotherhithe Station Southwark 1849 - 1959

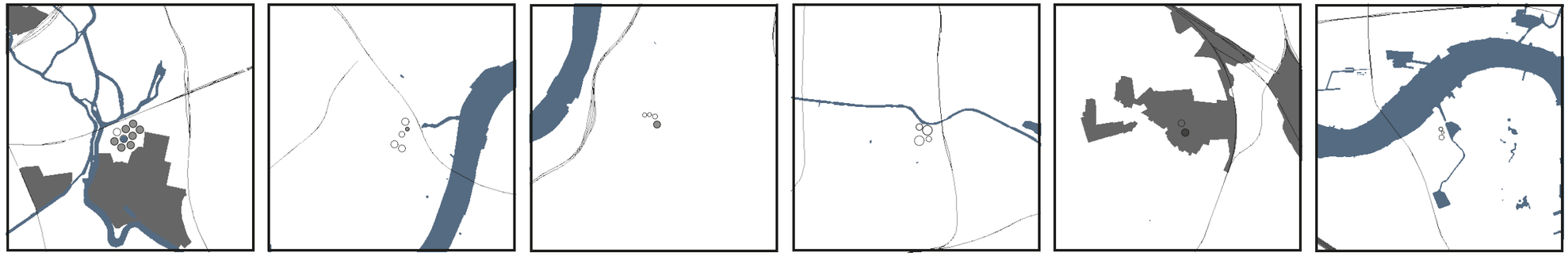
BROWNFIELDS

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



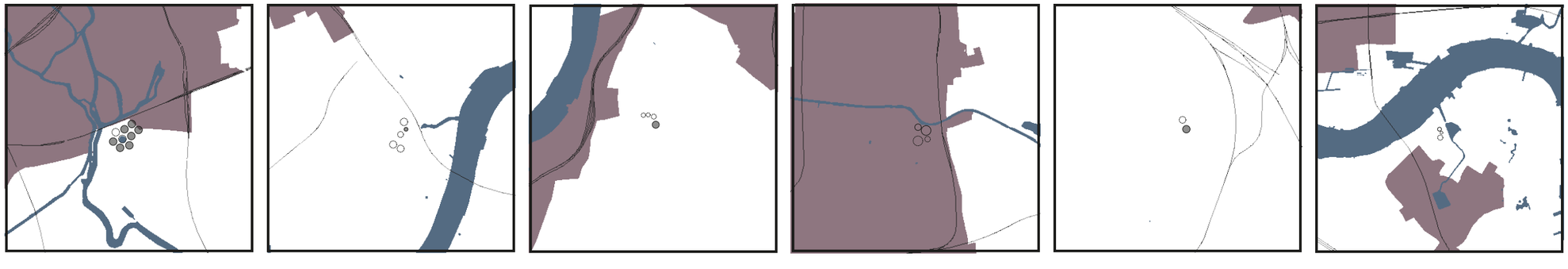
STRATEGIC INDUSTRIAL LOCATIONS (SIL)

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

Defined in the Mayor's London plan as key locations with major source of brownfield land which have significant capacity and potential for development.

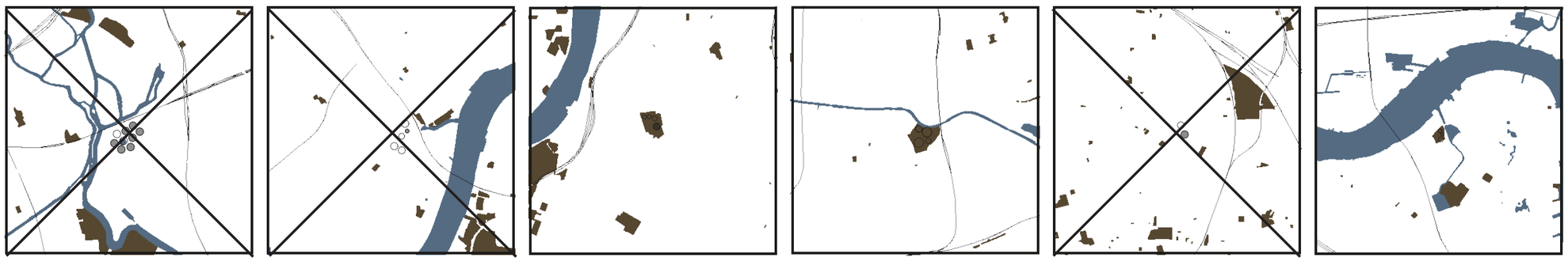


definitions from the GOV.UK

Bromley-By-Bow Newham 1870 - 1976	Imperial Gasworks Hammersmith and Fulham 1824 - 1970	Kennington Oval Lambeth 1847 - 2014	Marian Place Tower Hamlets, Hackney 1853 - 1953	Old Kent Road Southwark 1833 - 1953	Rotherhithe Station Southwark 1849 - 1959

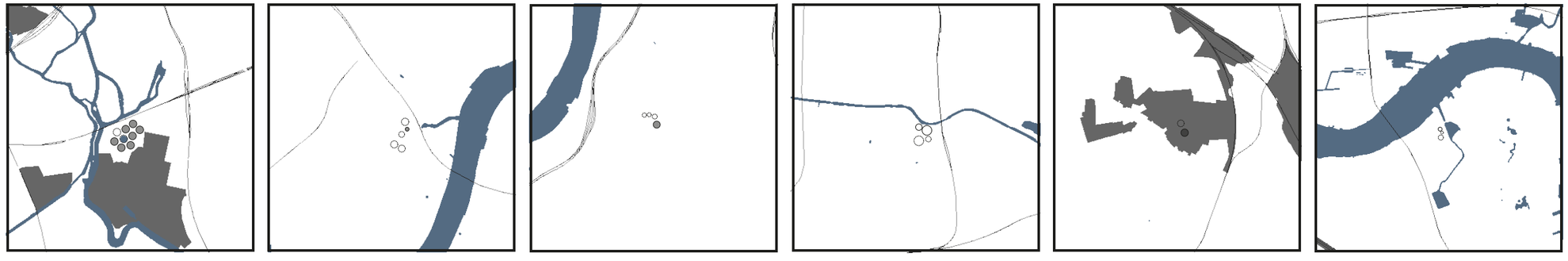
BROWNFIELDS

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



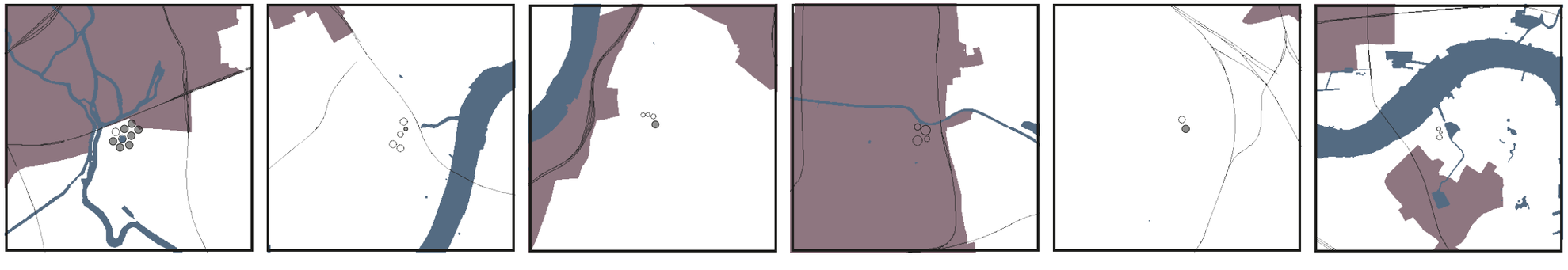
STRATEGIC INDUSTRIAL LOCATIONS (SIL)

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

Defined in the Mayor's London plan as key locations with major source of brownfield land which have significant capacity and potential for development.

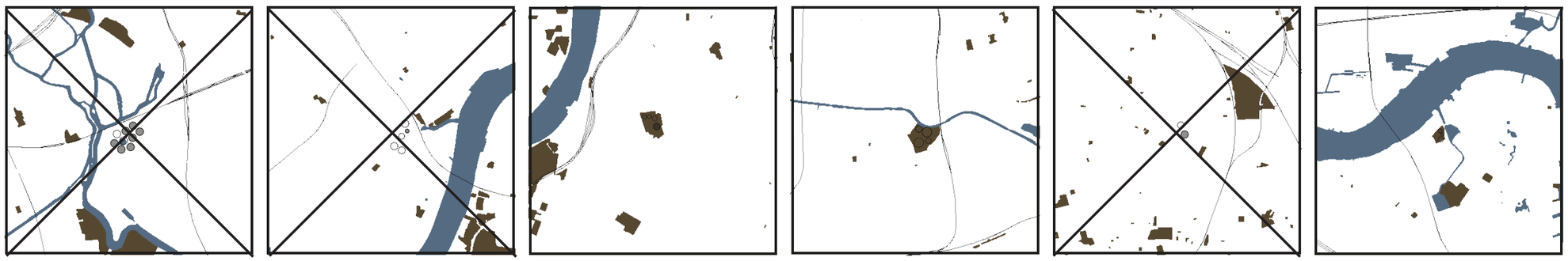


definitions from the GOV.UK

Bromley-By-Bow Newham 1870 - 1976	Imperial Gasworks Hammersmith and Fulham 1824 - 1970	Kennington Oval Lambeth 1847 - 2014	Marian Place Tower Hamlets, Hackney 1853 - 1953	Old Kent Road Southwark 1833 - 1953	Rotherhithe Station Southwark 1849 - 1959

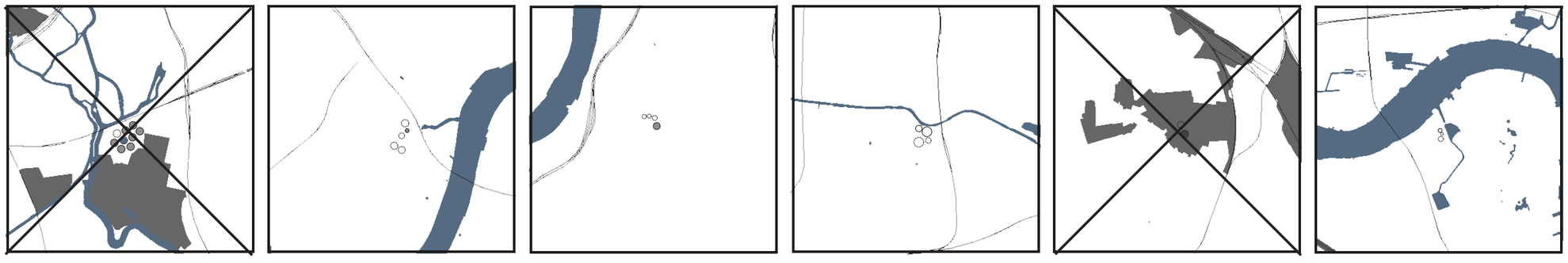
<u>BROWNFIELDS</u>

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



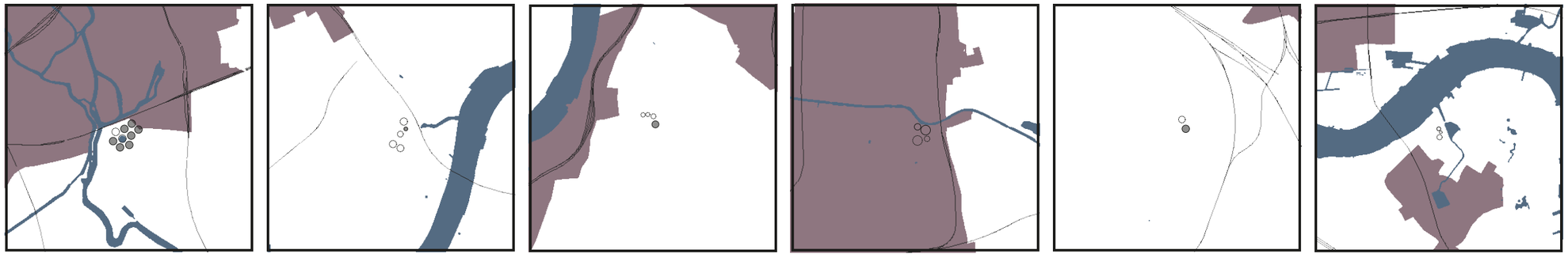
<u>STRATEGIC INDUSTRIAL LOCATIONS (SIL)</u>

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.



<u>OPPORTUNITY AREAS</u>

Defined in the Mayor's London plan as key locations with major source of brownfield land which have significant capacity and potential for development.

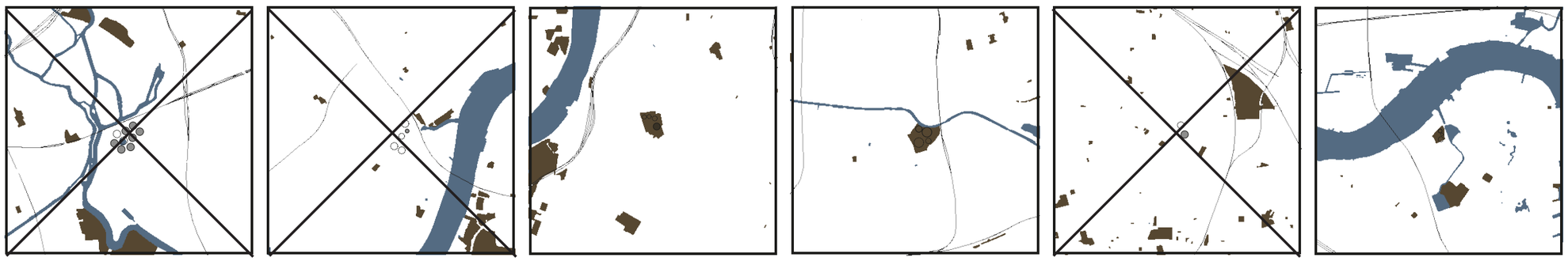


definitions from the GOV.UK

Bromley-By-Bow Newham 1870 - 1976	Imperial Gasworks Hammersmith and Fulham 1824 - 1970	Kennington Oval Lambeth 1847 - 2014	Marian Place Tower Hamlets, Hackney 1853 - 1953	Old Kent Road Southwark 1833 - 1953	Rotherhithe Station Southwark 1849 - 1959

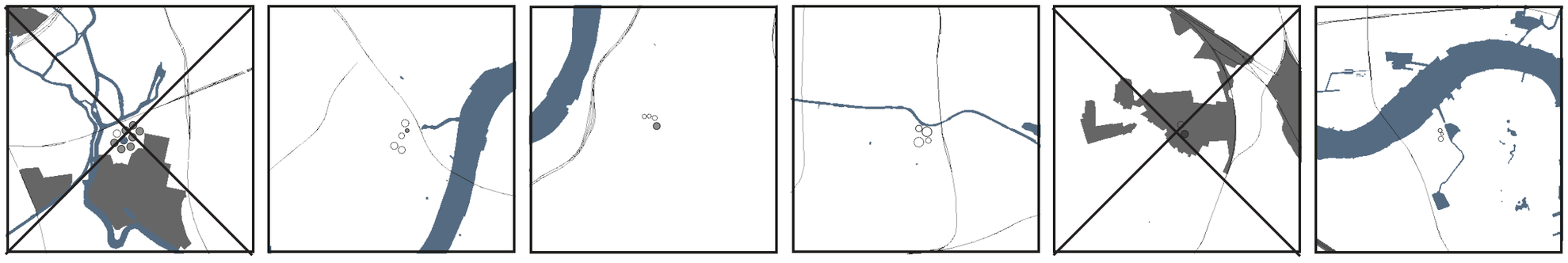
<u>BROWNFIELDS</u>

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



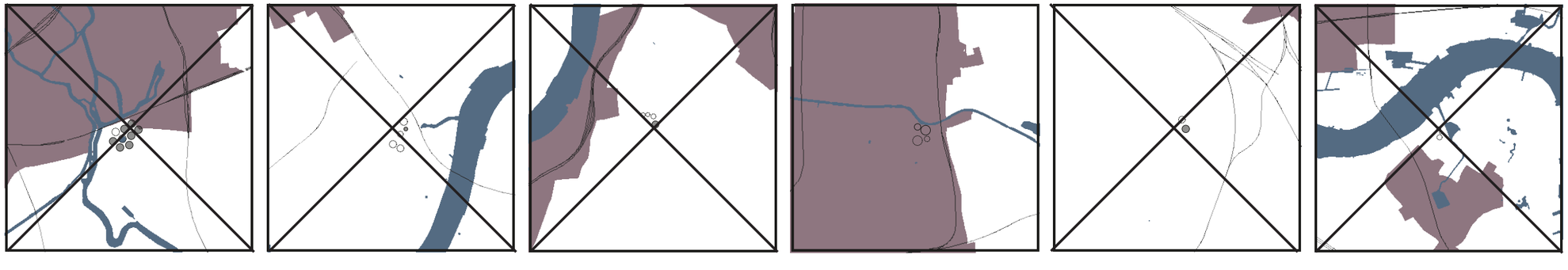
<u>STRATEGIC INDUSTRIAL LOCATIONS (SIL)</u>

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.



<u>OPPORTUNITY AREAS</u>

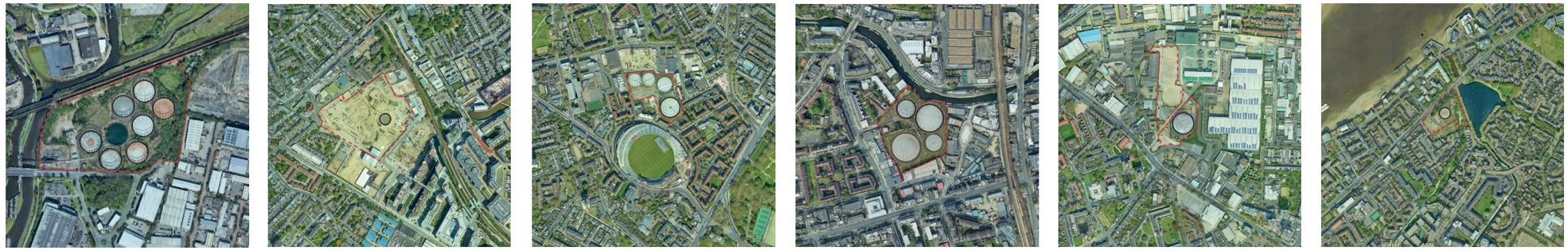
Defined in the Mayor's London plan as key locations with major source of brownfield land which have significant capacity and potential for development.



definitions from the GOV.UK

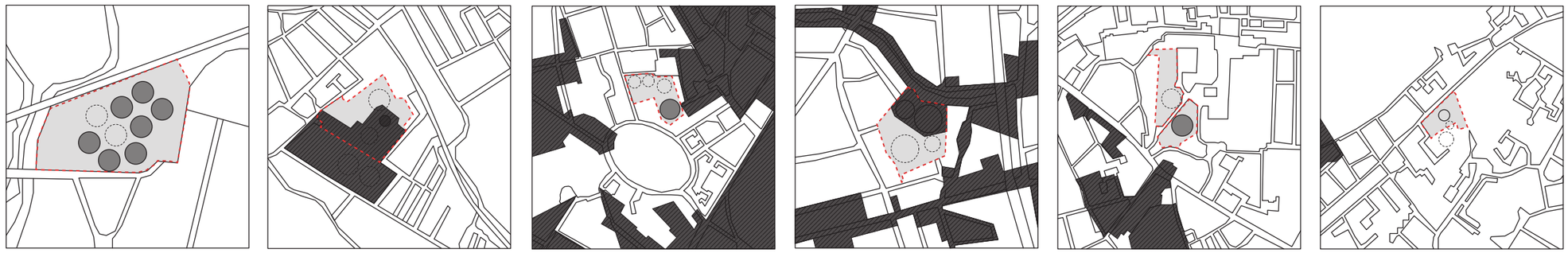
Areas of Investigation | Isolated Networks

Bromley-By-Bow Newham 1870 - 1976	Imperial Gasworks Hammersmith and Fulham 1824 - 1970	Kennington Oval Lambeth 1847 - 2014	Marian Place Tower Hamlets, Hackney 1853 - 1953	Old Kent Road Southwark 1833 - 1953	Rotherhithe Station Southwark 1849 - 1959
GAS PRODUCTION SITE GAS HOLDER STATION	GAS PRODUCTION SITE GAS HOLDER STATION	GAS HOLDER STATION	GAS HOLDER STATION	GAS PRODUCTION SITE	GAS HOLDER STATION



SITE OF INVESTIGATION

- SITE BOUDARY
- VISIBLE GASHOLDER



DESIGNATIONS

CONSERVATION AREAS
(LOCAL AUTHORITY DESIGNATION)
"DESIRE TO PRESERVE OR ENHANCE THE AREA'S CHARACTER"

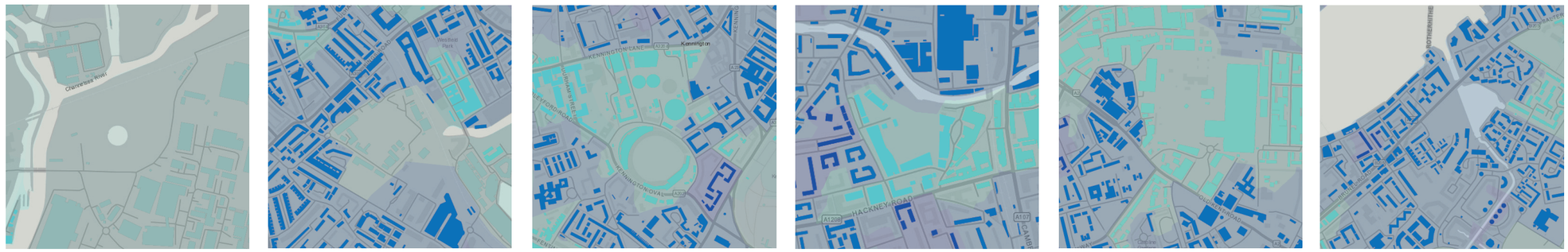
ENGLISH HERITAGE LIST
(NATIONAL DESIGNATION)
"FUTURE CHANGES WILL NOT RESULT IN THE LOSS OF THE SITE'S SIGNIFICANCE"

- CONSERVATION AREA
- LISTED
- NOT LISTED
- DISMANTLED/NO TRACE

SCHEMATIC TOXICITY LEVEL

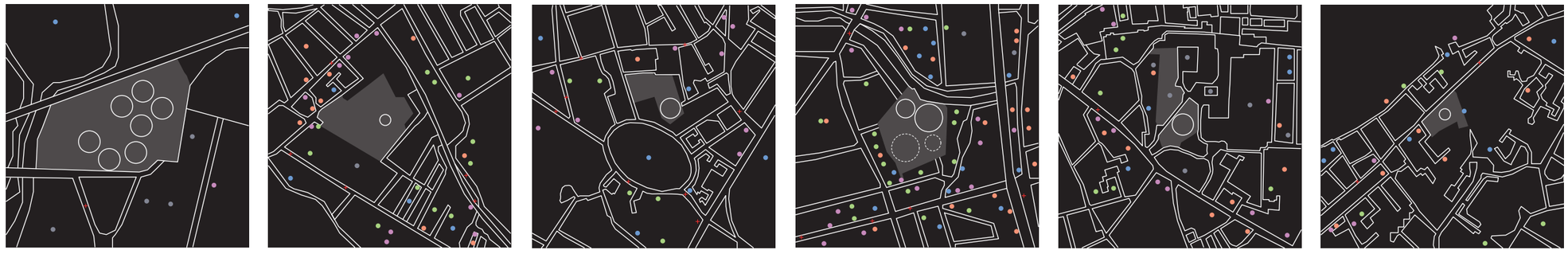
POPULATION DENSITY

- HIGH
- LOW



ON-SITE FUNCTIONS

- LEISURE/ENTERTAINMENT
- OFFICE/EDUCATION
- SUPPLIES/CARE/SERVICES
- RESTAURANT/BARS
- INDUSTRIAL FACILITIES
- PUBLIC TRANSPORT



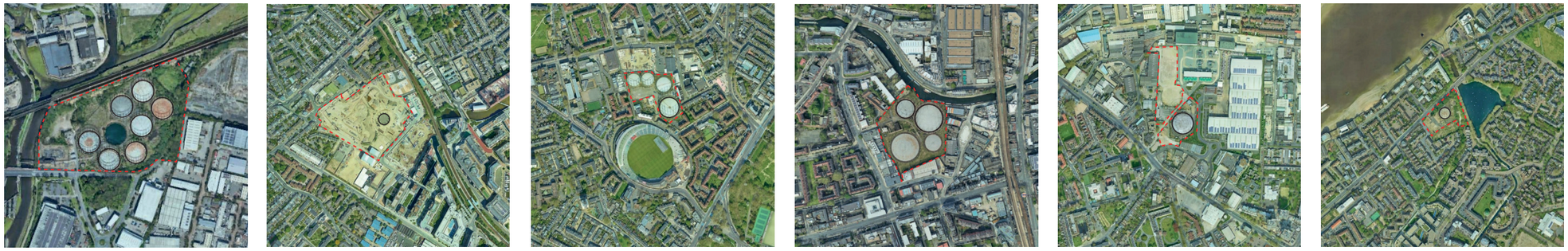
definitions from the GOV.UK

Areas of Investigation | Isolated Networks

Bromley-By-Bow Newham 1870 - 1976	Imperial Gasworks Hammersmith and Fulham 1824 - 1970	Kennington Oval Lambeth 1847 - 2014	Marian Place Tower Hamlets, Hackney 1853 - 1953	Old Kent Road Southwark 1833 - 1953	Rotherhithe Station Southwark 1849 - 1959
GAS PRODUCTION SITE GAS HOLDER STATION	GAS PRODUCTION SITE GAS HOLDER STATION	GAS HOLDER STATION	GAS HOLDER STATION	GAS PRODUCTION SITE	GAS HOLDER STATION

SITE OF INVESTIGATION

- SITE BOUDARY
- VISIBLE GASHOLDER

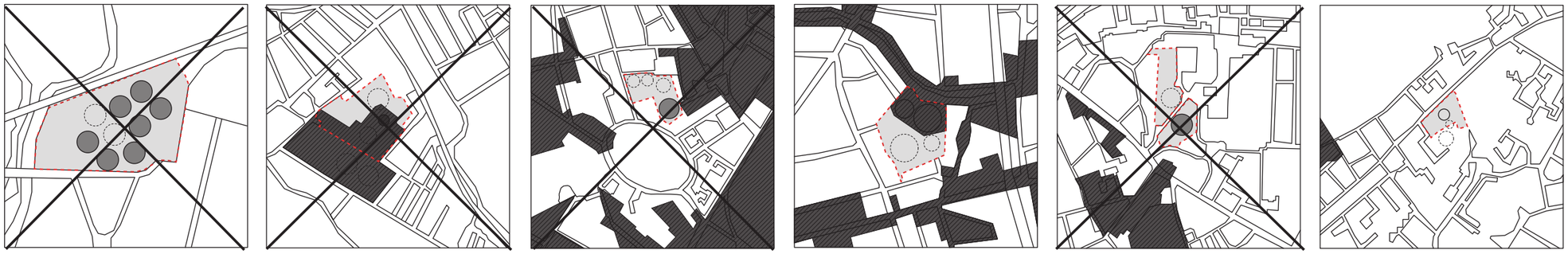


DESIGNATIONS

CONSERVATION AREAS
(LOCAL AUTHORITY DESIGNATION)
"DESIRE TO PRESERVE OR ENHANCE THE AREA'S CHARACTER"

ENGLISH HERITAGE LIST
(NATIONAL DESIGNATION)
"FUTURE CHANGES WILL NOT RESULT IN THE LOSS OF THE SITE'S SIGNIFICANCE"

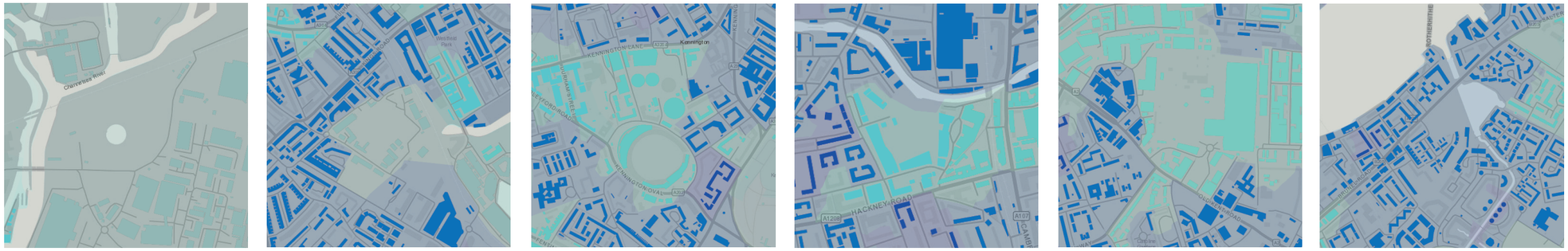
- CONSERVATION AREA
- LISTED
- NOT LISTED
- DISMANTLED/NO TRACE



SCHEMATIC TOXICITY LEVEL

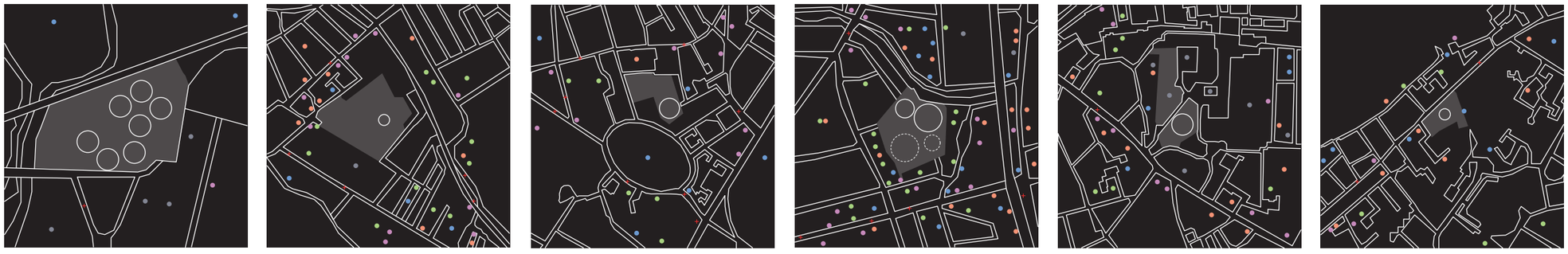
POPULATION DENSITY

- HIGH
- LOW



ON-SITE FUNCTIONS

- LEISURE/ENTERTAINMENT
- OFFICE/EDUCATION
- SUPPLIES/CARE/SERVICES
- RESTAURANT/BARS
- INDUSTRIAL FACILITIES
- PUBLIC TRANSPORT



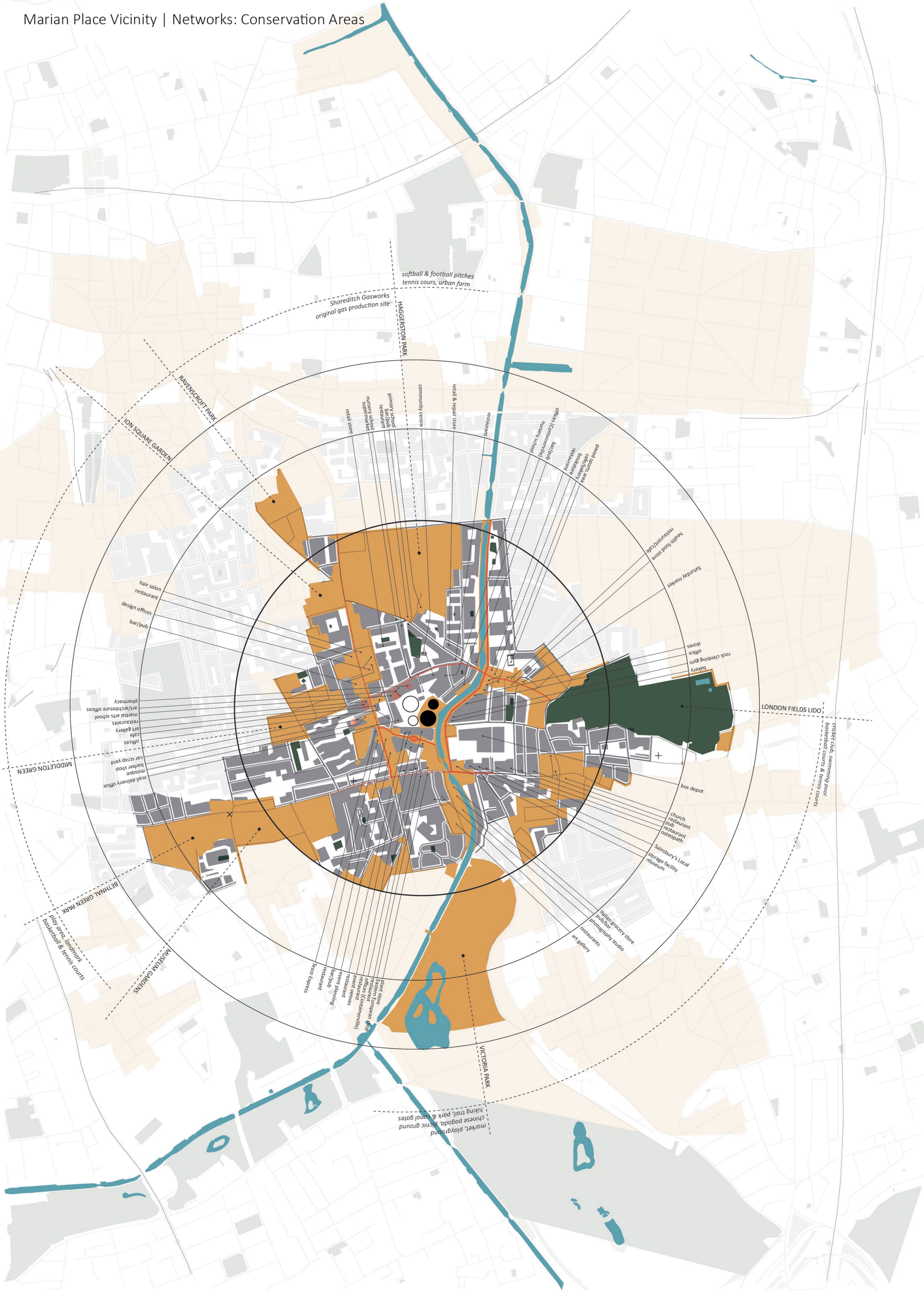
definitions from the GOV.UK

Marian Place as the Site of Investigation

The Networks of Tower Hamlets

Potential within the system of networks

Marian Place Vicinity | Networks: Conservation Areas



Marian Place Vicinity | Networks: Brownfields

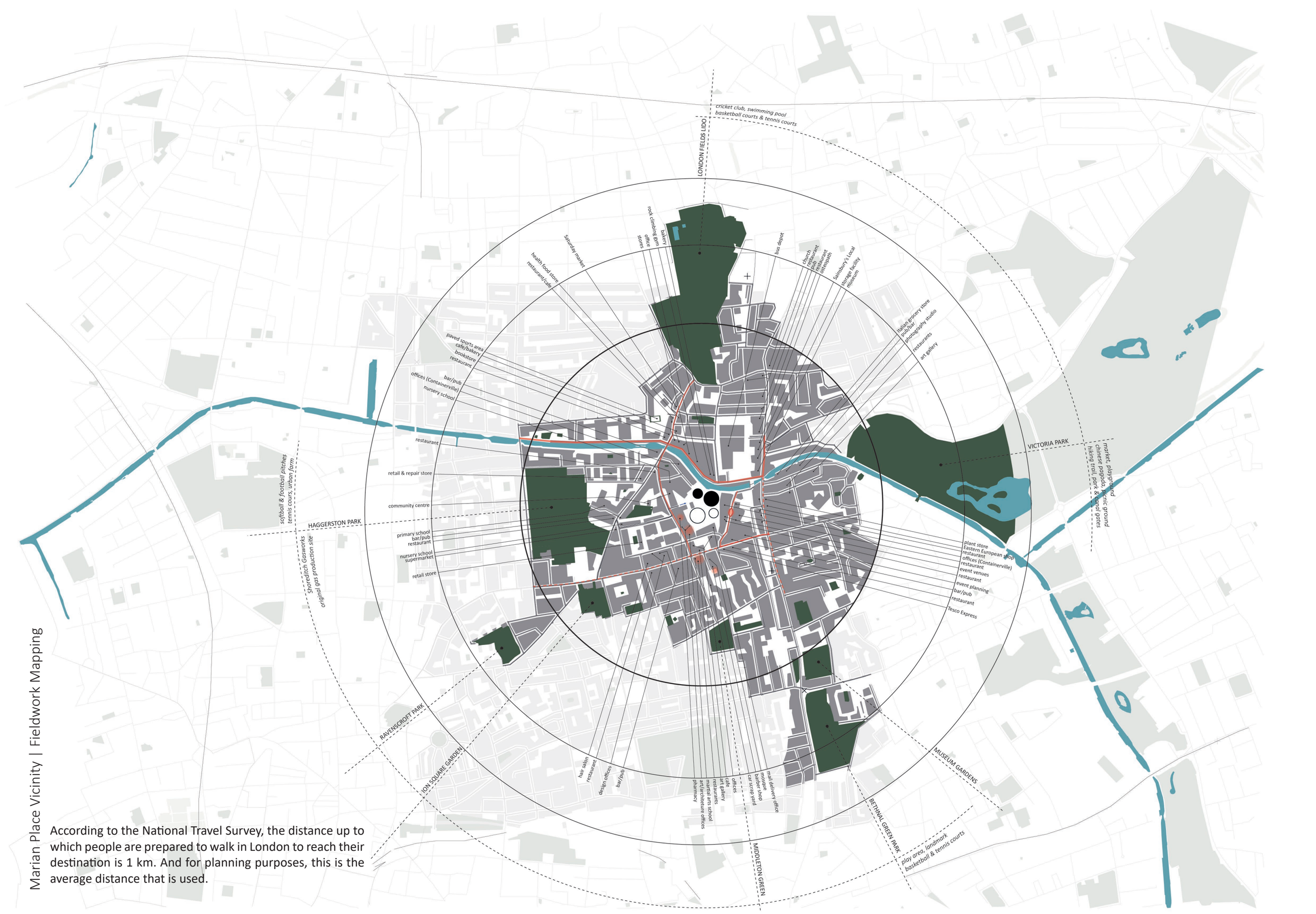
Marian Place Vicinity | Networks: Strategic Industrial Land Ø

Marian Place Vicinity | Networks: Opportunity Area

FINDING THE GAP

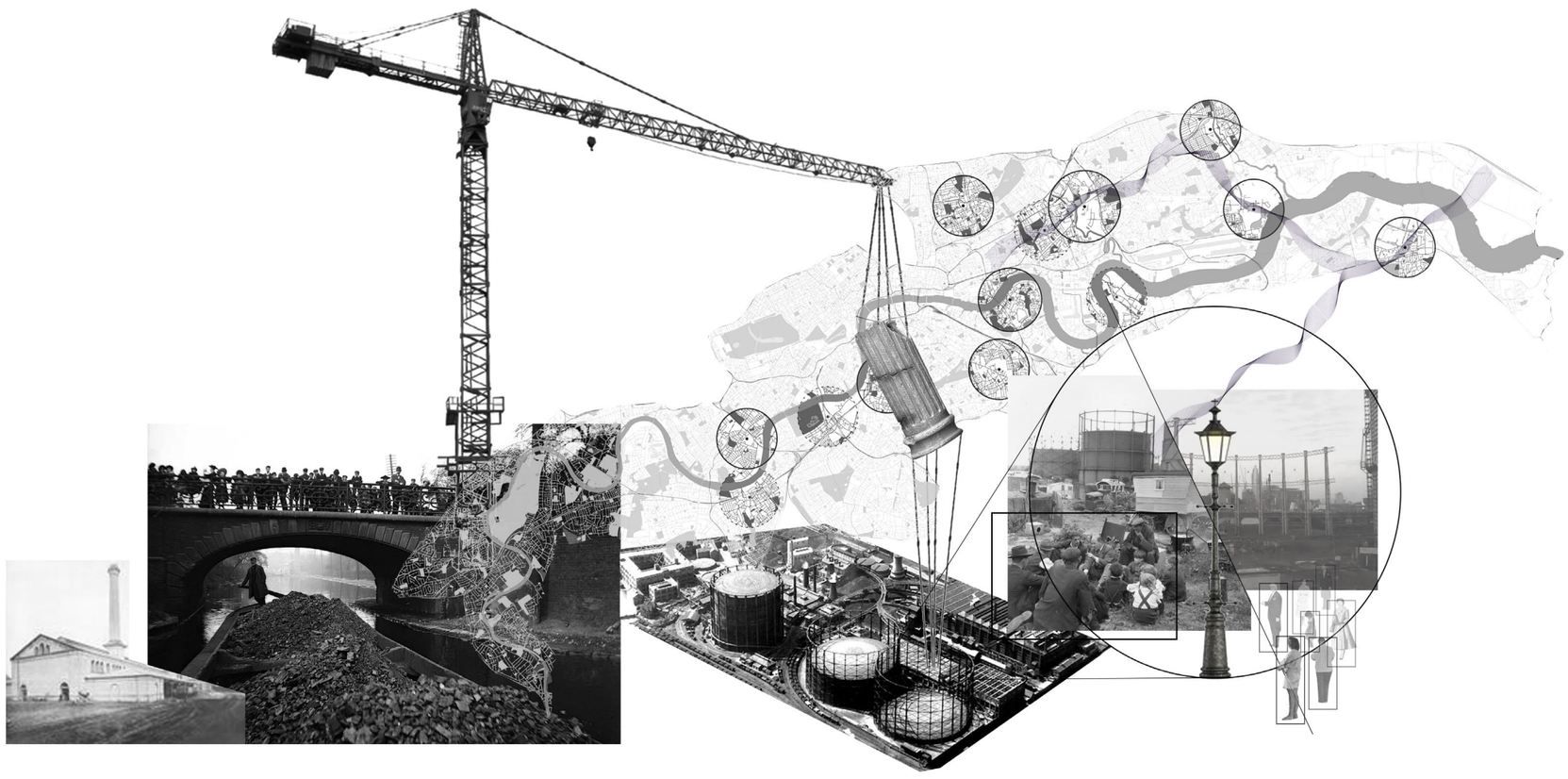
How to enhance and stimulate additional dynamics in this urban environment?

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



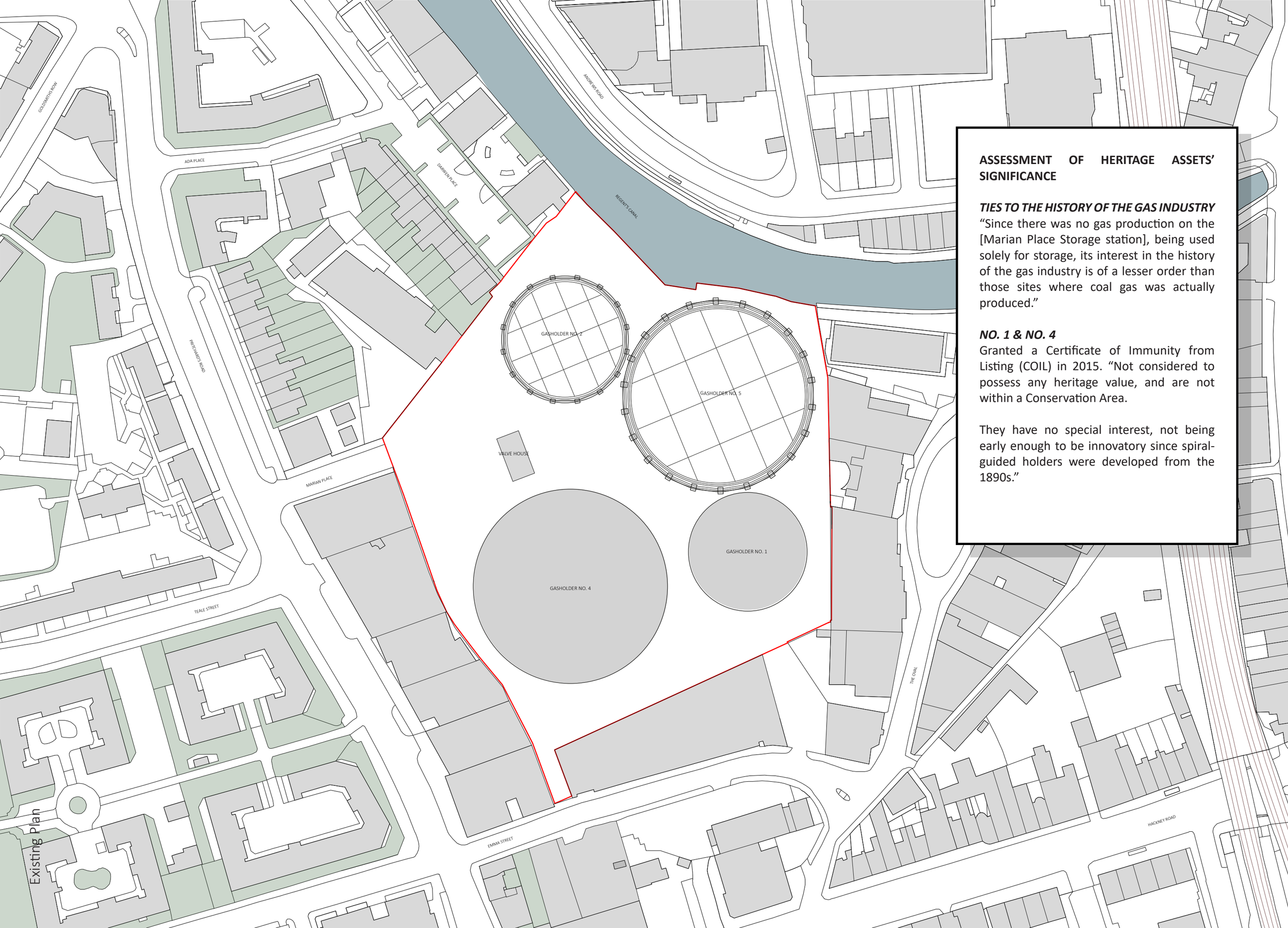
Marian Place Vicinity | Fieldwork Mapping

According to the National Travel Survey, the distance up to which people are prepared to walk in London to reach their destination is 1 km. And for planning purposes, this is the average distance that is used.



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

Collage: accumulated history, revealed in a series of experiences



Existing Plan

ASSESSMENT OF HERITAGE ASSETS' SIGNIFICANCE

TIES TO THE HISTORY OF THE GAS INDUSTRY
"Since there was no gas production on the [Marian Place Storage station], being used solely for storage, its interest in the history of the gas industry is of a lesser order than those sites where coal gas was actually produced."

NO. 1 & NO. 4
Granted a Certificate of Immunity from Listing (COIL) in 2015. "Not considered to possess any heritage value, and are not within a Conservation Area.

They have no special interest, not being early enough to be innovatory since spiral-guided holders were developed from the 1890s."

GOLDSMITHS ROW
ADA PLACE
DARWEN PLACE
ANDREWS ROAD
REGENT'S CANAL
PRITCHARD'S ROAD
MARIAN PLACE
GASHOLDER NO. 2
GASHOLDER NO. 5
VALVE HOUSE
GASHOLDER NO. 4
GASHOLDER NO. 1
TEALE STREET
EMMA STREET
THE OVAL
HACKNEY ROAD

Existing Plan

ASSESSMENT OF HERITAGE ASSETS' SIGNIFICANCE

TIES TO THE HISTORY OF THE GAS INDUSTRY
"Since there was no gas production on the [Marian Place Storage station], being used solely for storage, its interest in the history of the gas industry is of a lesser order than those sites where coal gas was actually produced."

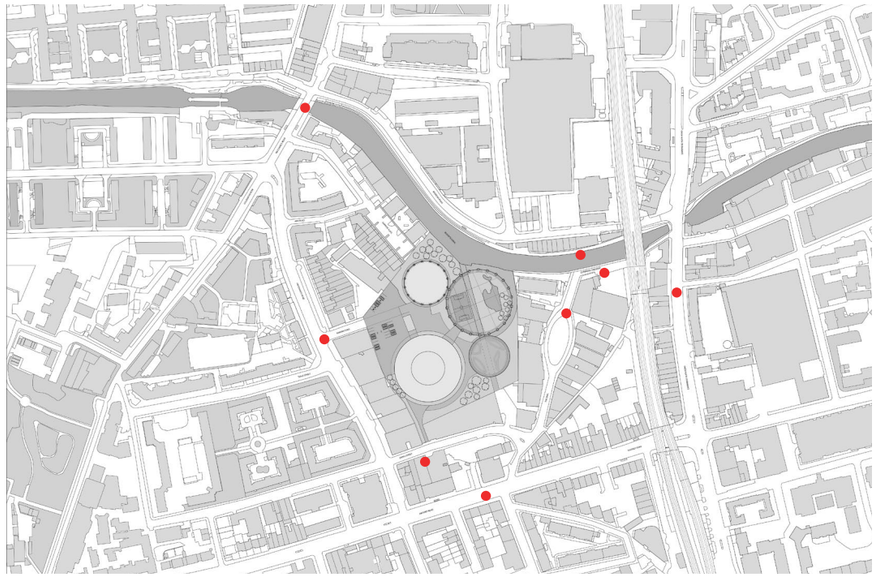
NO. 1 & NO. 4
Granted a Certificate of Immunity from Listing (COIL) in 2015. "Not considered to possess any heritage value, and are not within a Conservation Area.

They have no special interest, not being early enough to be innovatorysince spiral-guided holders were developed from the 1890s."

NO. 2 & NO. 5
Located in the Regent's Canal Conservation Area

"Together with the road and rail bridges, and canal, the gasholders reflect the industrial past associated with the local area. They contribute to the industrial legacy, and act as a gritty but **recognisable reference in local views**." (Montagu Evans | Crown Copyright)

The area embodies a post-industrial character derived from the canal's historical function and the surrounding industrial structures. While transitioning primarily to recreation, its fundamental character remains centred around the linear waterway and remnants of 19th and 20th-century architecture.



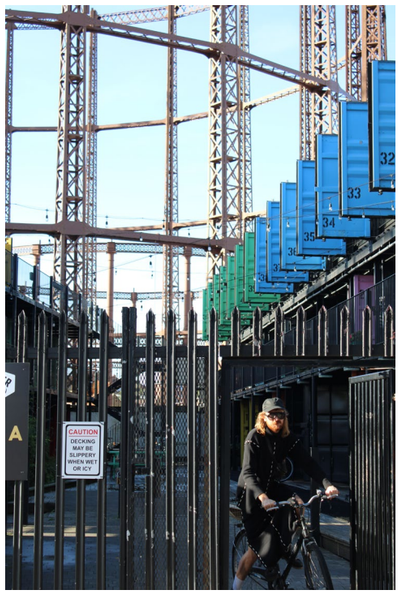
View from the canal towpath (North of Marian Place)
Serve as a reminder of the area's former thriving industry. These structures play a vital role in preserving and reflecting the industrial character and heritage Tower Hamlets and Hackney.

View from Hackney Road
The lightweight structure of Gasholder No.5 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 Corbridge Crescent
Prominent view of the gasholders, framed by the tunnel and the railroad bridge above

View from Cambridge Heath Road
With the presence of rail bridges and roads, the gasholders collectively create a comprehensive depiction of the area's industrial legacy

View from Pritchard's Rd **(Broadway Market CA)**
From this vantage point, observers can grasp the industrial history of the area, symbolised by the presence of 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.

View from Marian Place
Gasholder No. 2 and 5 seen from the previously used main entrance of the gas storage station site

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

* personal photos

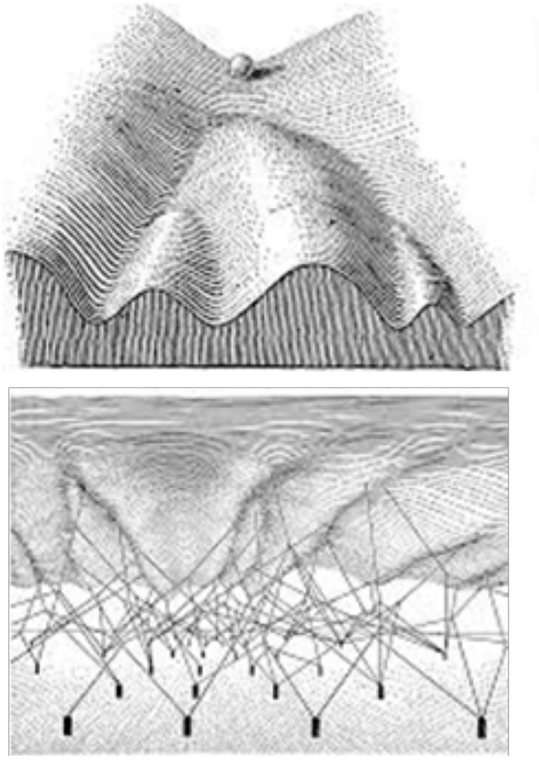
Contribution to the Setting (+point of reference)

OUTCOME

Fostering community connections
Activities that promote mental and physical well-being

Complementarity: integration of elements that create a cohesive composition

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).

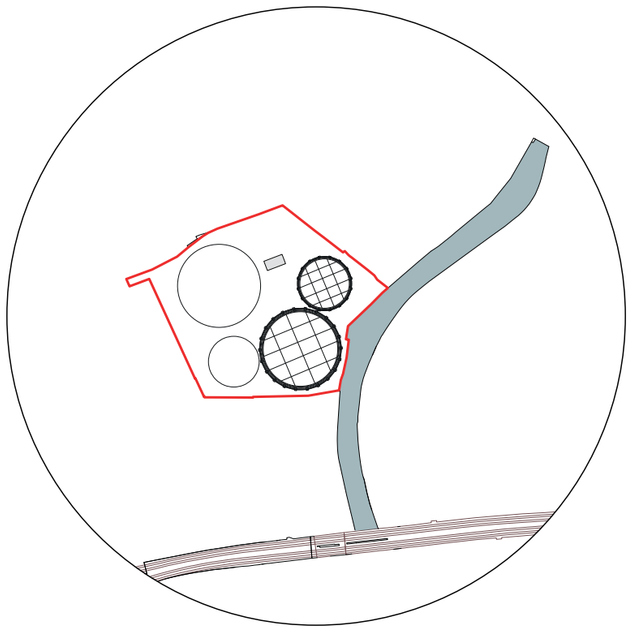
Technique:

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

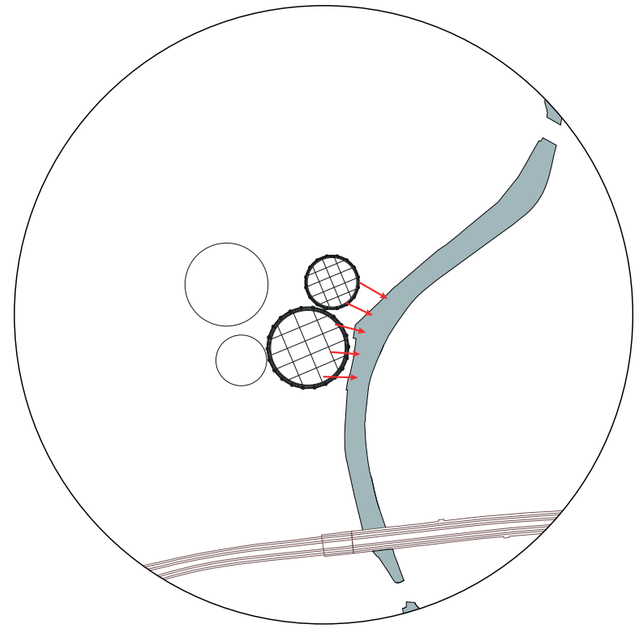
1. DETECT THE RECURRING URBAN CONDITIONS

ENCLAVE

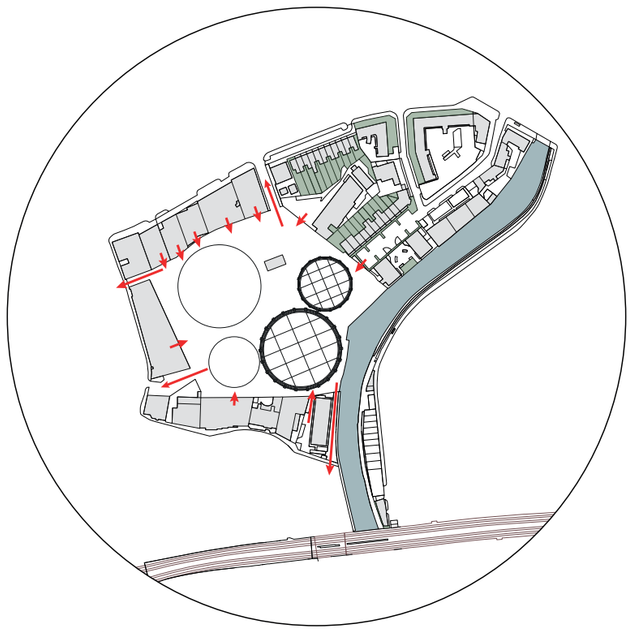


fenced-off area

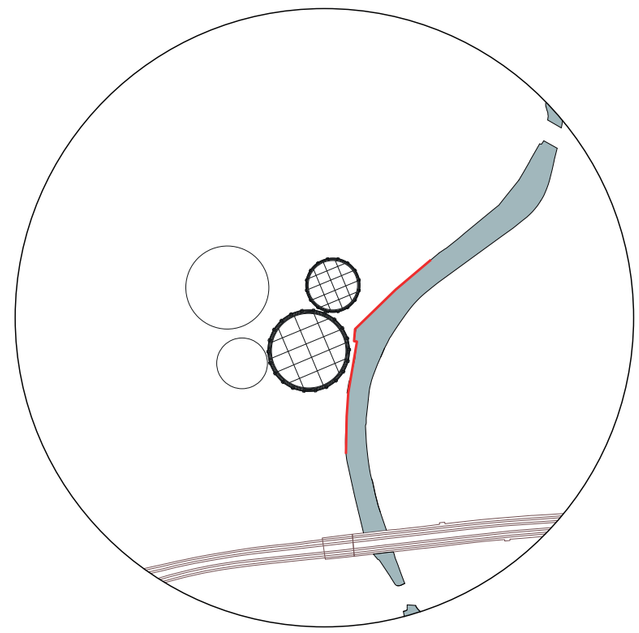
WATERFRONT



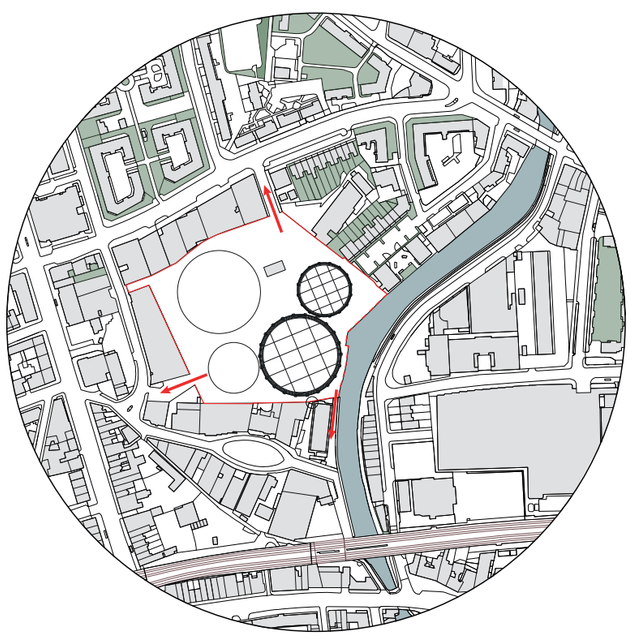
waterfront dedicated to site
direct interaction / access



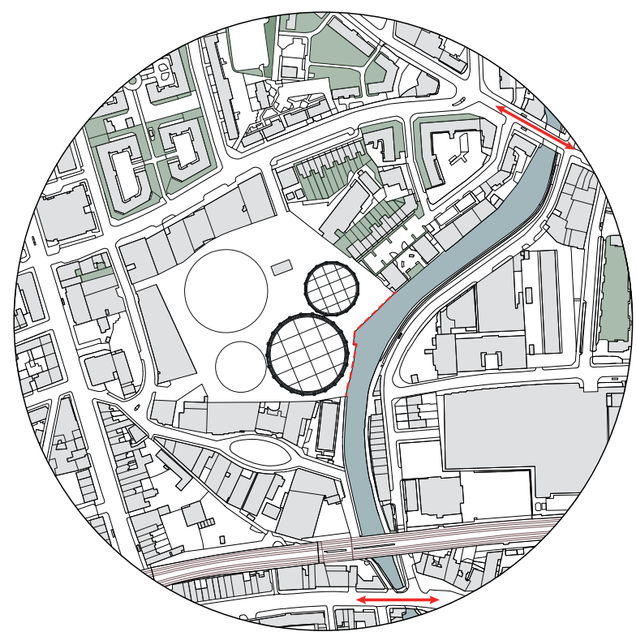
entirely open site
unconfined accessibility



physically disconnected
no direct interaction

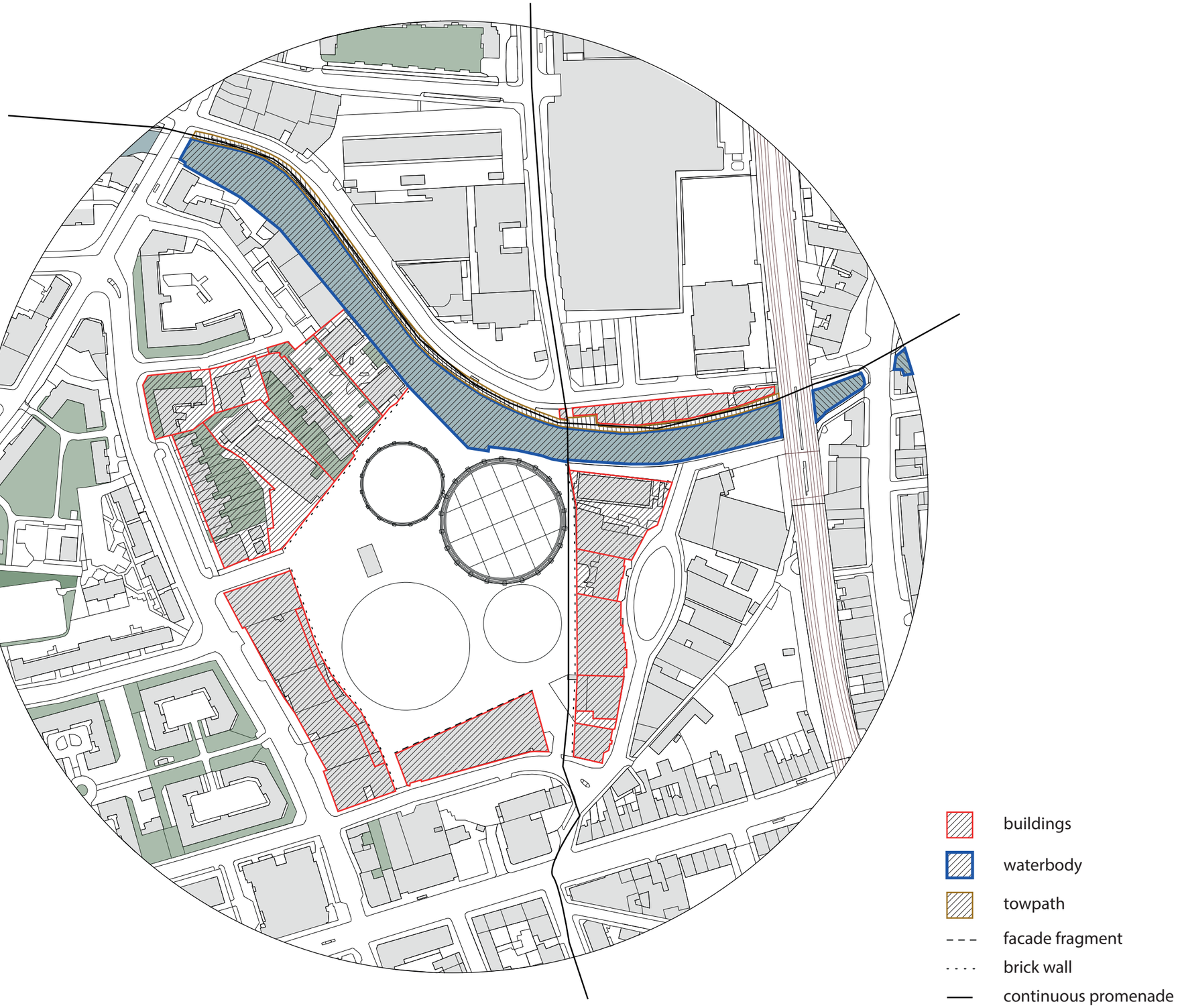


communication with
surrounding area (specific)



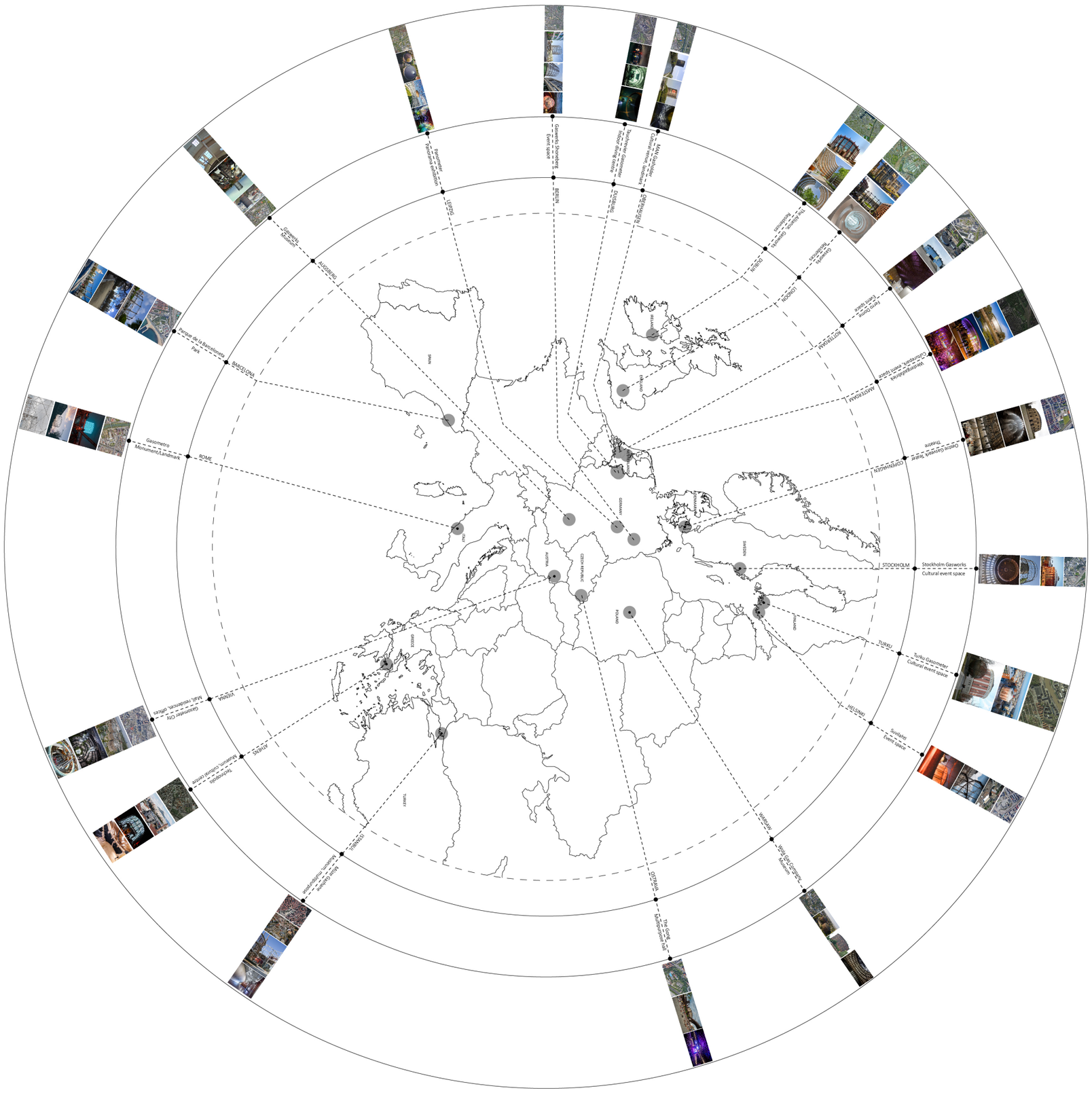
connected boroughs
partial interaction

2. IDENTIFY THE FRAGMENTS

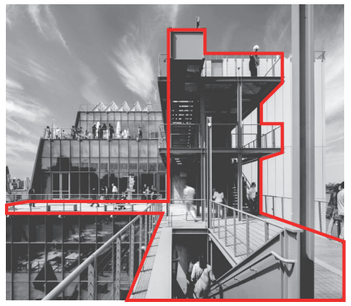

buildings
waterbody
towpath
facade fragment
brick wall
continuous promenade

Fragments

3. PROPOSE INFILL STRATEGIES

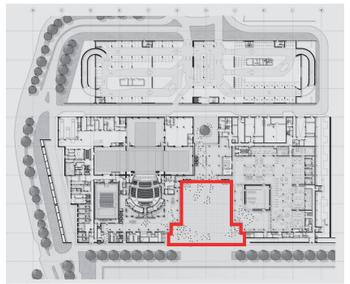

BERLIN
Gasworks Shoreditch
Event space
DUISBURG
Landschaftspark Nord
Industrial heritage park
DÜSSELDORF
Tonhalle
Multifunctional venue
AUGSBURG
Gaswerk
Museum
Dortmund
Technical monument
Museum
DUBLIN
The Marrow Gasworks
Residential
LONDON
Gasworks
Residential
ROTTERDAM
Erasmus Bridge
Event space
AMSTERDAM
Westergasfabriek
Cultural&Art, event space
COPENHAGEN
Operaen Operahouse
Theatre
BARCELONA
Parque de la Barceloneta
Park
ROME
Gasometro
Monument/Landmark
PRAGUE
STOCKHOLM
Stockholm Gasworks
Cultural event space
TURKU
Turku Gasometer
Cultural event space
HELSINKI
Suvilahti
Event space
VIENNA
Gasometer City
Mult. residences, offices
ATHENS
Technopolis
Museum, cultural centre
ISTANBUL
Bomonti Arena
Music, entertainment
WARSAW
Warsaw Gas Engine
Museum
VIENNA
The Gasometers
Multipurpose hall
IRELAND
ICELAND
NORWAY
SWEDEN
FINLAND
ESTONIA
LATVIA
LITHUANIA
BELARUS
POLAND
GERMANY
CZECH REPUBLIC
AUSTRIA
SLOVAKIA
HUNGARY
FRANCE
SWITZERLAND
ITALY
SLOVENIA
CROATIA
BOSNIA AND HERZEGOVINA
SERBIA
MONTENEGRO
ALBANIA
GREECE
TURKEY

The Whitney Museum | New York, USA
Renzo Piano + Cooper Robertson

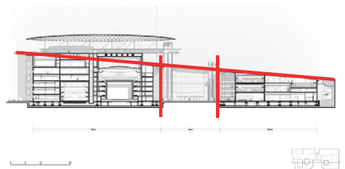


Various outdoor levels/larger areas - viewpoints.

Stavros Niarchos Foundation | Athens, Greece
Renzo Piano

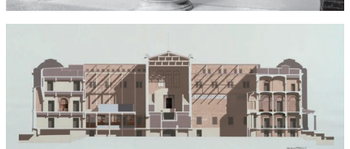


Active/dynamic public space. Flexible uses.



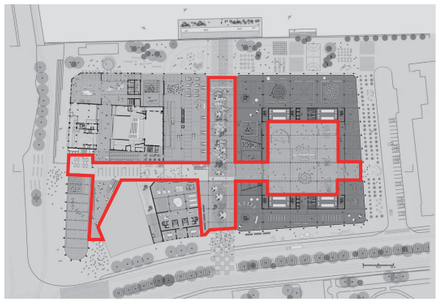
Integral building, continuous/complete and fragmented by central courtyard.

Neues Museum | Berlin, Germany
David Chipperfield



Retains existing fabric by reinforcing it, leaving traces of the original finish.

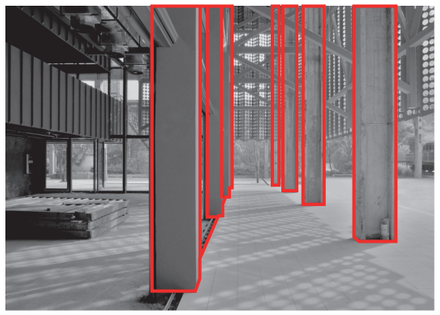
KANAL | Brussels, Belgium
OMA



Undisrupted public space + transition spaces.

Flexible hall, showroom.

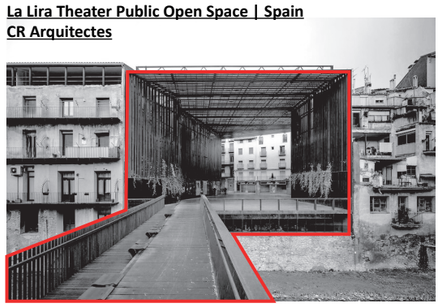
Chongqing Industrial Museum | Chongqing, China
WallaceLiu



Lightweight steel structure inserted in the old.

Semi-enclosed space | min. need for mechanical ventilation.

La Lira Theater Public Open Space | Spain
CR Arquitectes



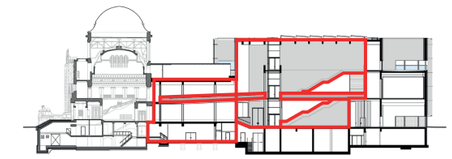
Overarching language.
Indicative strategy, walkway to building.

World Trade Centre, Memorial | NY, USA
Santiago Calatrava, Michael Arad

Integration of memorial, commercial, cultural functions.

Kunsthalle Mannheim Building | Mannheim, Germany
gmp Architects

Circulation within the building remains simple for the visitors and grid in plan and elevation replicate the order and straightforwardness of this “city of squares”.



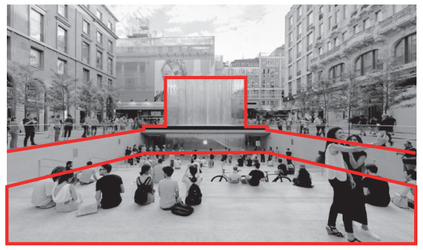
Central atrium enclosed by exhibition space and rooms for supporting functions connected via galleries, terraces, and bridges creating routes with changing views and vistas.

Dexamenes Seaside Hotel | Kourouta, Greece
K-Studio

History and raw beauty of existing buildings is showcased.
Two steel drums preserved, used as exhibition/leisure hall.

Concrete blocks divided for wine storage tanks (5m x 6m) used as hotel rooms. Doorway openings - slabs used as stepping pathway.

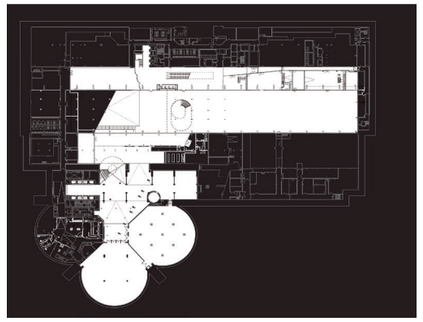
Apple Store | Milan, Italy
Foster + Partners



Provides a public welcoming square for visitors to take over. Sense of transparency and openness.

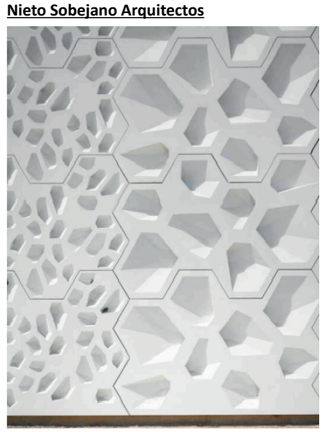
Tate Modern | London, England
Herzog & de Meuron

Iconic chimney of the Tate Modern still serves as a reference point on the Thames River as the new structure (north) does not compete with it.



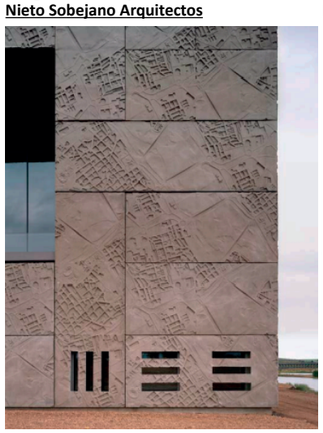
Celebrates the industrial heritage of the Bankside area. Attractive surrounding urban regeneration facing riverbantk.

Centre for Contem Art | Cordoba, Spain
Nieto Sobejano Arquitectos



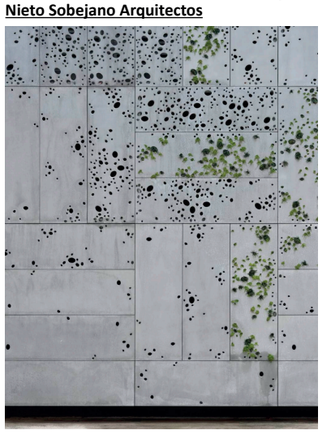
The geometry evokes the ornamentation of the Islamic architecture.

Congress Centre | Merida, Mexico
Nieto Sobejano Arquitectos



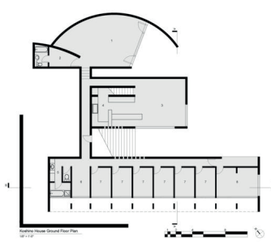
Stone-like material imprinted with fragment of the city to establish visual/symbolic link.

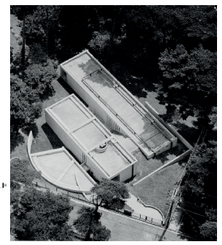
San Telmo Muesum | San Sebastian, Spain
Nieto Sobejano Arquitectos



Perforations allow moss and lichens growth, alludes to rock and vegeration of the city.

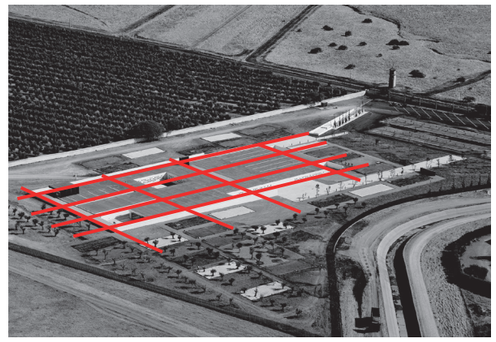
Koshino House | Hyogo, Japan
Tadao Ando





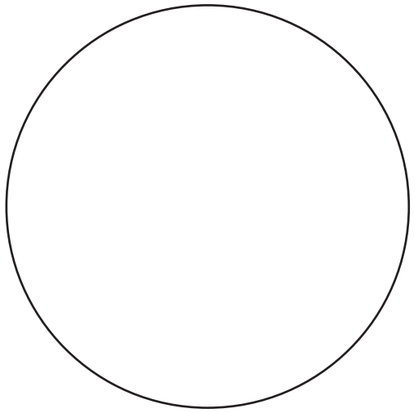
Balances rectilinear forms with crescent-shape. Staircase creates brething space between concrete blocks.

Madinat Al Zahara Museum | Cordoba, Spain
Nieto Sobejano Arquitectos



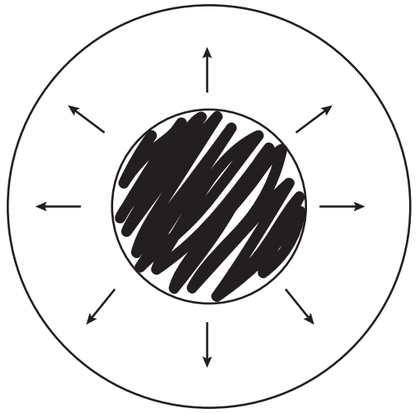
Respects a two-dimensional orthogonal grid, excavations follow rectangles of the grid.

Use of white concrete and rusted steel i.e. contemporary materials that communicate with stucco and ceramic of the ancient city.

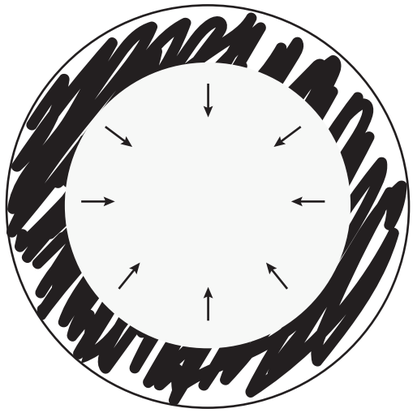


GEOMETRY | VOID

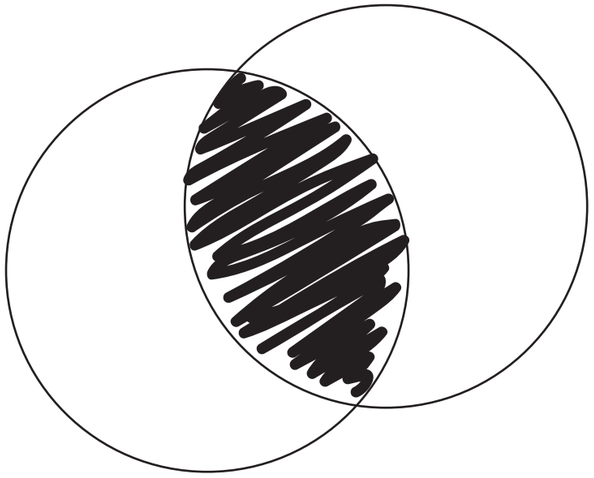
FULL



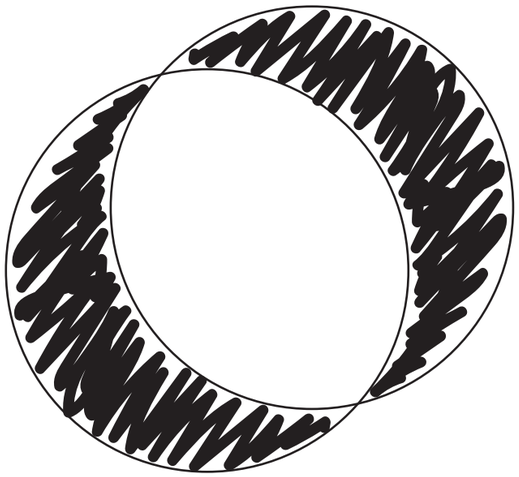
EXPOSURE



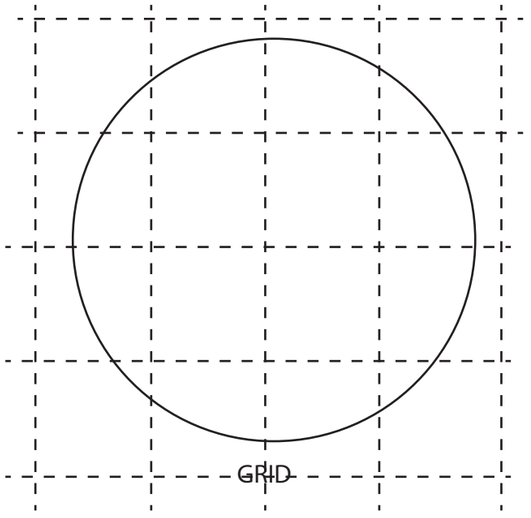
ENCLOSURE



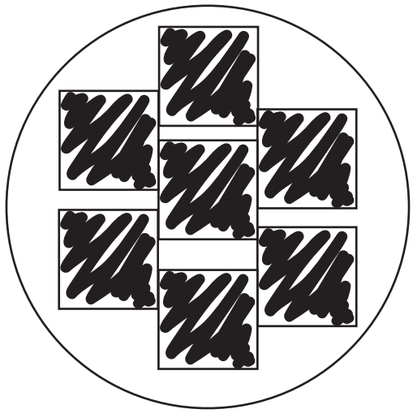
SHIFT IN



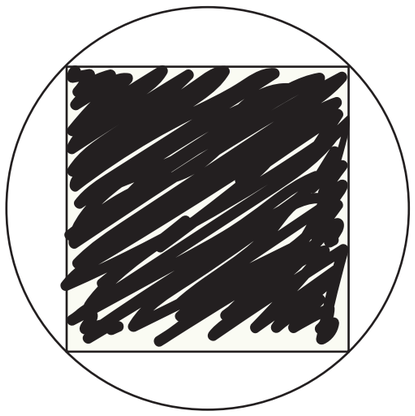
SHIFT OUT



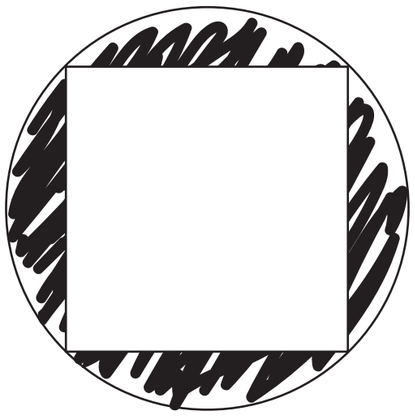
GRID



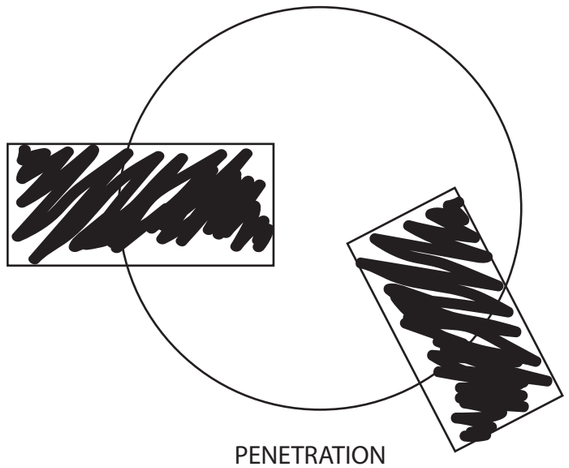
CLUSTER



INFILL



INFILL INVERSE

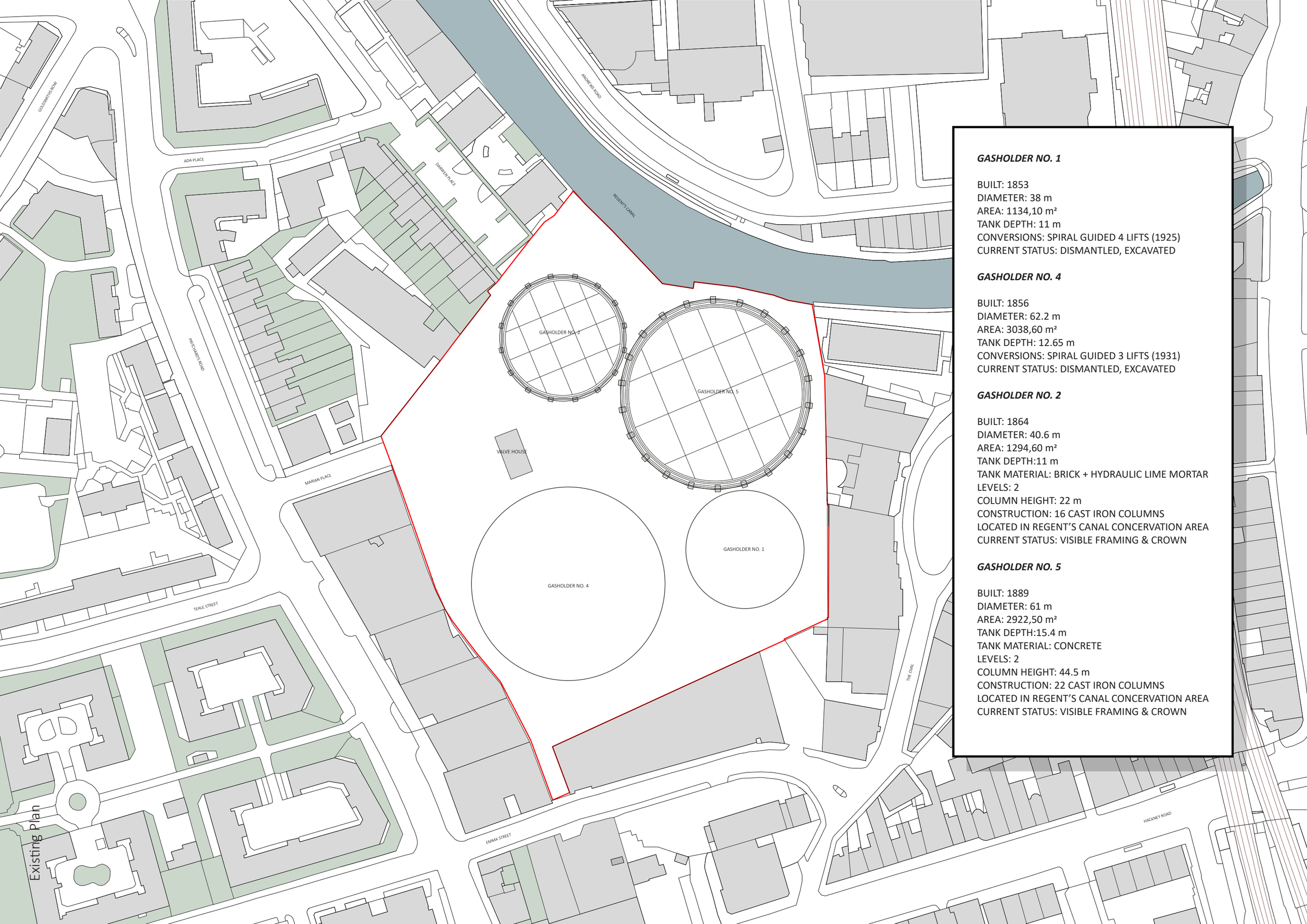


PENETRATION

FOREIGN

Fill Strategies

SITE SPECIFIC STRATEGIES IN DESIGN



GASHOLDER NO. 1

BUILT: 1853
DIAMETER: 38 m
AREA: 1134,10 m²
TANK DEPTH: 11 m
CONVERSIONS: SPIRAL GUIDED 4 LIFTS (1925)
CURRENT STATUS: DISMANTLED, EXCAVATED

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

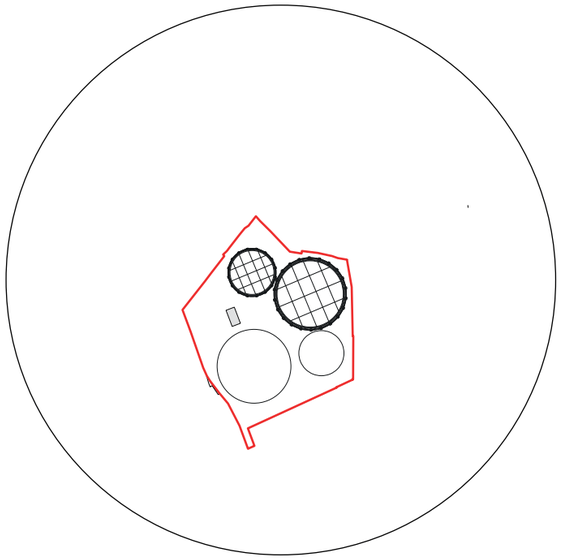
GASHOLDER NO. 2

BUILT: 1864
DIAMETER: 40.6 m
AREA: 1294,60 m²
TANK DEPTH:11 m
TANK MATERIAL: BRICK + HYDRAULIC LIME MORTAR
LEVELS: 2
COLUMN HEIGHT: 22 m
CONSTRUCTION: 16 CAST IRON COLUMNS
LOCATED IN REGENT'S CANAL CONCERVATION AREA
CURRENT STATUS: VISIBLE FRAMING & CROWN

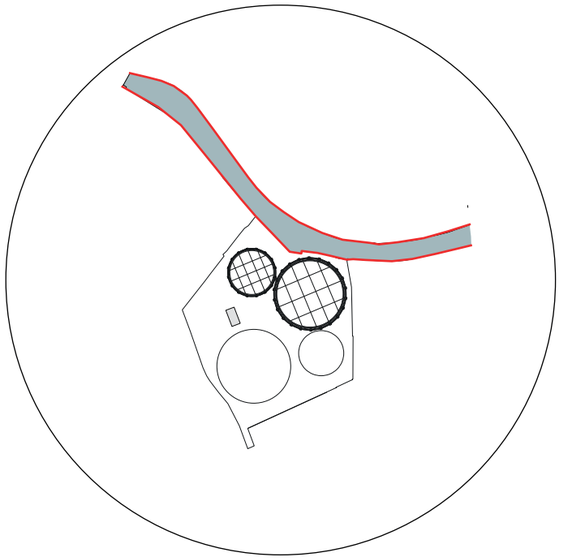
GASHOLDER NO. 5

BUILT: 1889
DIAMETER: 61 m
AREA: 2922,50 m²
TANK DEPTH:15.4 m
TANK MATERIAL: CONCRETE
LEVELS: 2
COLUMN HEIGHT: 44.5 m
CONSTRUCTION: 22 CAST IRON COLUMNS
LOCATED IN REGENT'S CANAL CONCERVATION AREA
CURRENT STATUS: VISIBLE FRAMING & CROWN

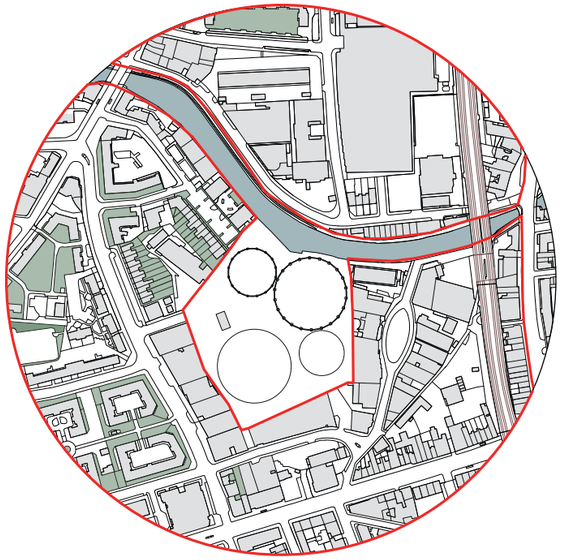
Existing Plan



ENCLAVE, BOUNDARY | PHYSICAL

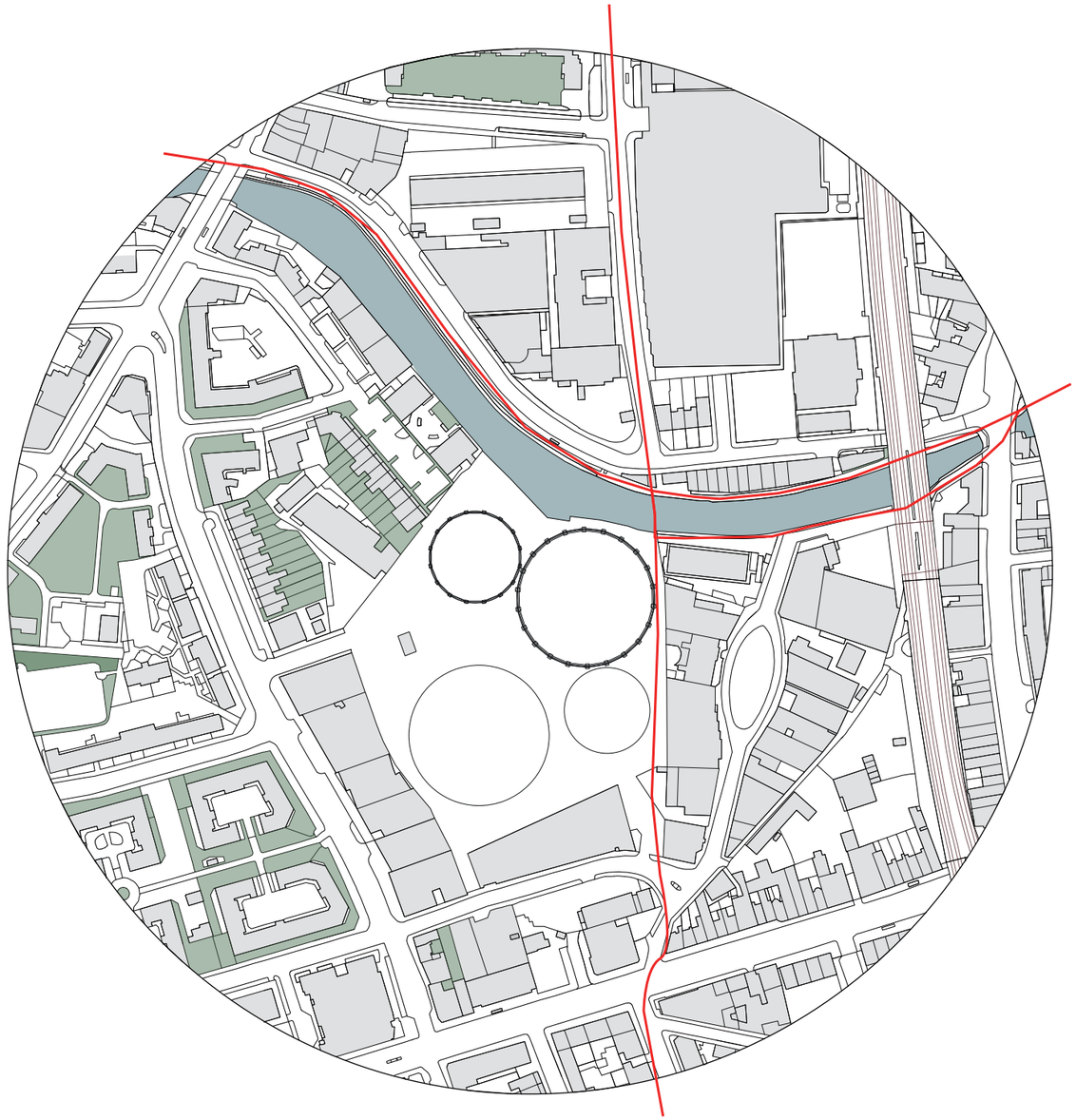


WATERFRONT, TOWPATHS | VISUAL

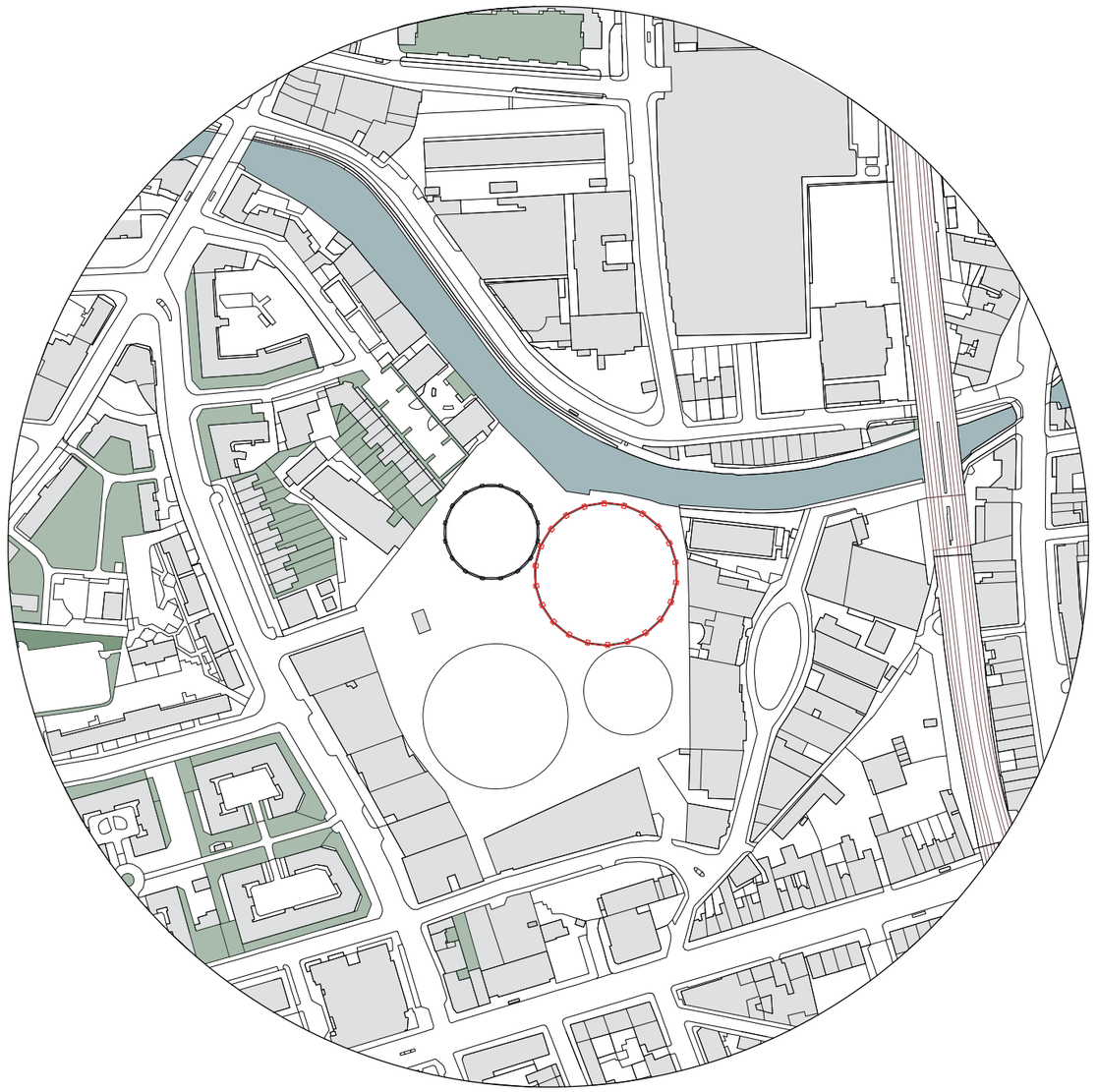


ISOLATED URBAN DYNAMICS

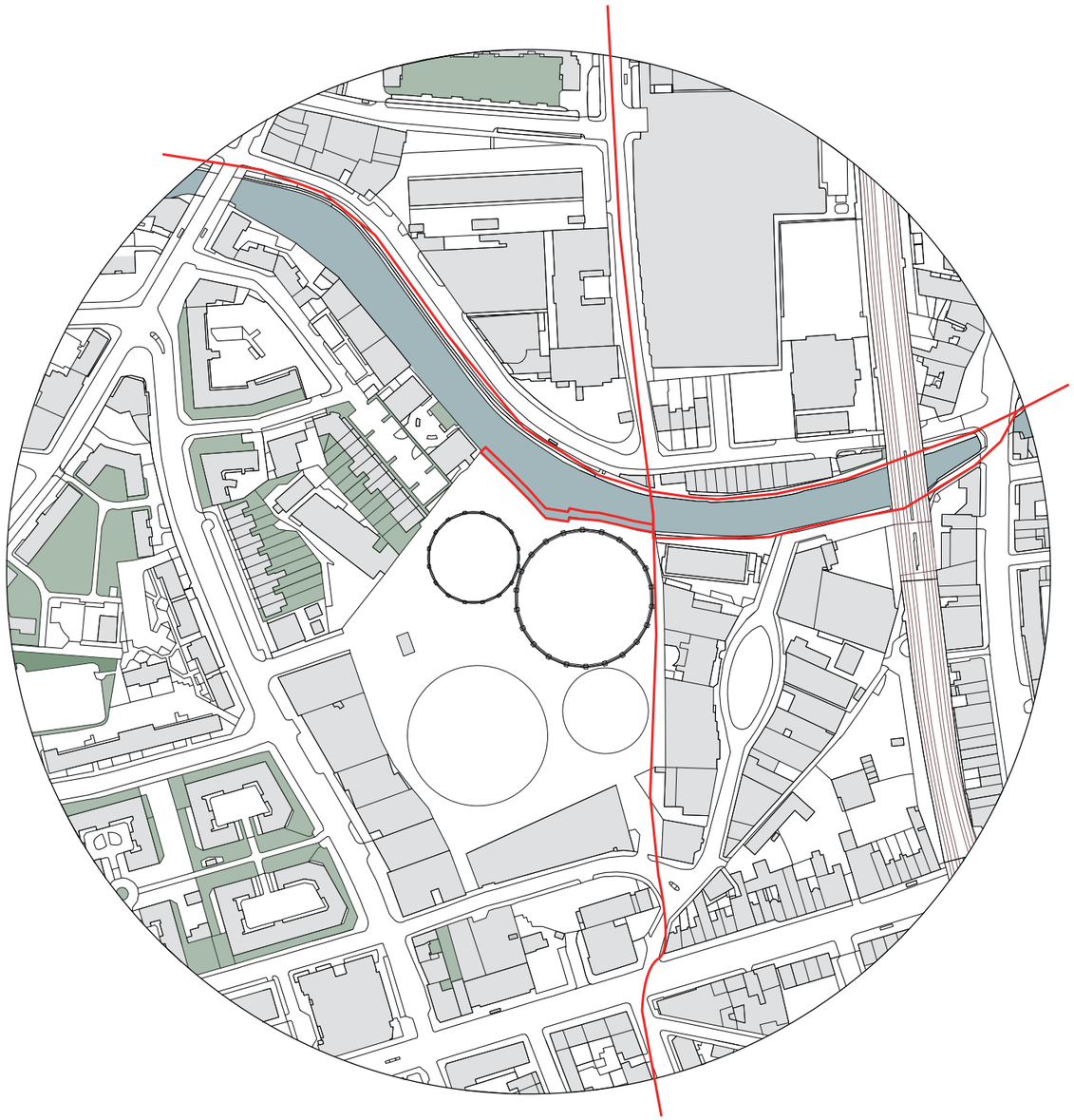
Main Conditions as Driving Forces



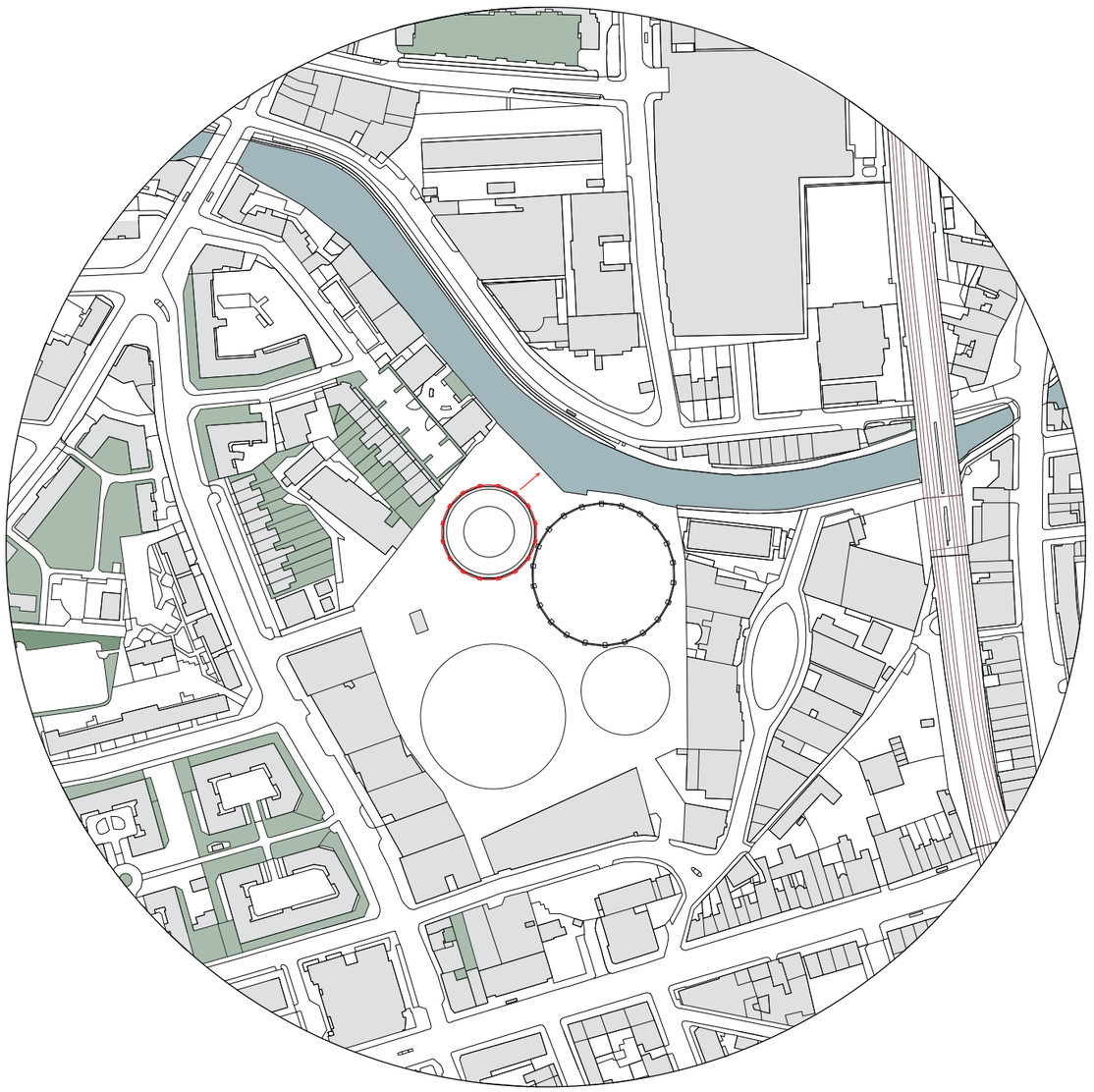
CONNECTING URBAN DYNAMICS



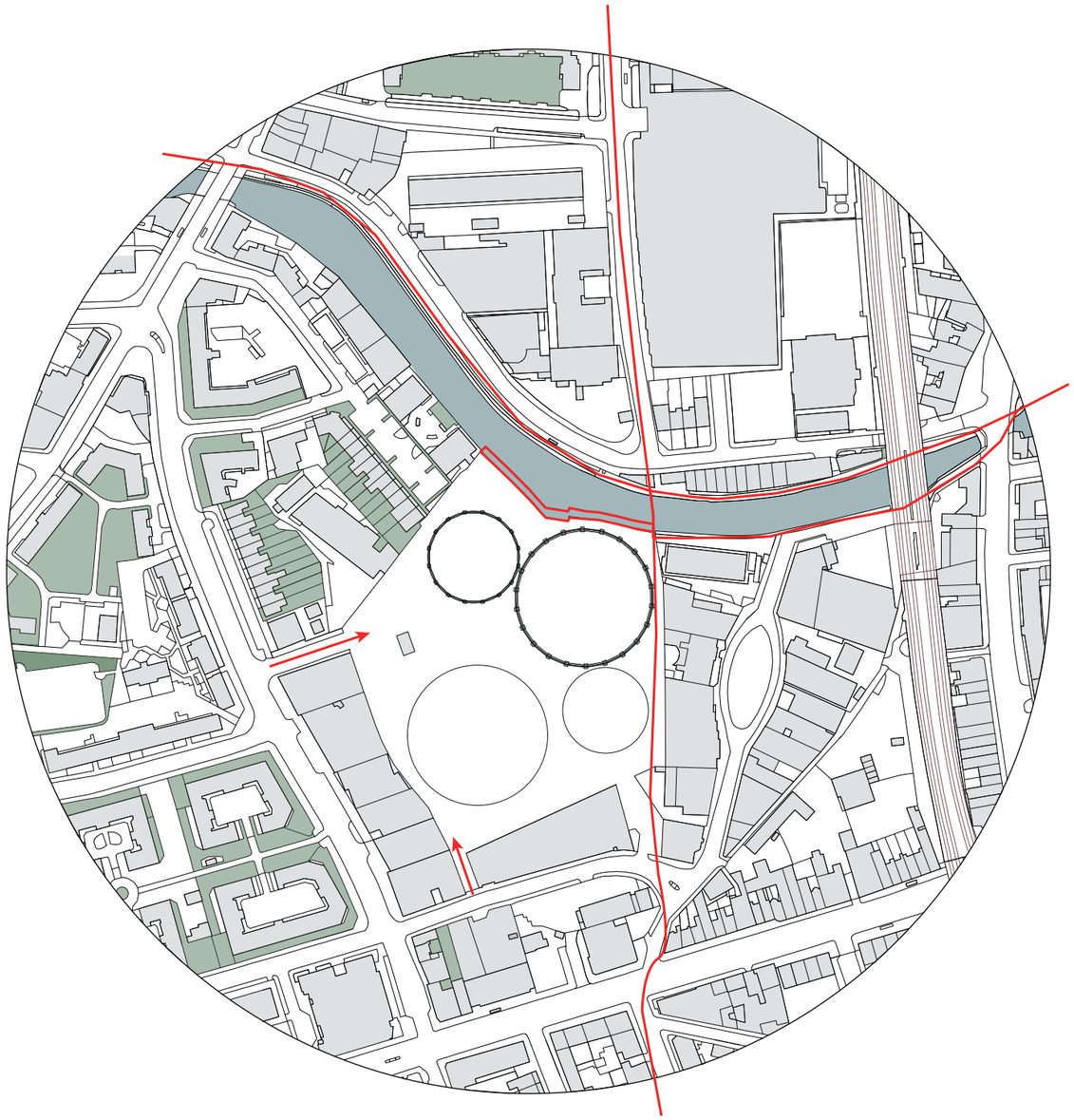
ACCESSIBLE MONUMENT |
VERSATILE EVENT VENUE



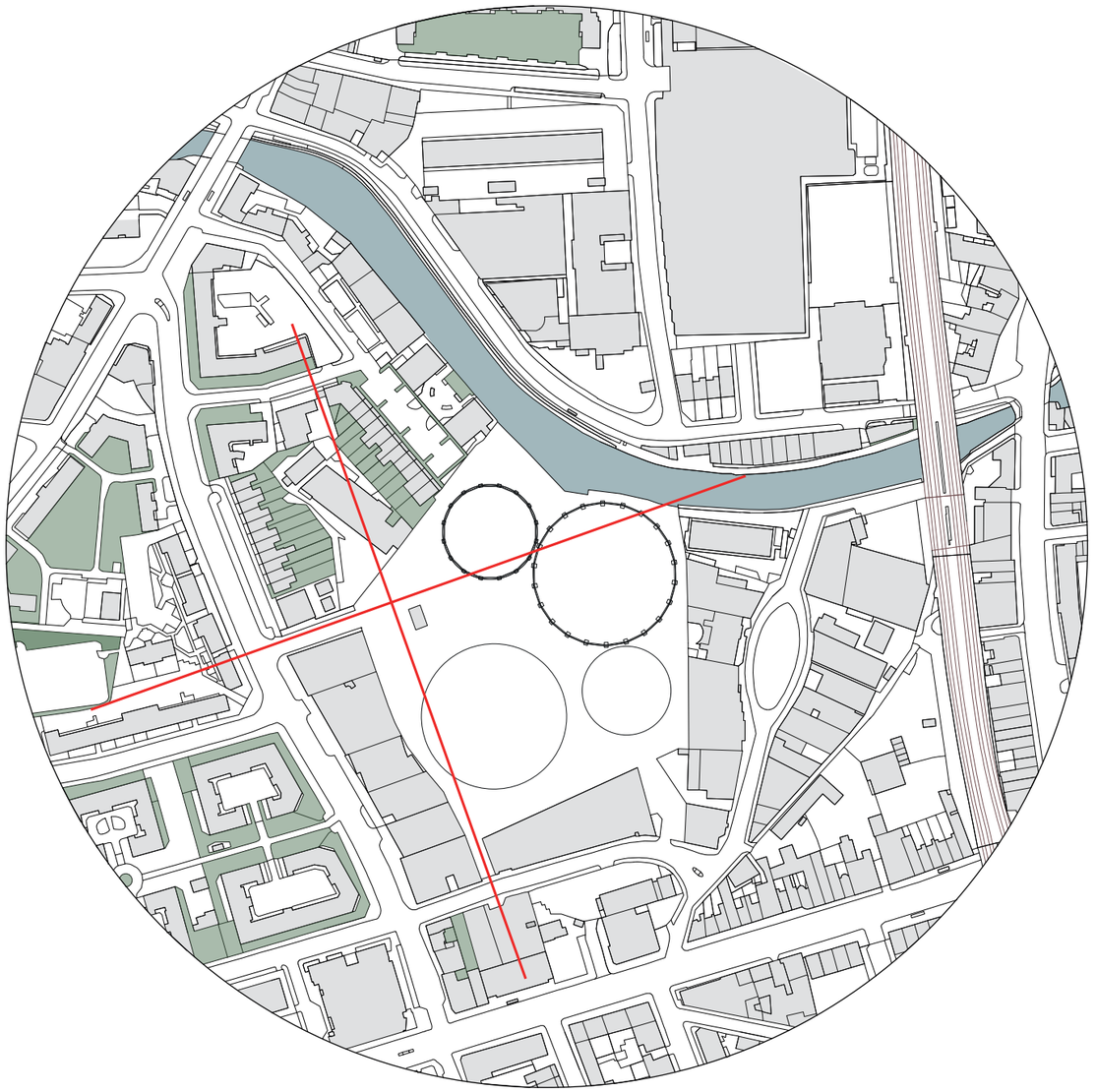
ENHANCED WATERFRONT



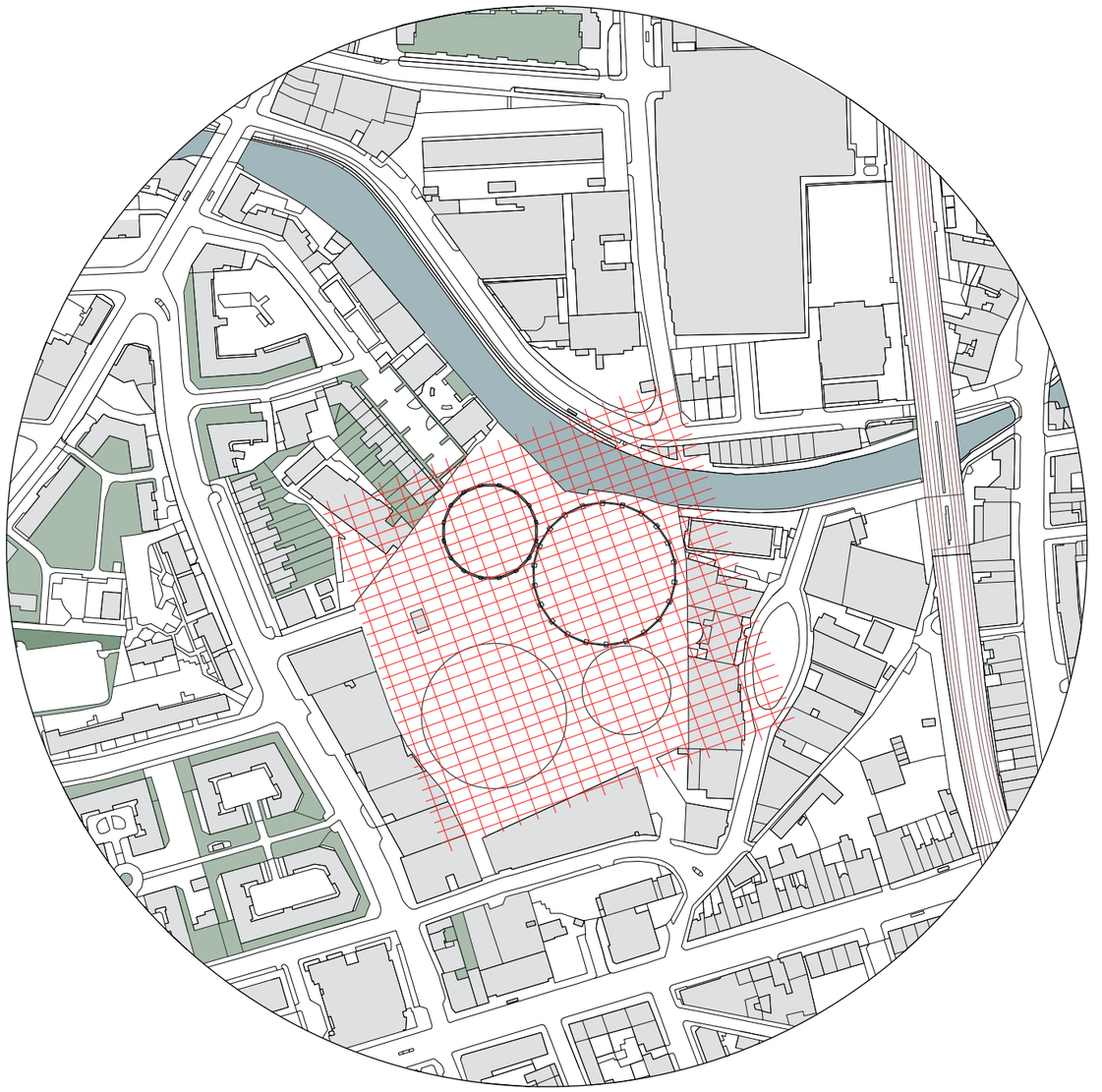
PARK | MONUMENT PROMENADE |
WATER FRONT DYNAMICS



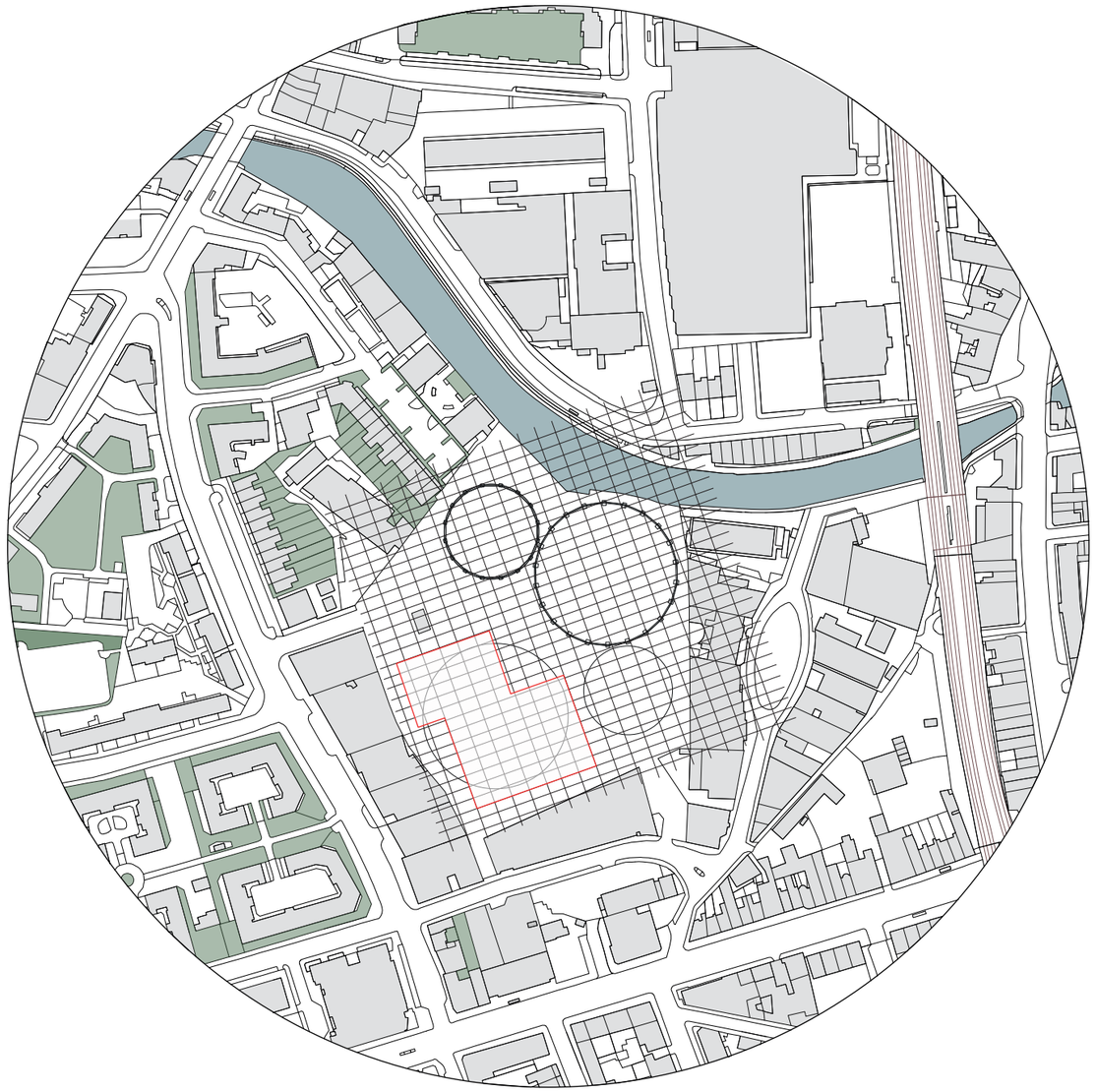
ACCESSIBILITY | BREAKING BOUNDARY



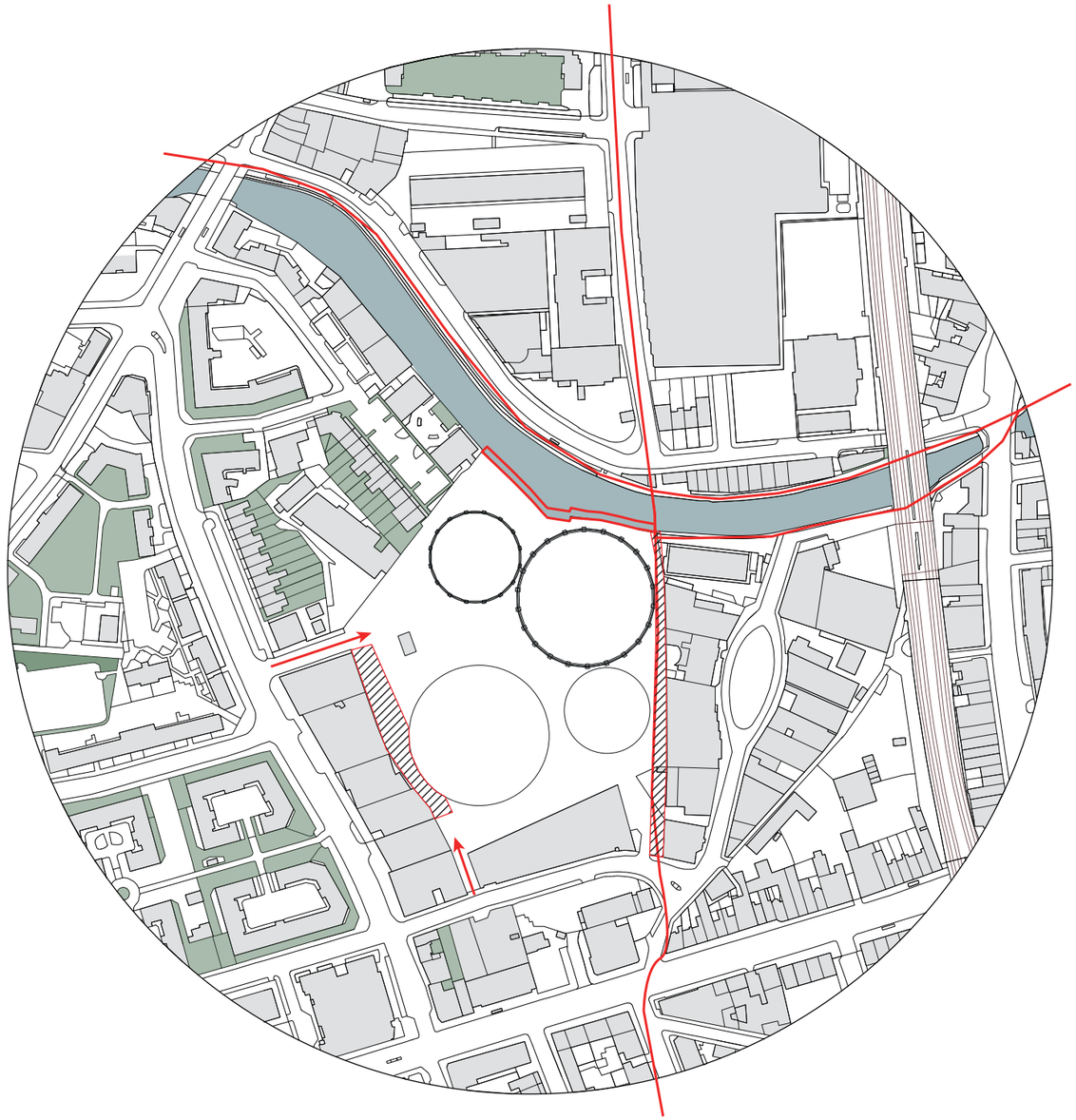
GRID | GUIDELINES FROM
EXISTING ROADS & ENTRANCES



GRID | ENTRANCE ROADS |
PROGRAMMATIC SPACES



WELLNESS NEXUS & SUPERMARKET



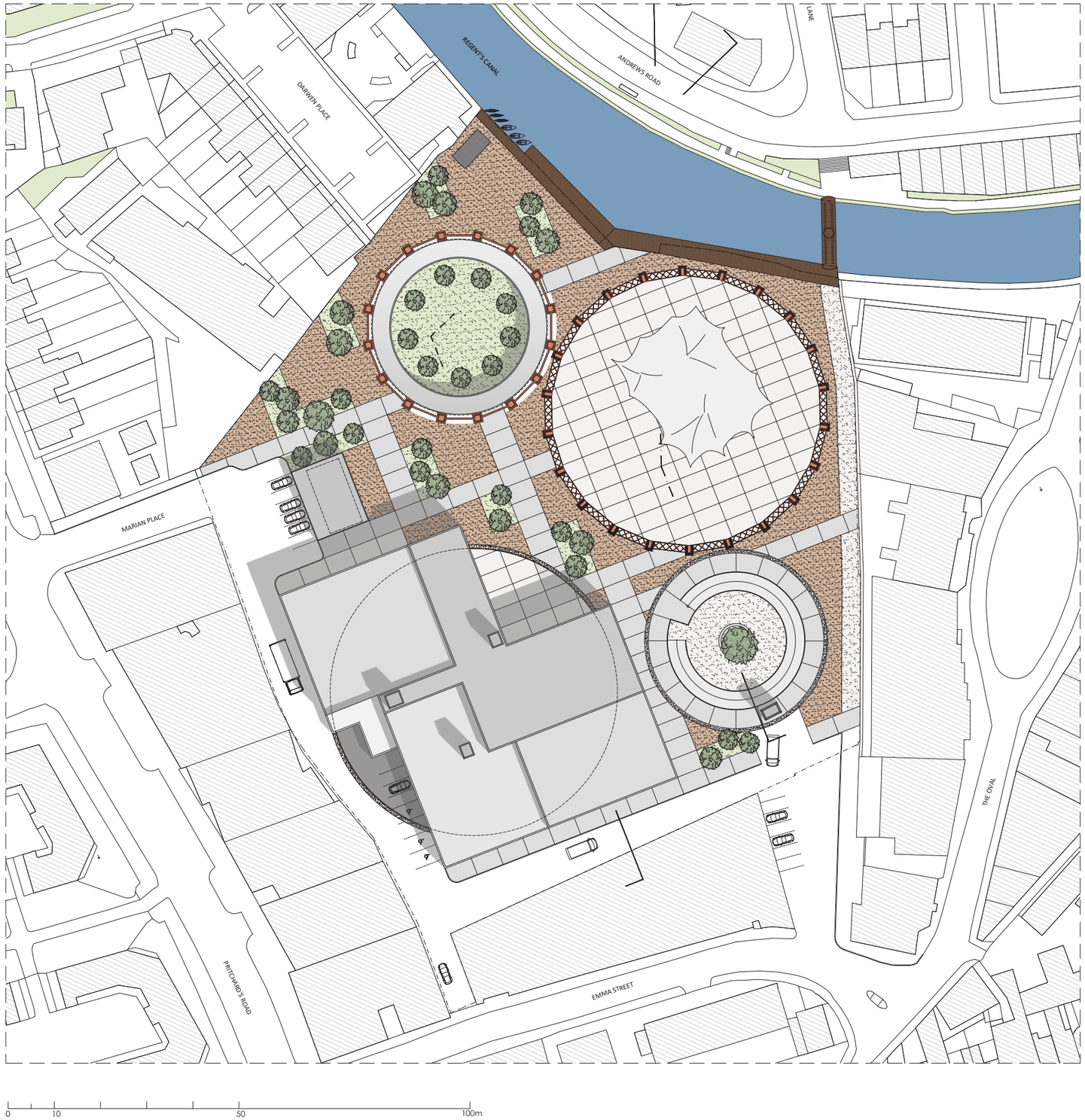
DEALING WITH FACADES

SHARED BACKSIDE |
LOGISTICS, PARKING

UNDERGROUND HAVEN | COMMUNITY
ASSOCIATIONS, SUPPORTIVE SPACE

DESIGN PROPOSAL

The proposal enhaces and brings new dynamics to the site and its surroundings, which enables visitors to physically and visually engage with the gasholders. It also creates spaces for new programs that are currently absent in the area.

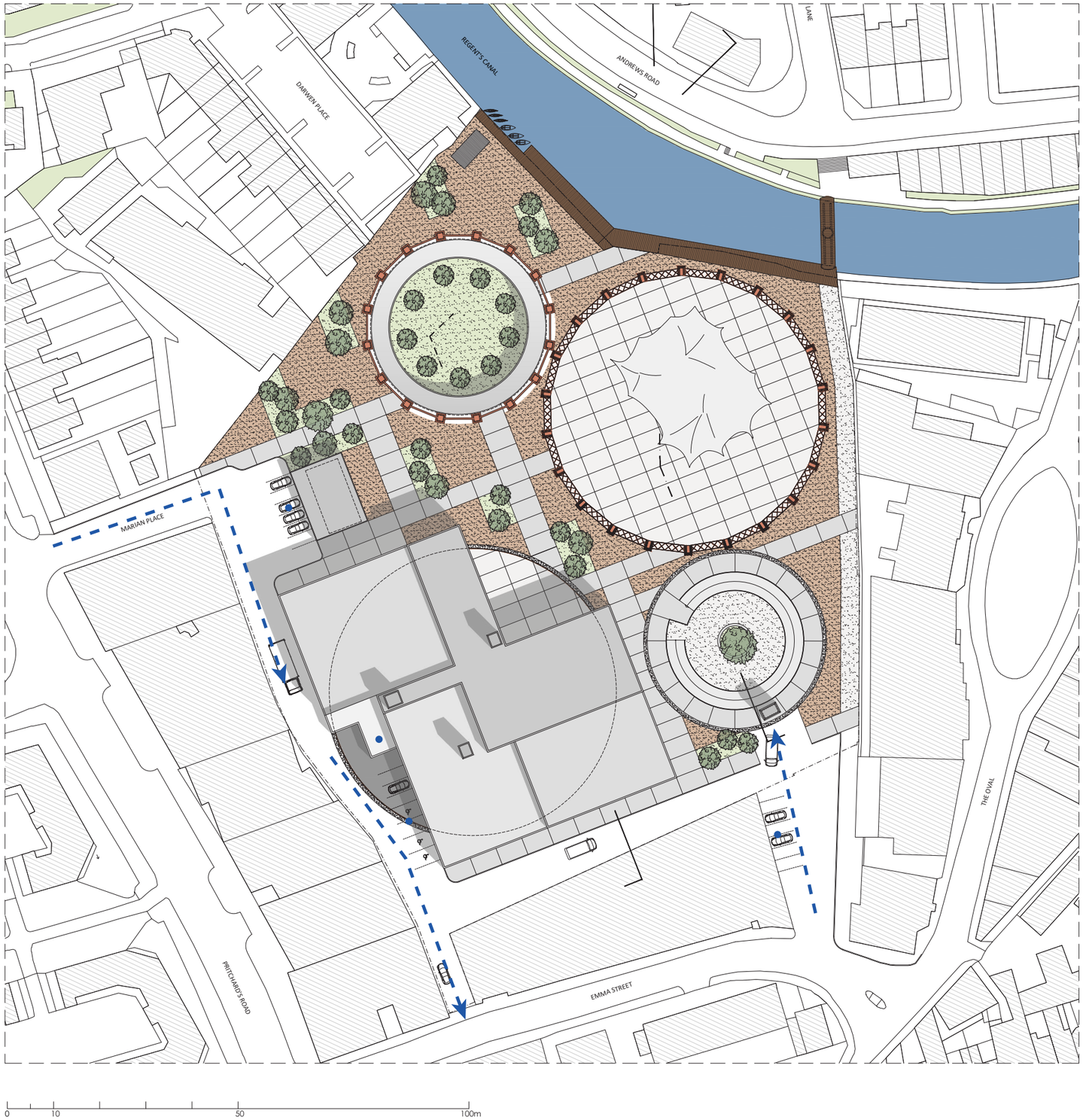


Collage:
-pavement
-builing(s) working together

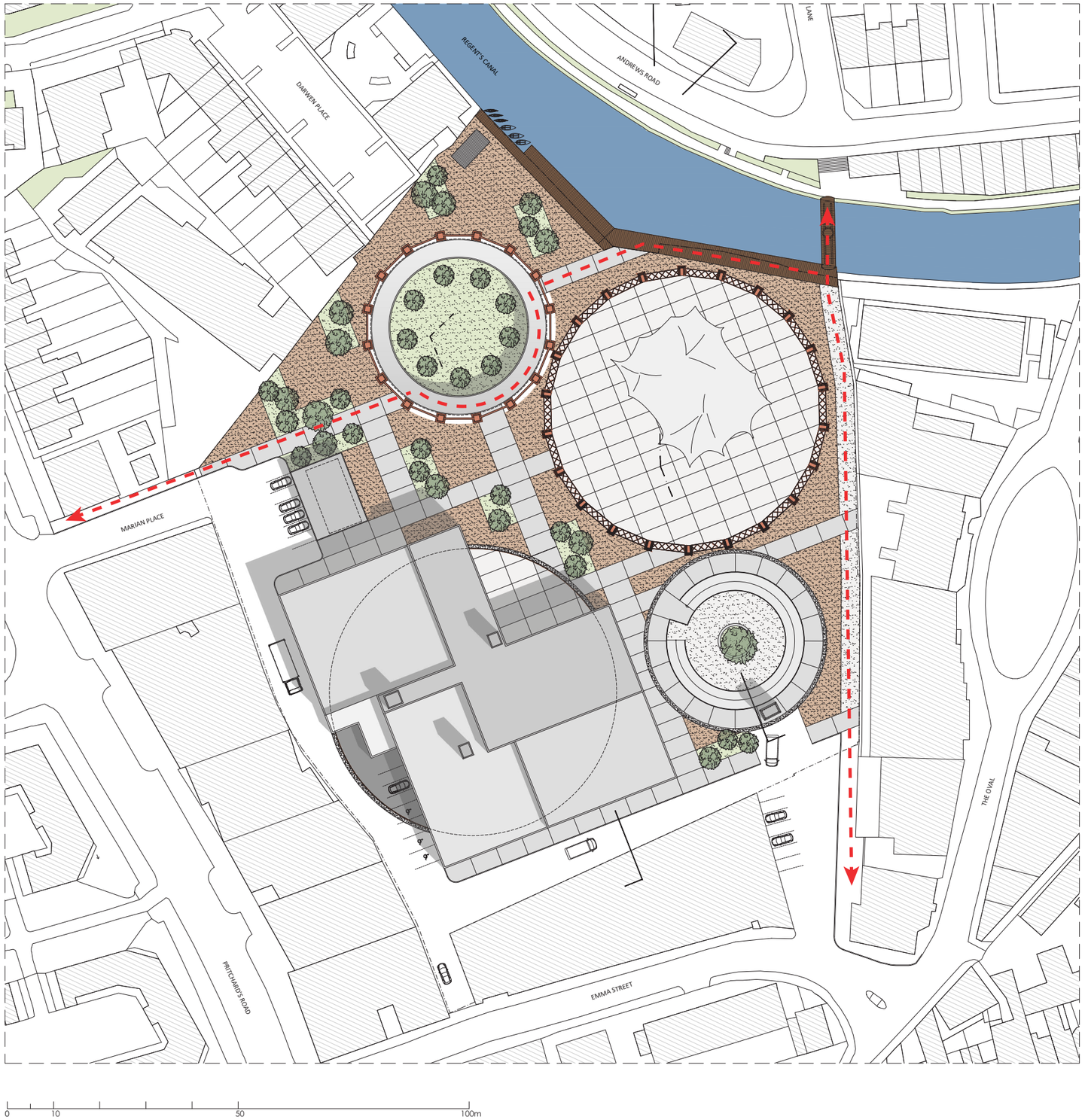
Complementarity:
-flexible spaces
-adaptations and transformations

Model:
Time and process of construction

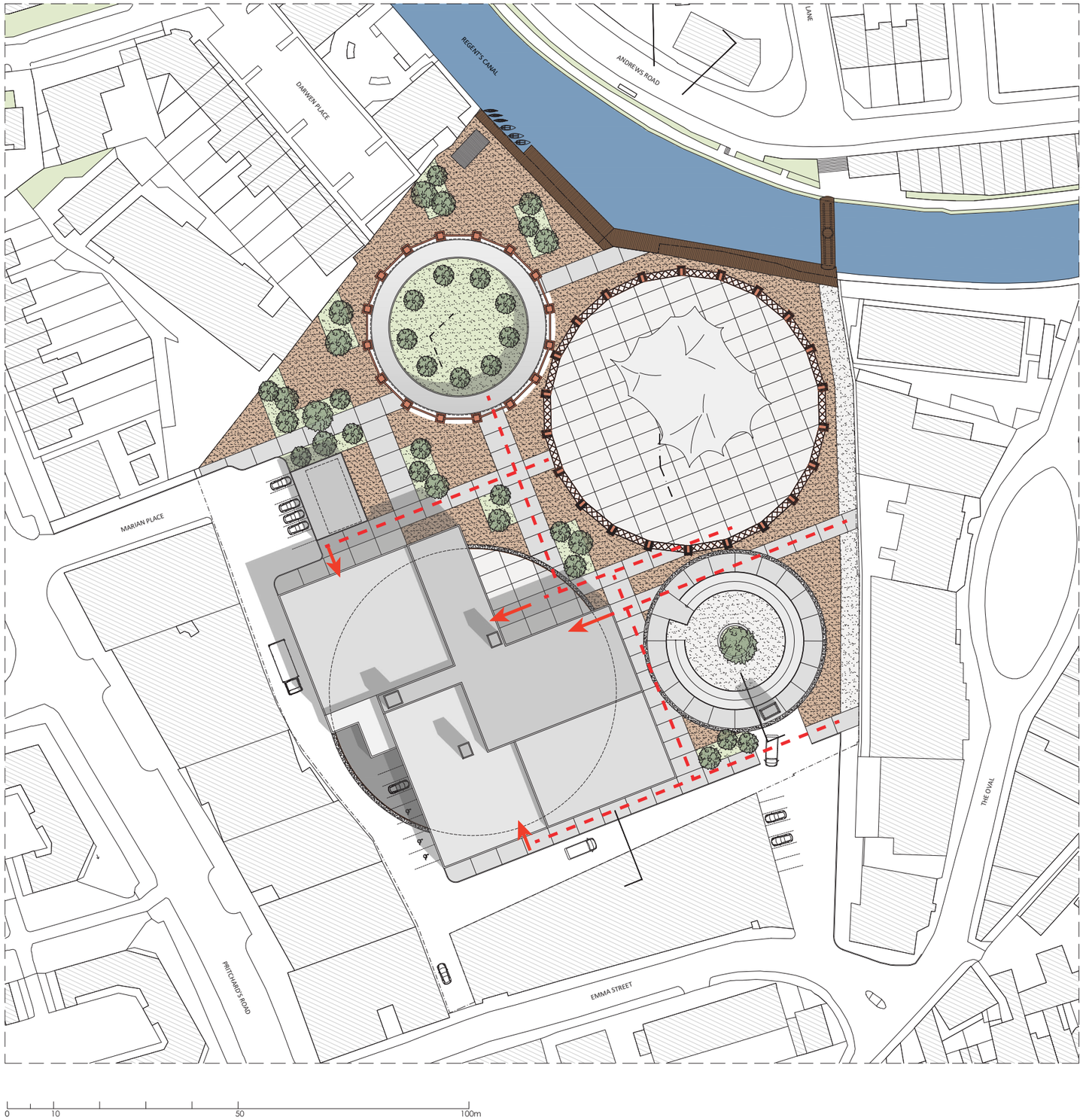
MASTER PLAN



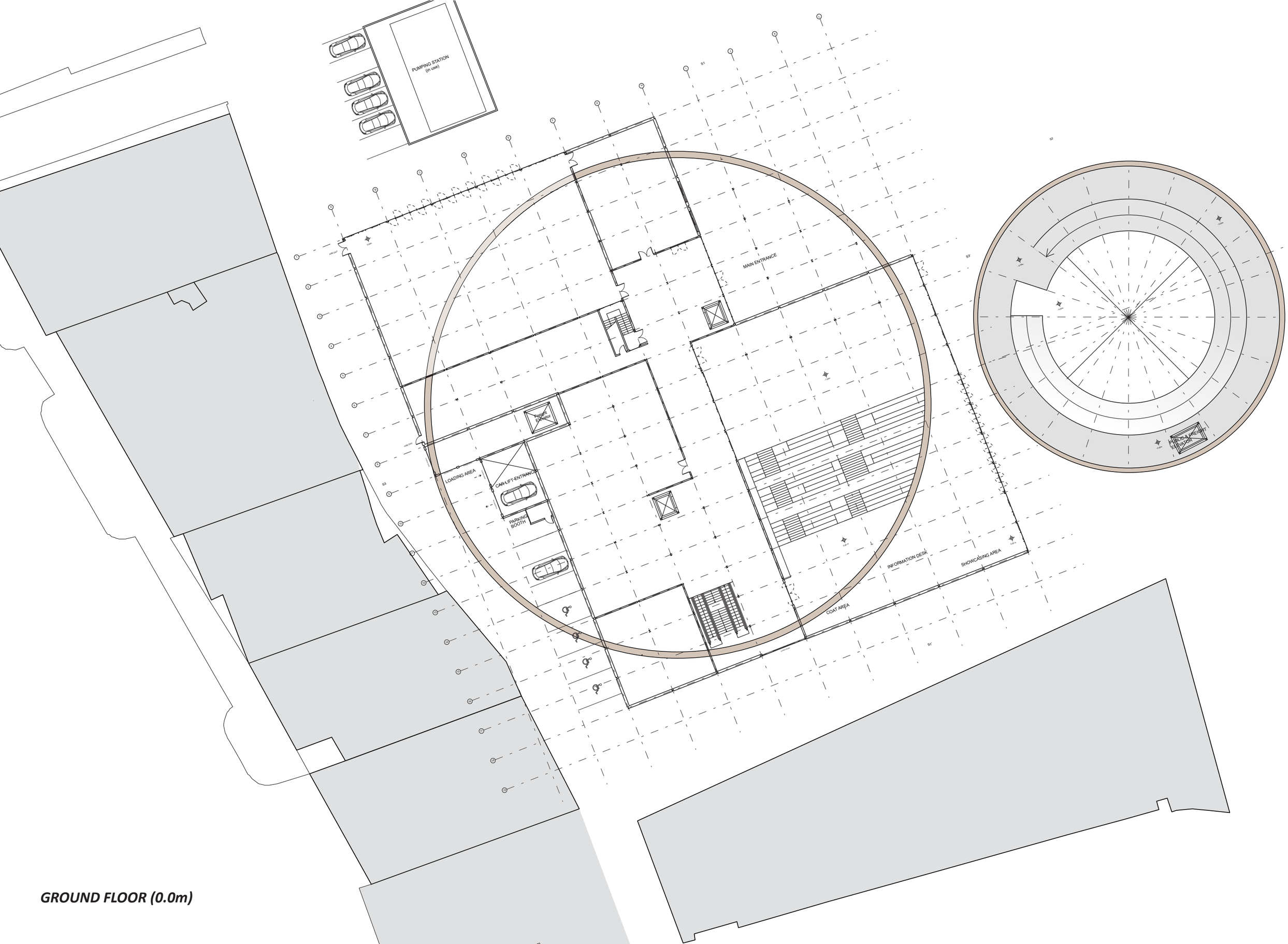
MASTER PLAN - ROAD TRAFFIC



MASTER PLAN - PEDESTRIAN CIRCULATION (FASTEST BOROUGH CROSSING)



MASTER PLAN - AXIS, CONNECTIONS TO NEW BUILDING



GROUND FLOOR (0.0m)

PUMPING STATION
(in use)

STORAGE

JOYCE BAR

MAIN ENTRANCE

FOYER

TECHNICAL ROOM

CHANGING ROOMS

INFIRMARY

OFFICE

LOGISTICS / STORAGE

LOADING AREA

CAR LIFT ENTRANCE

PARKING BOOTH

FLEXIBLE AUDITORIUM

EXHIBITION WALL

RECEPTION
INFORMATION COUNTER

STAFF ROOM

WAITING ROOM

PHYSICAL THERAPY

MOTOR DEVELOPMENT

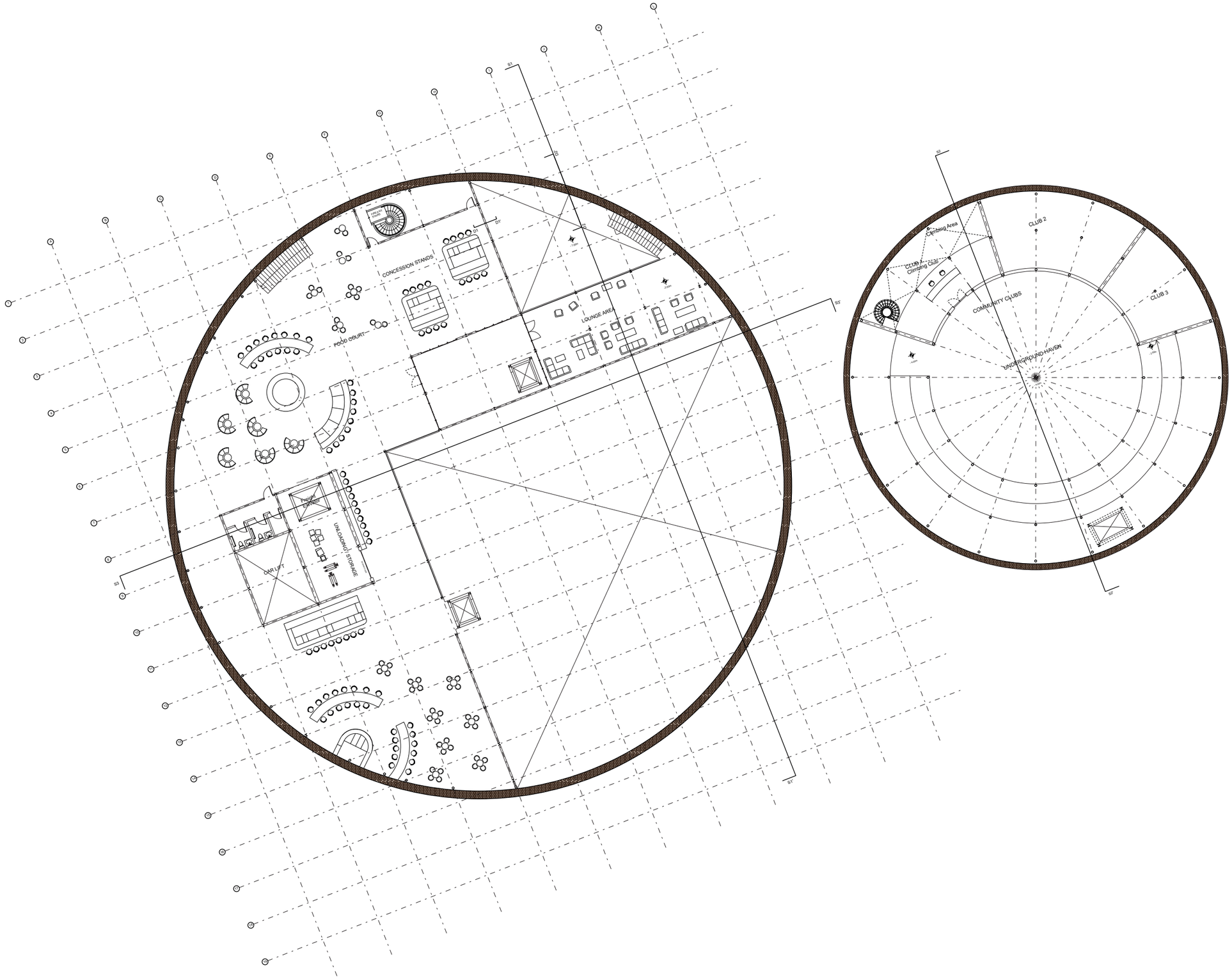
COAT AREA

INFORMATION DESK

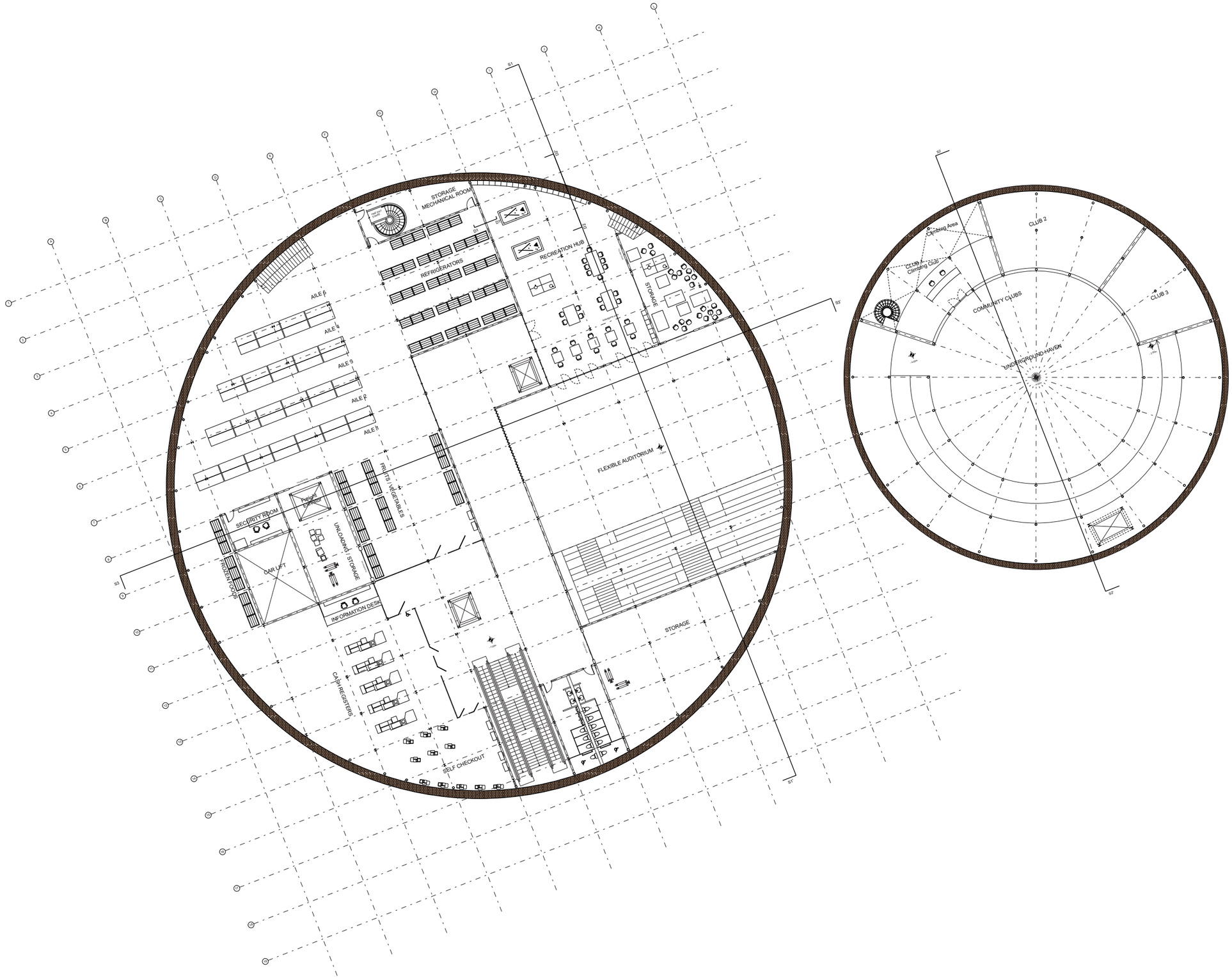
SHOWCASING AREA

PUBLIC & FREIGHT ELEVATOR

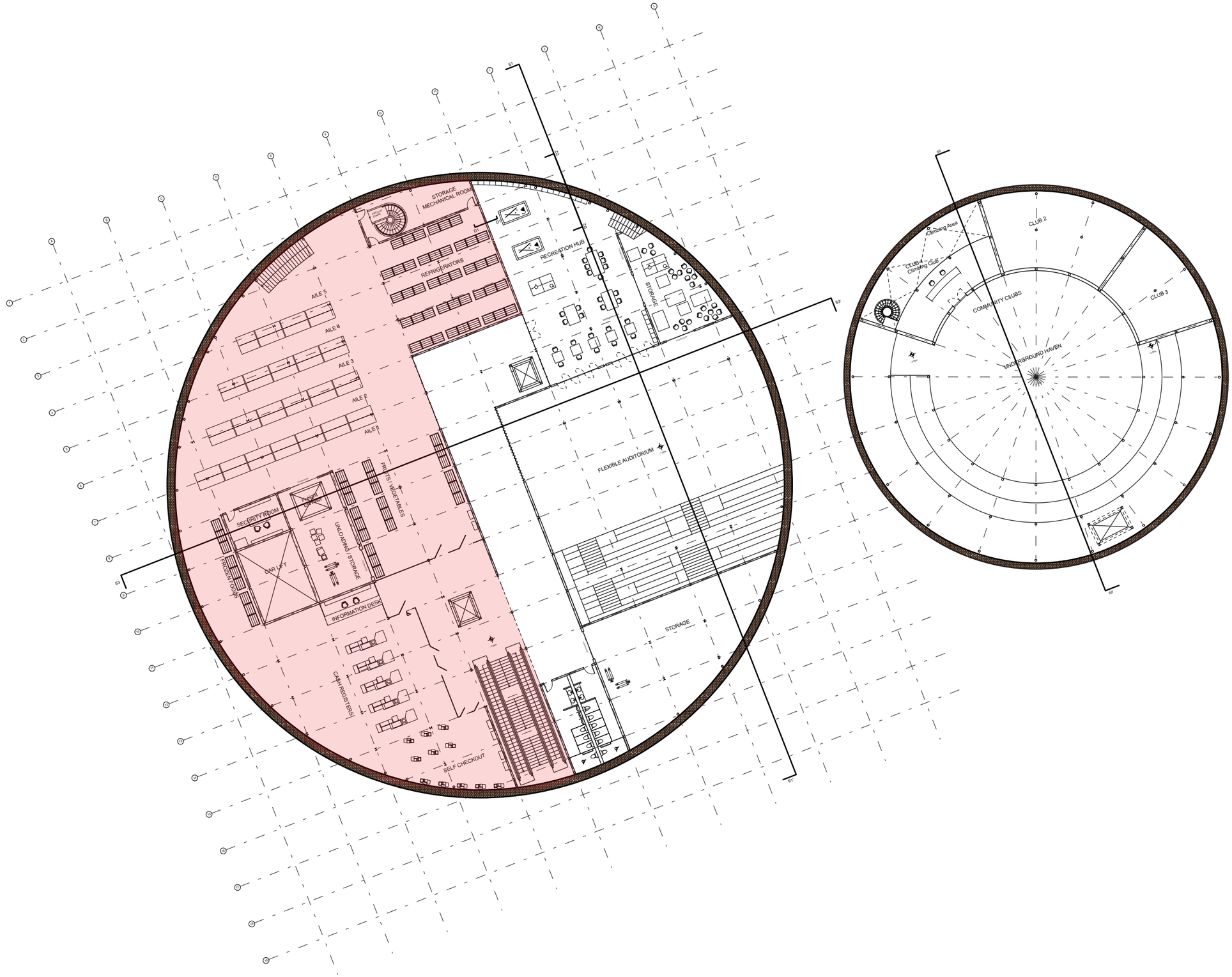
GROUND FLOOR (0.0m)



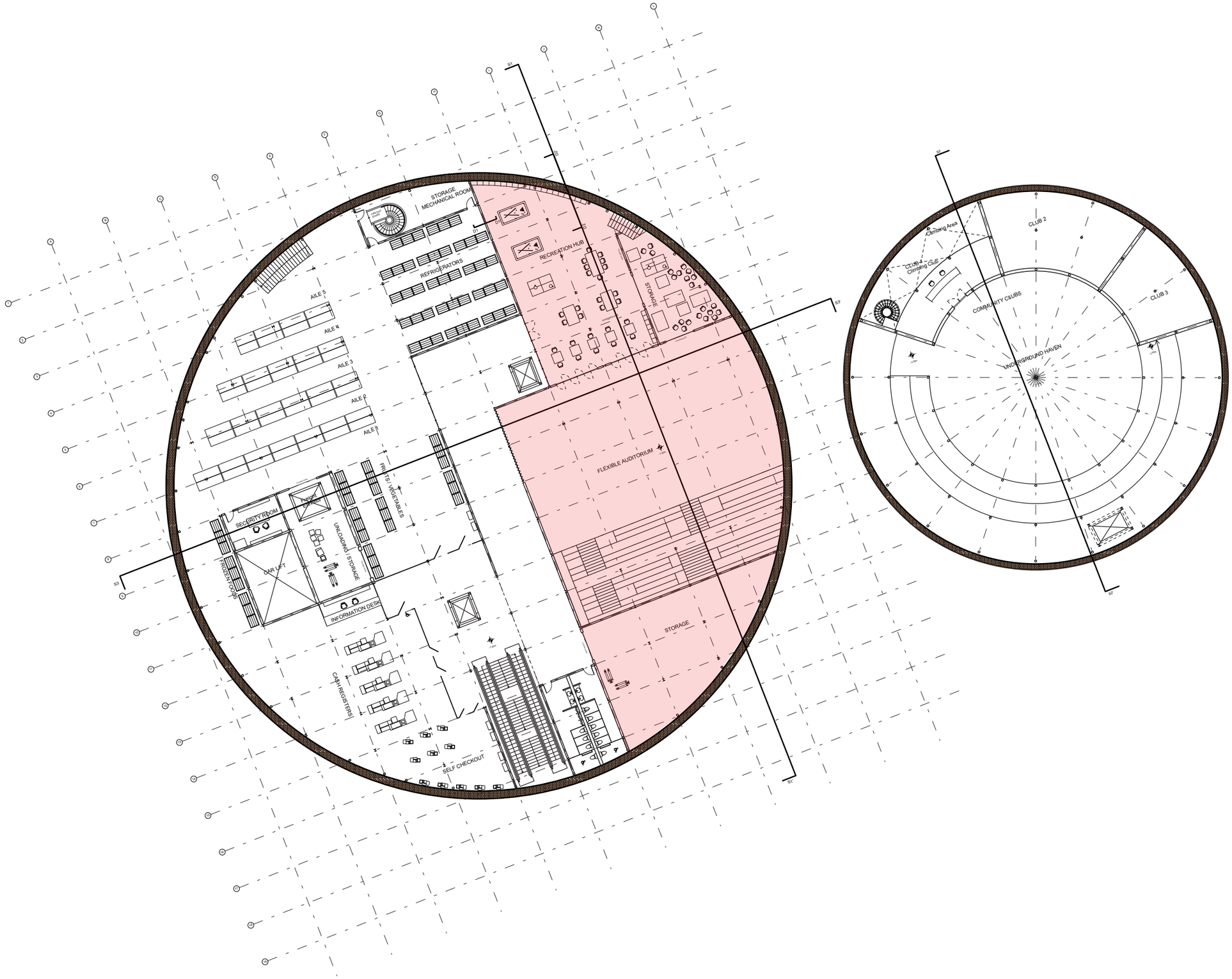
BASEMENT LEVEL -1 (-3.50m)



BASEMENT LEVEL -2 (-7.00m)

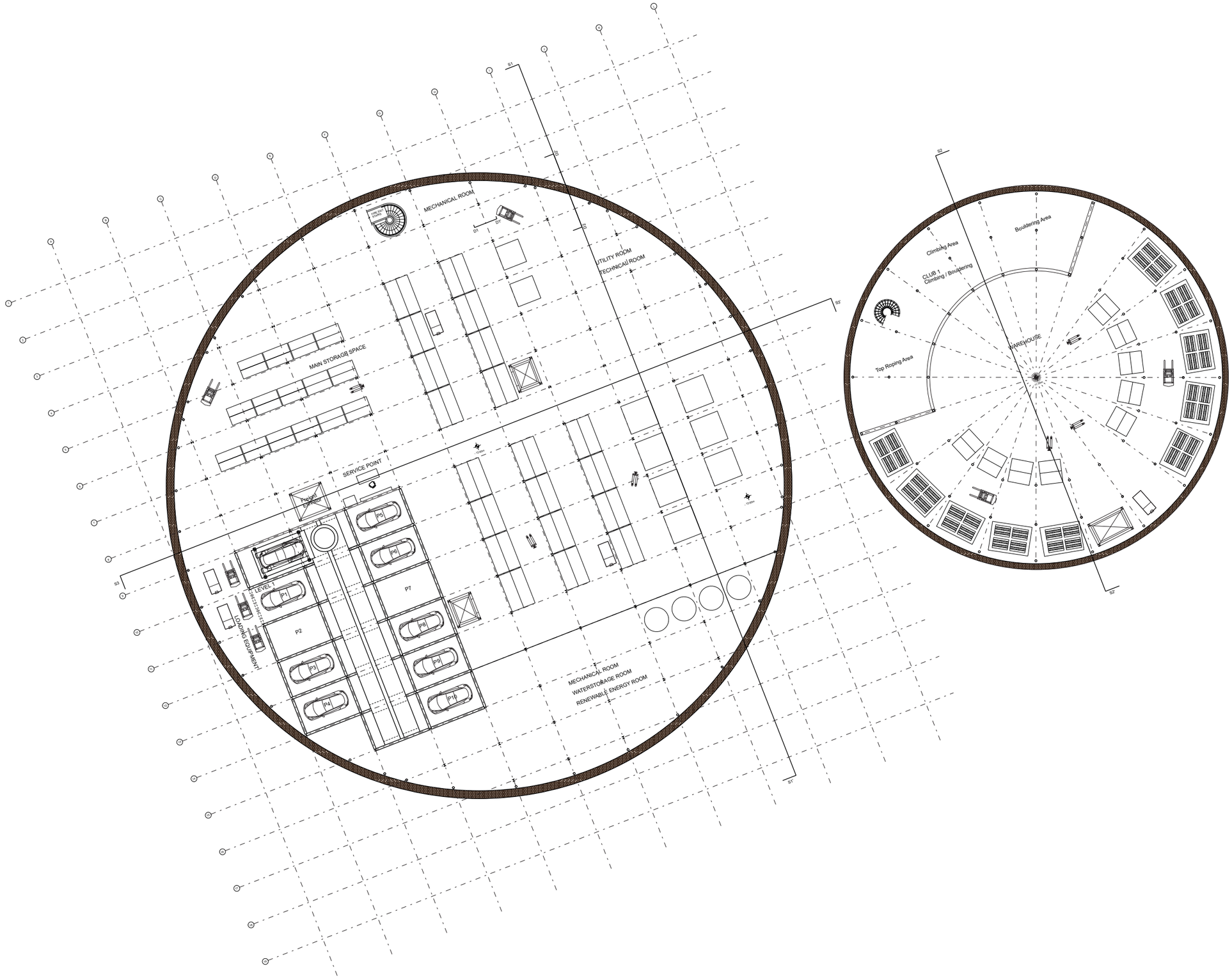


BASEMENT LEVEL -2 (-7.00m)

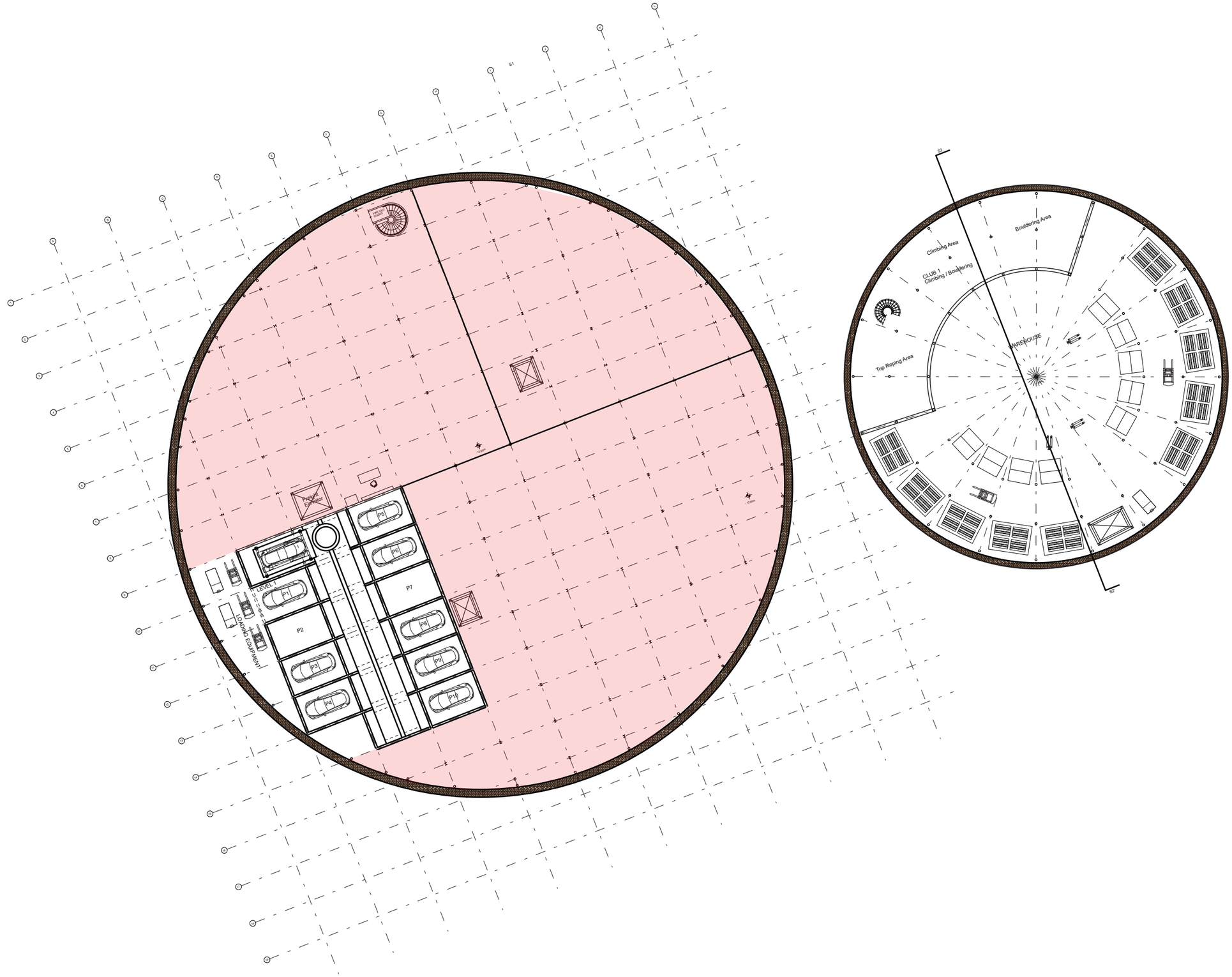


BASEMENT LEVEL -2 (-7.00m)

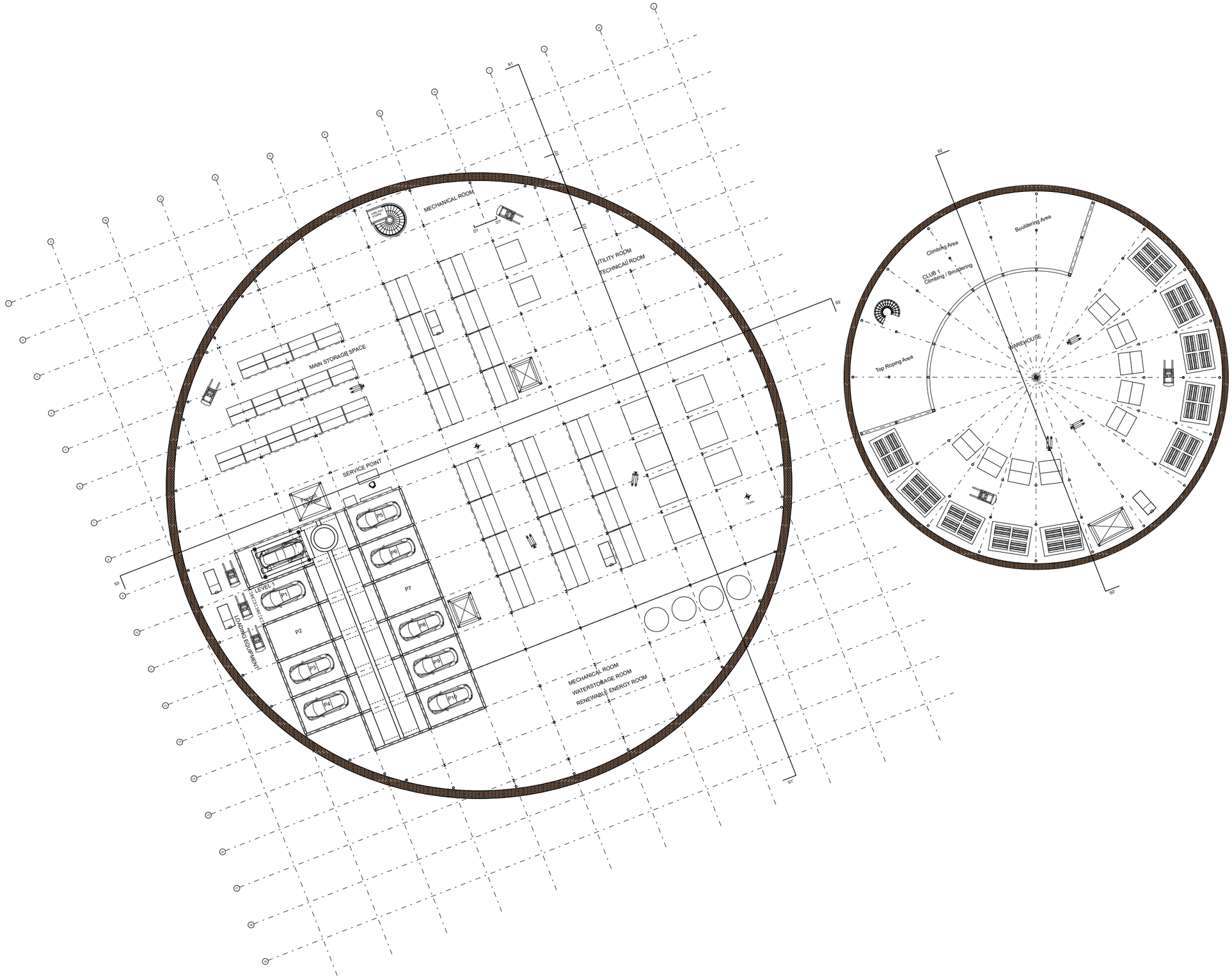
scale 1:200



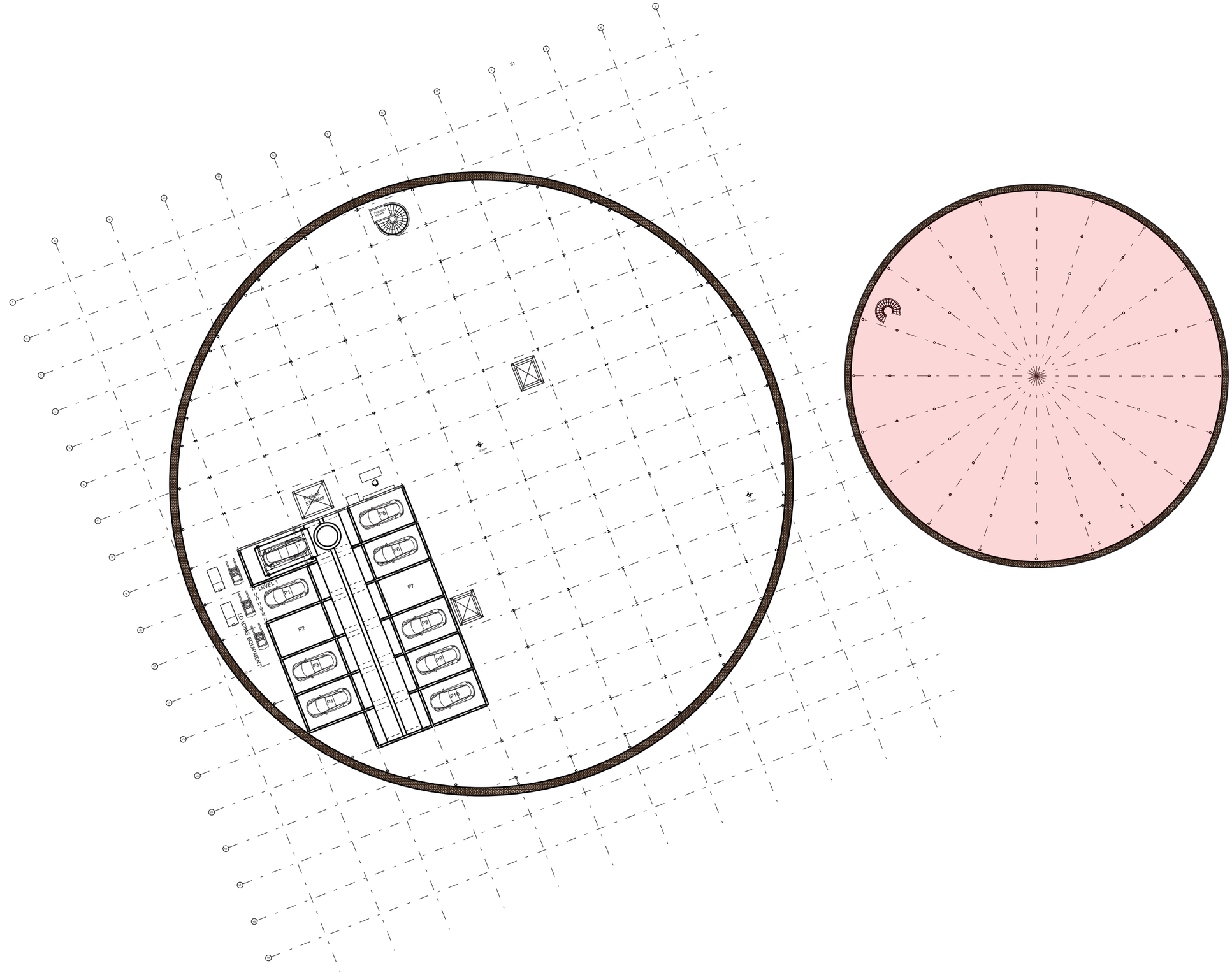
BASEMENT LEVEL -3 (-12.65m)



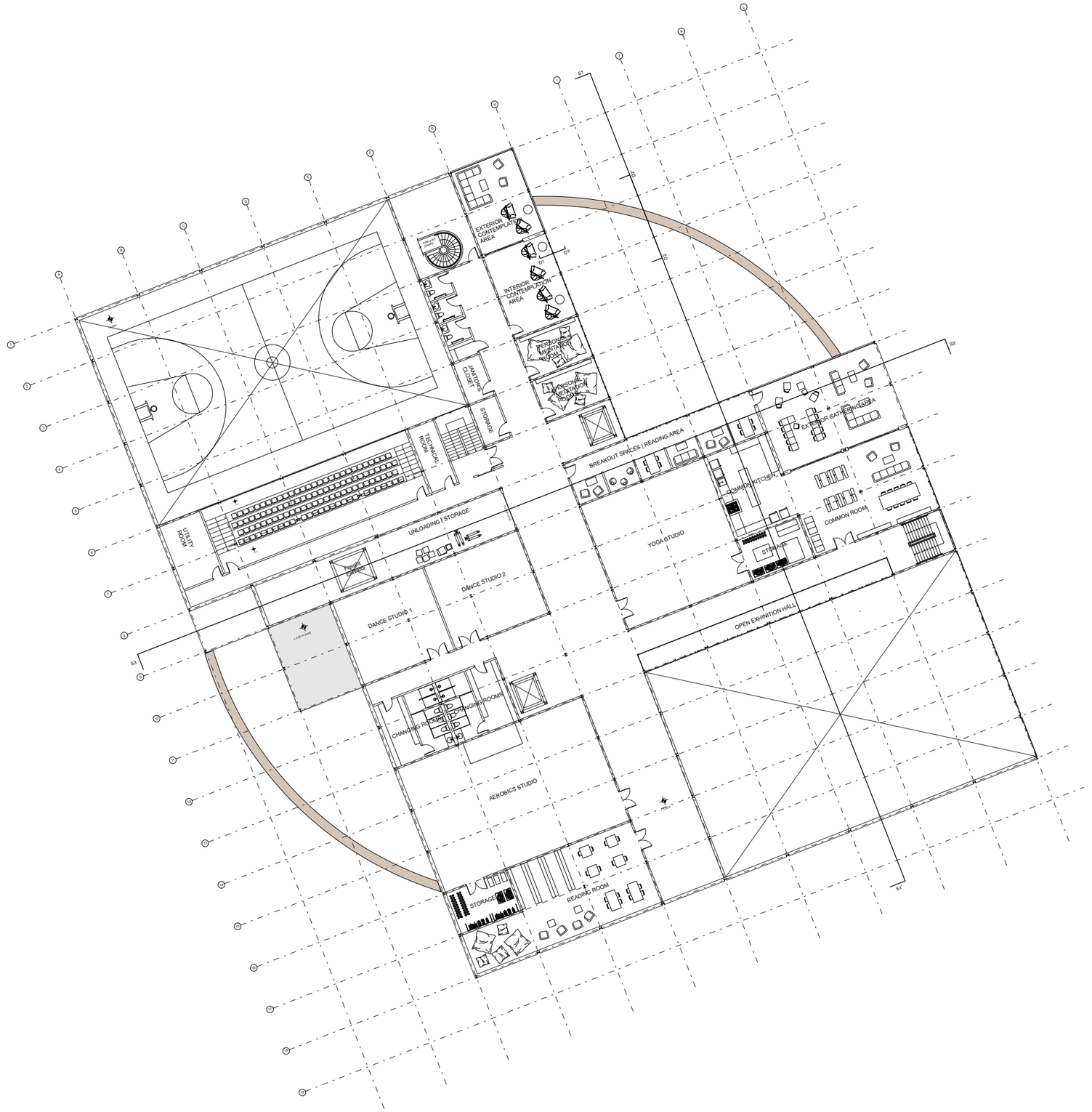
BASEMENT LEVEL -3 (-12.65m)



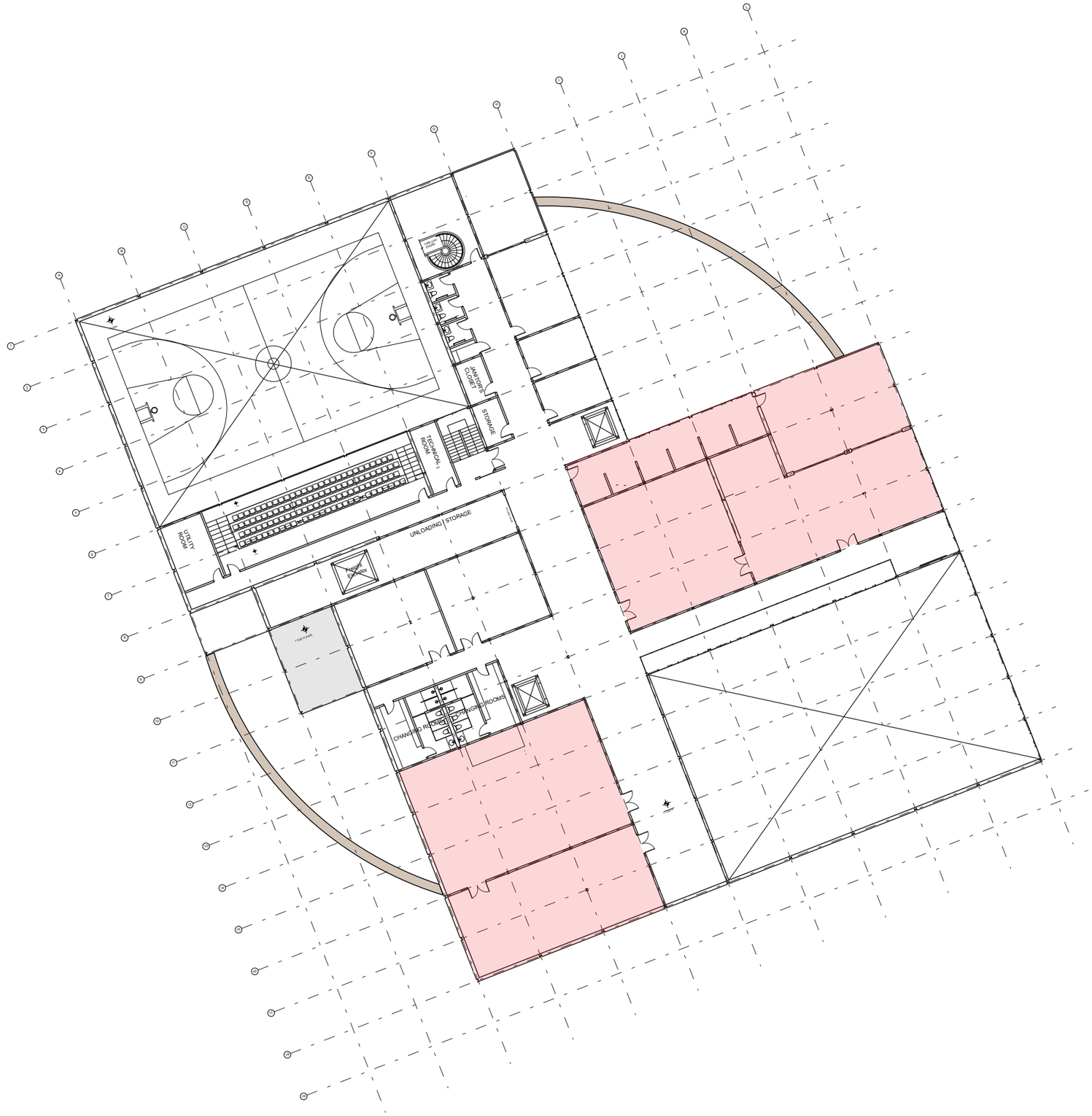
BASEMENT LEVEL -3 (-12.65m)



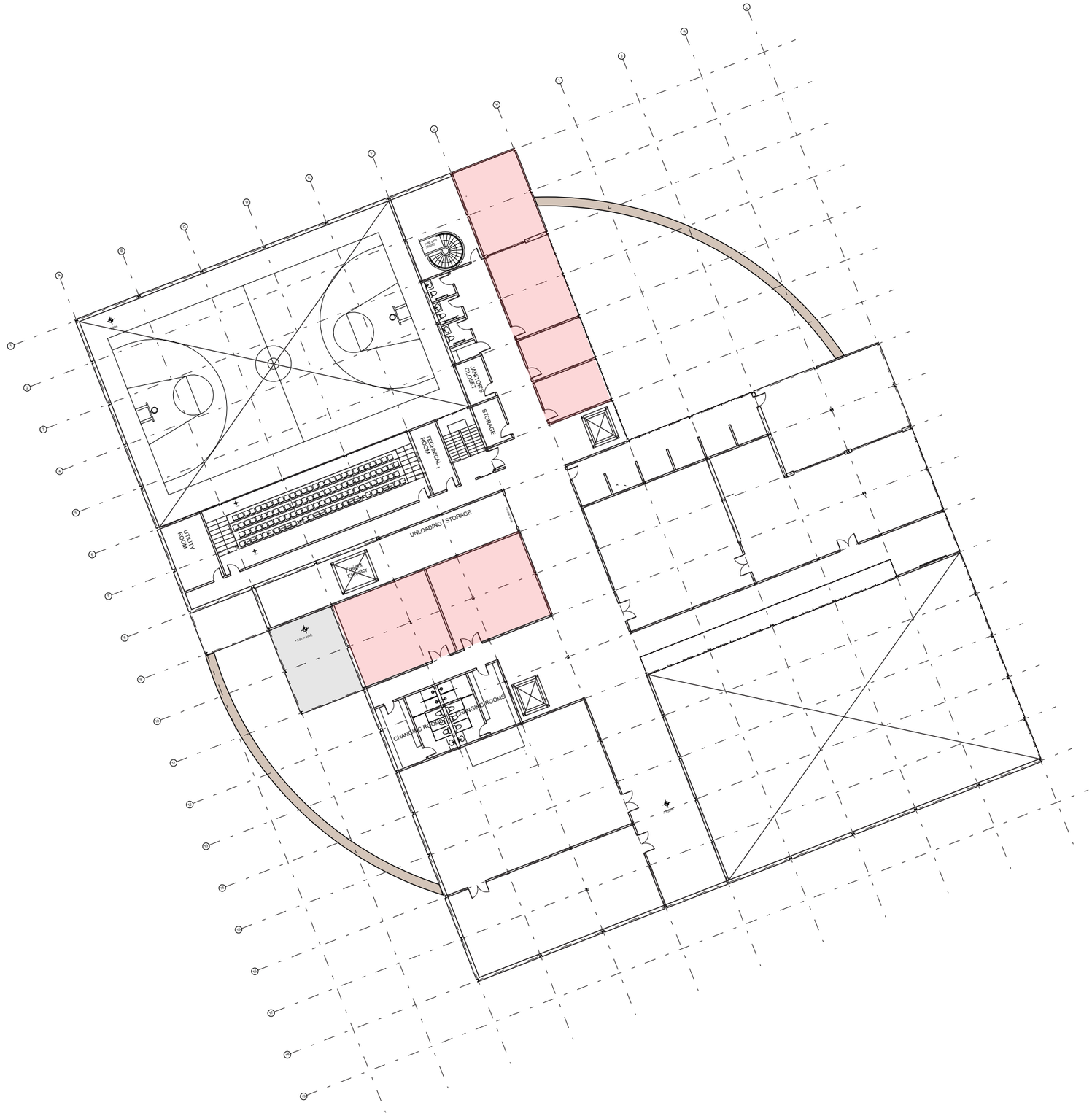
BASEMENT LEVEL -3 (-12.65m)



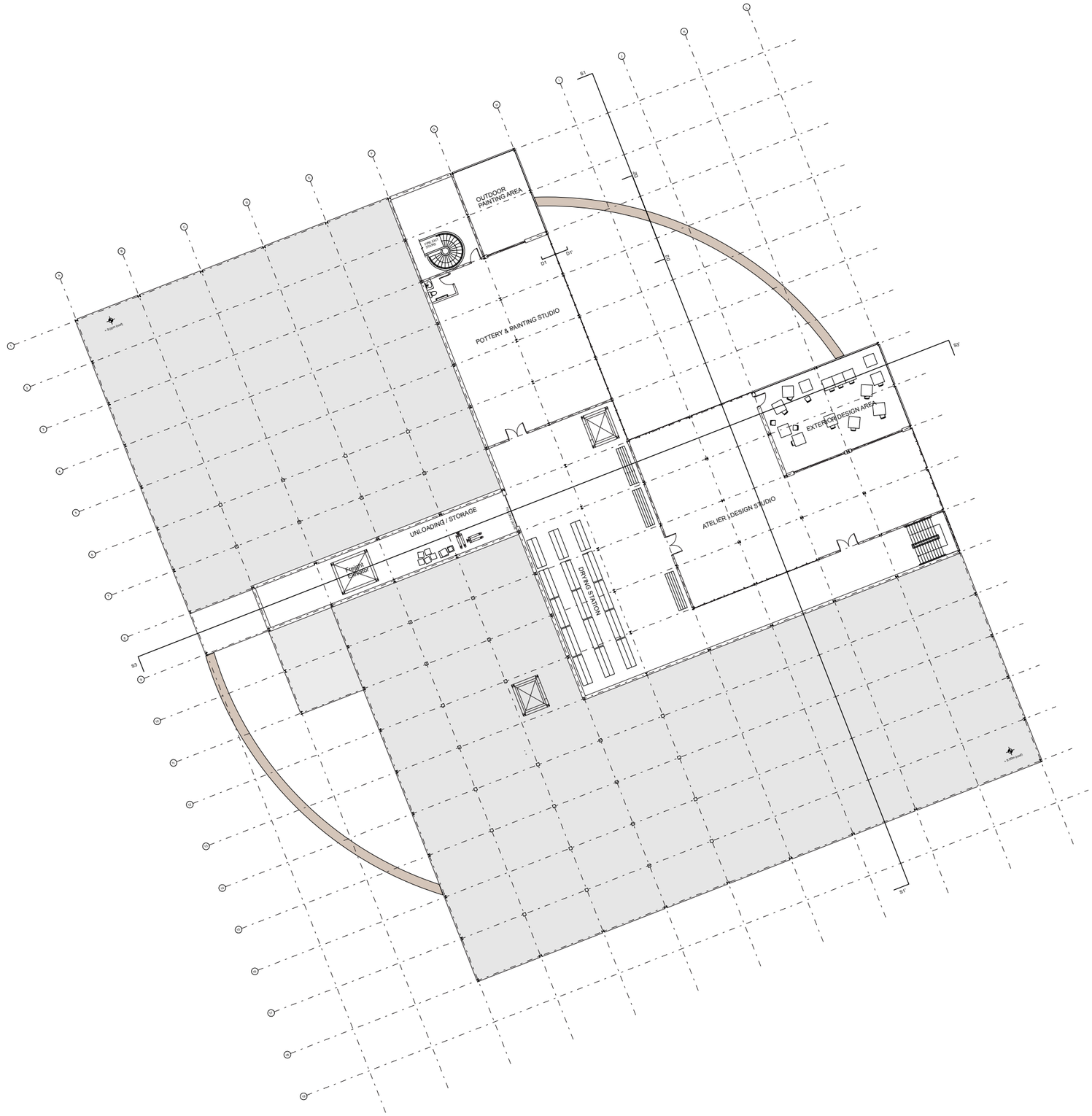
FIRST FLOOR (3.50m)



FIRST FLOOR (3.50m)

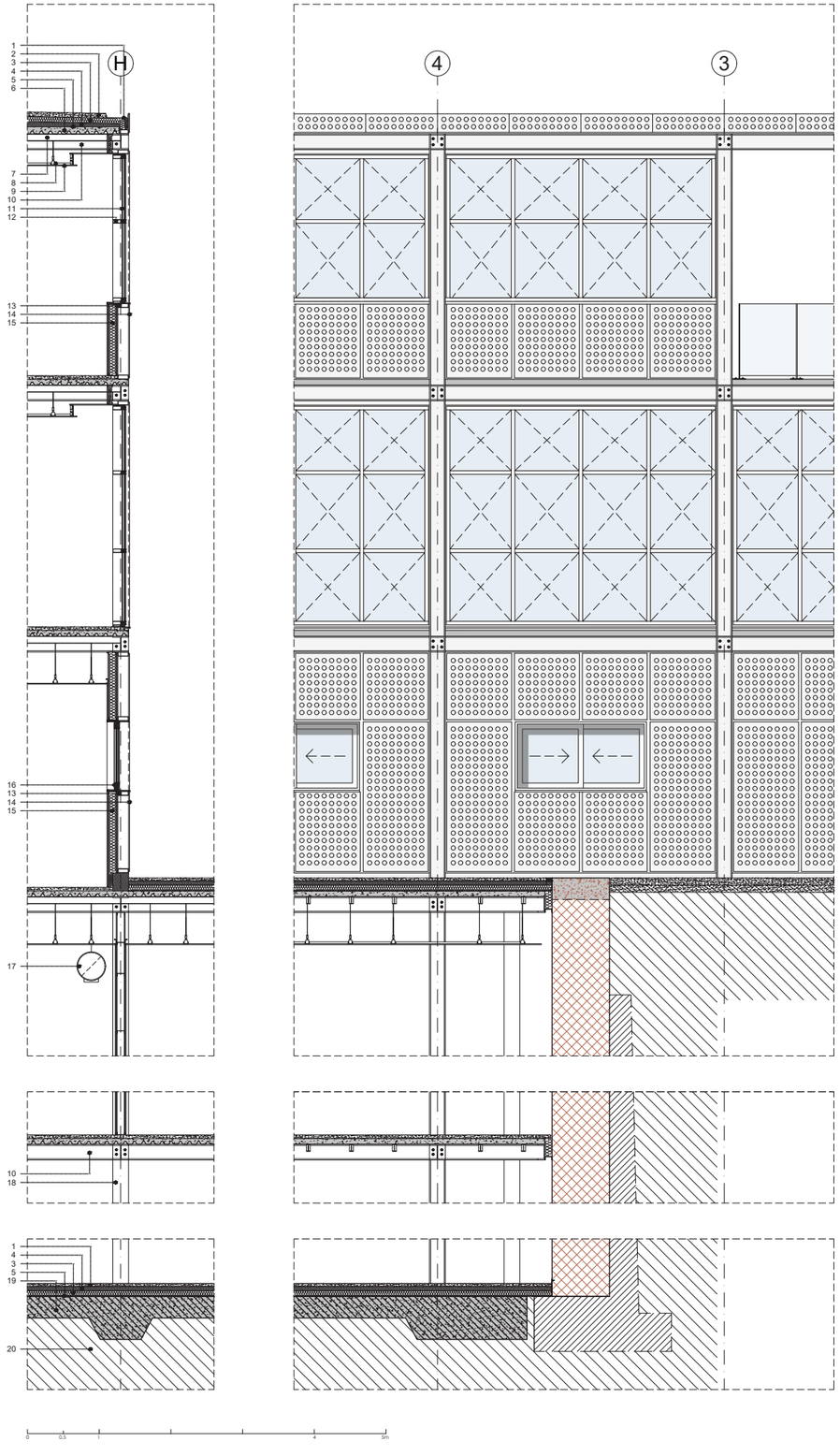


FIRST FLOOR (3.50m)



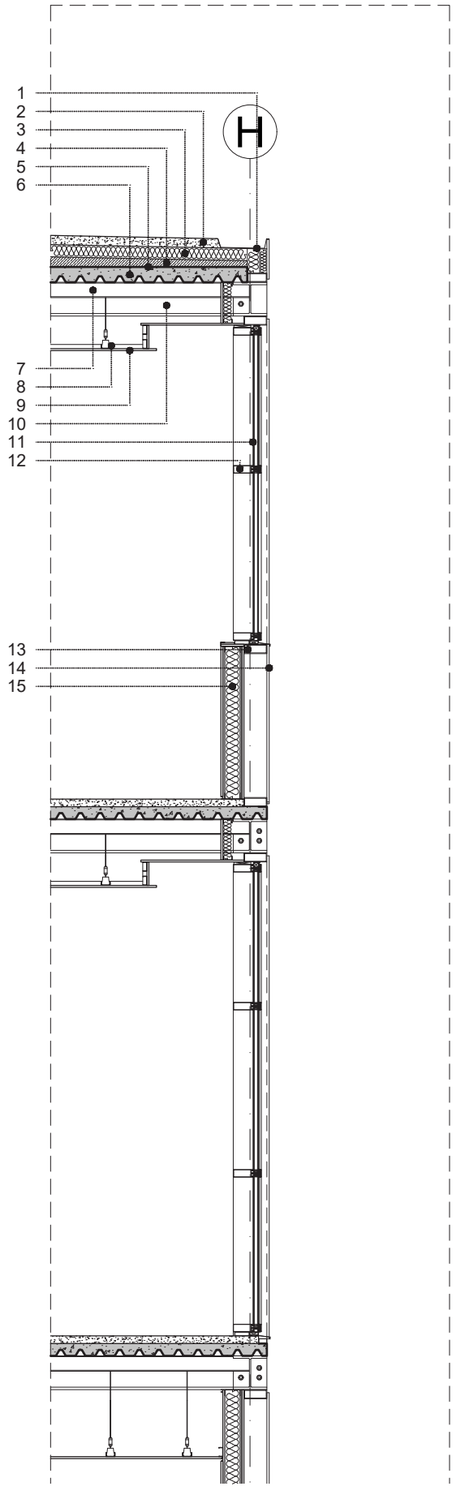
SECOND FLOOR (7.00m)

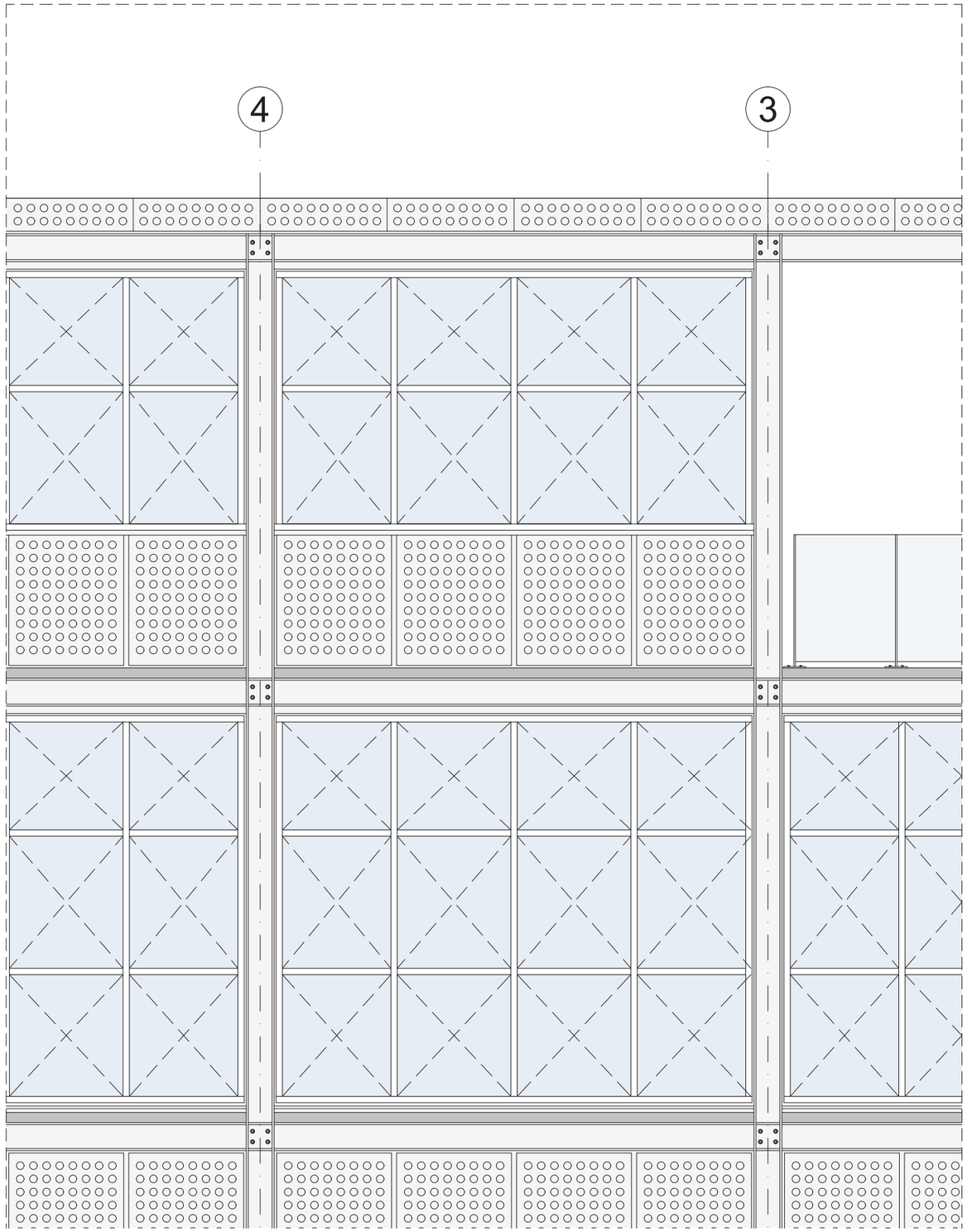
DESIGN FOR EXPANDABILITY AND DISASSEMBLY



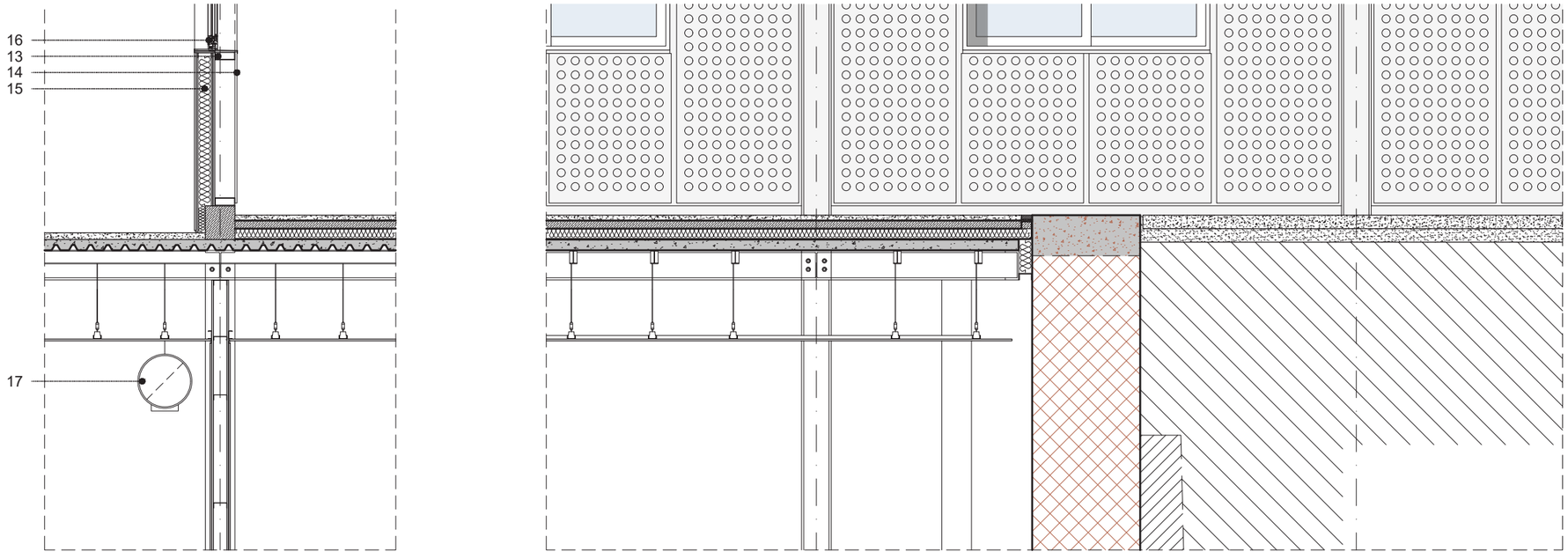
1. Metal profile drainage
2. Concrete topping Slab
3. Insulation 8cm
4. Foamed Concrete
5. DPM
6. Trapezoidal Concrete Slab
7. IPE 100 beam
8. Suspended ceiling
9. Plasterboard roof
10. HEB 220 beam
11. Glazing
12. Aluminium Curtain wall
13. Metallic skeleton 150x60x5 mm
14. Perforated metal sheet
15. Wall with double plasterboard and insulation 150mm
16. Sliding window
17. Air duct
18. HEB 220 column
19. Foundation platform - reinforced concrete
20. Ground

FACADE FRAGMENT



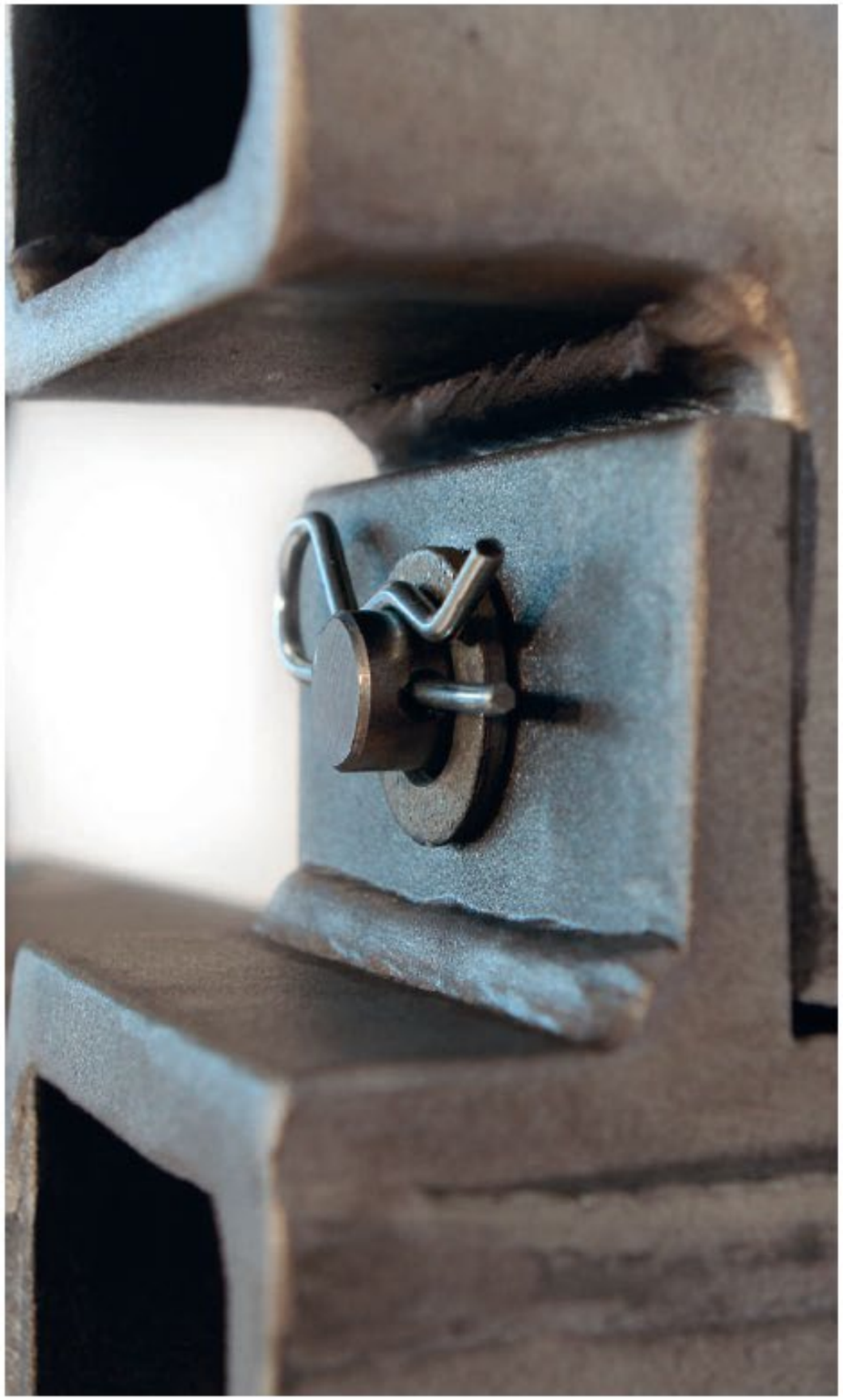


1. Metal profile drainage
2. Concrete topping Slab
3. Insulation 8cm
4. Foamed Concrete
5. DPM
6. Trapezoidal Concrete Slab
7. IPE 100 beam
8. Suspended ceiling
9. Plasterboard roof
10. HEB 220 beam
11. Glazing
12. Aluminium Curtain wall
13. Metallic skeleton 150x60x5 mm
14. Perforated metal sheet
15. Wall with double plasterboard and insulation 150mm
16. Sliding window
17. Air duct
18. HEB 220 column
19. Foundation platform - reinforced concrete
20. Ground



FRAGMENTED SECTION

0 0.5 1 4 5m



Steel prototype
— a new building element

Developed by Jimmi Jensen and Milad Ahmad Tokhi
School: VIA University College
Year: 2015

Goals and intentions
The prototype of a new steel building element has three primary objectives to achieve:

— High quality steel solutions that focus on design for disassembly and greater direct reuse solutions.

— A modular building system of high flexibility including standard columns and beams.

— Optimizing the construction and dismantling process by focusing on safety, ease of assembly and disassembly and thereby saving time.

Context
Buildings will be our future material banks and by using high quality steel structures that is flexible and highly reusable, this system will provide substantial economic advantages for stakeholders of the future.

Most use of steel today results in a constant downcycling of steel quality, therefore our aim is to make sure that continuous and repeated use of quality steel is maintained or even improved.

Photo: The steel protoype aims to focus on flexibility, ease of disassembly, as well as safety.

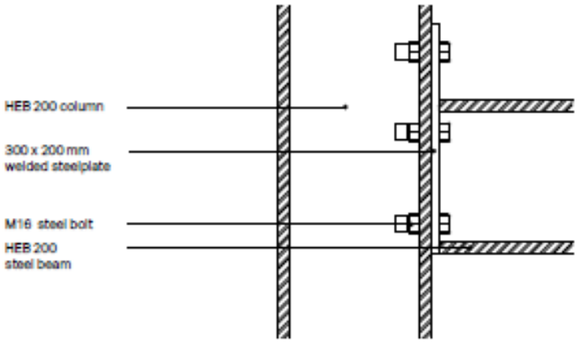
The modular steel building system provides short assembly times both in terms of mounting and in terms of dismantling. Dismantling and reuse 'as is' are the keywords instead of demolishing and remelting.

Construction
The connection is simple. The nut and bolt connection is replaced a mandrel with two splits and stabilizing washers. This makes for a quick and easy assembly and disassembly process — and very noteworthy — with no tools necessary.

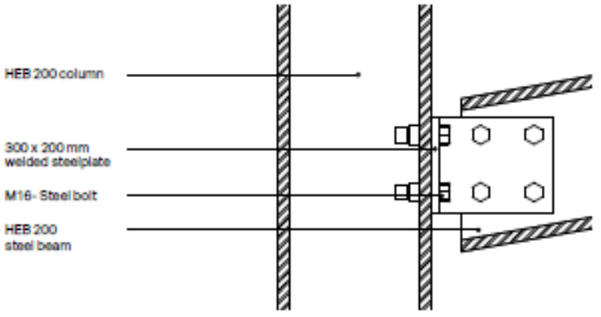
Photo: The disassembly method is optimized for a very quick and simple action. The connections are joined by a mandrel with two splits and stabilizing washers, which can be undone to take apart the pieces.

Challenges

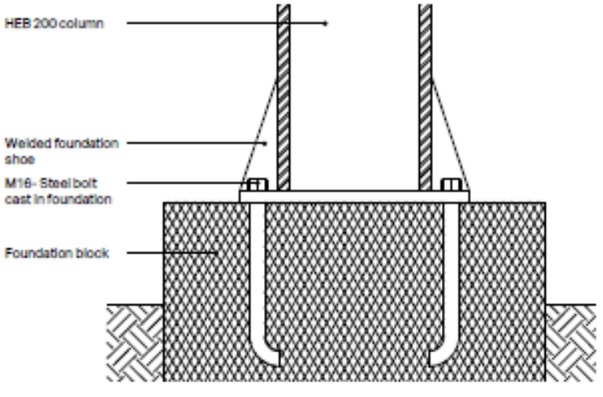
Detail 1: Vertical view of traditional column — beam assembly.



Detail 2: Vertical view of traditional angular column — beam assembly.

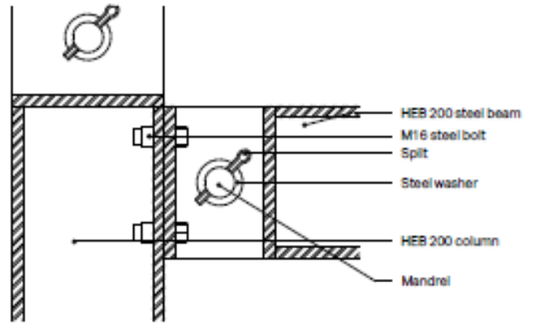


Detail 3: Vertical view of traditional column — foundation assembly.

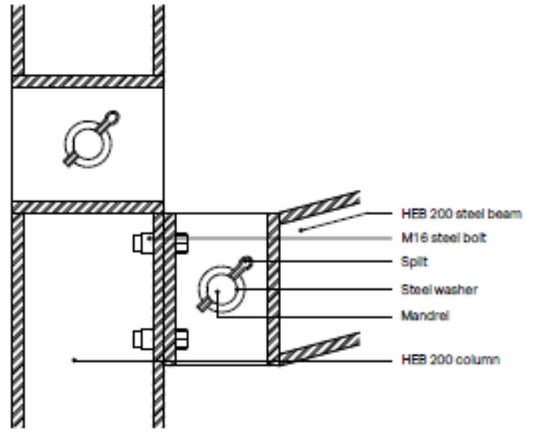


Solutions

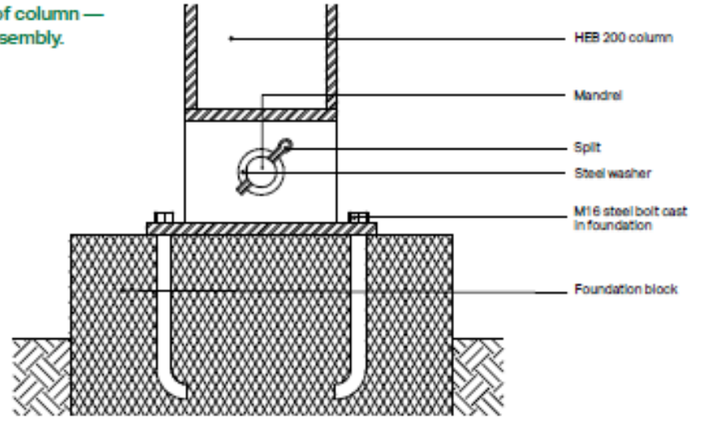
Detail 1: Vertical view of column — beam mandrel assembly.

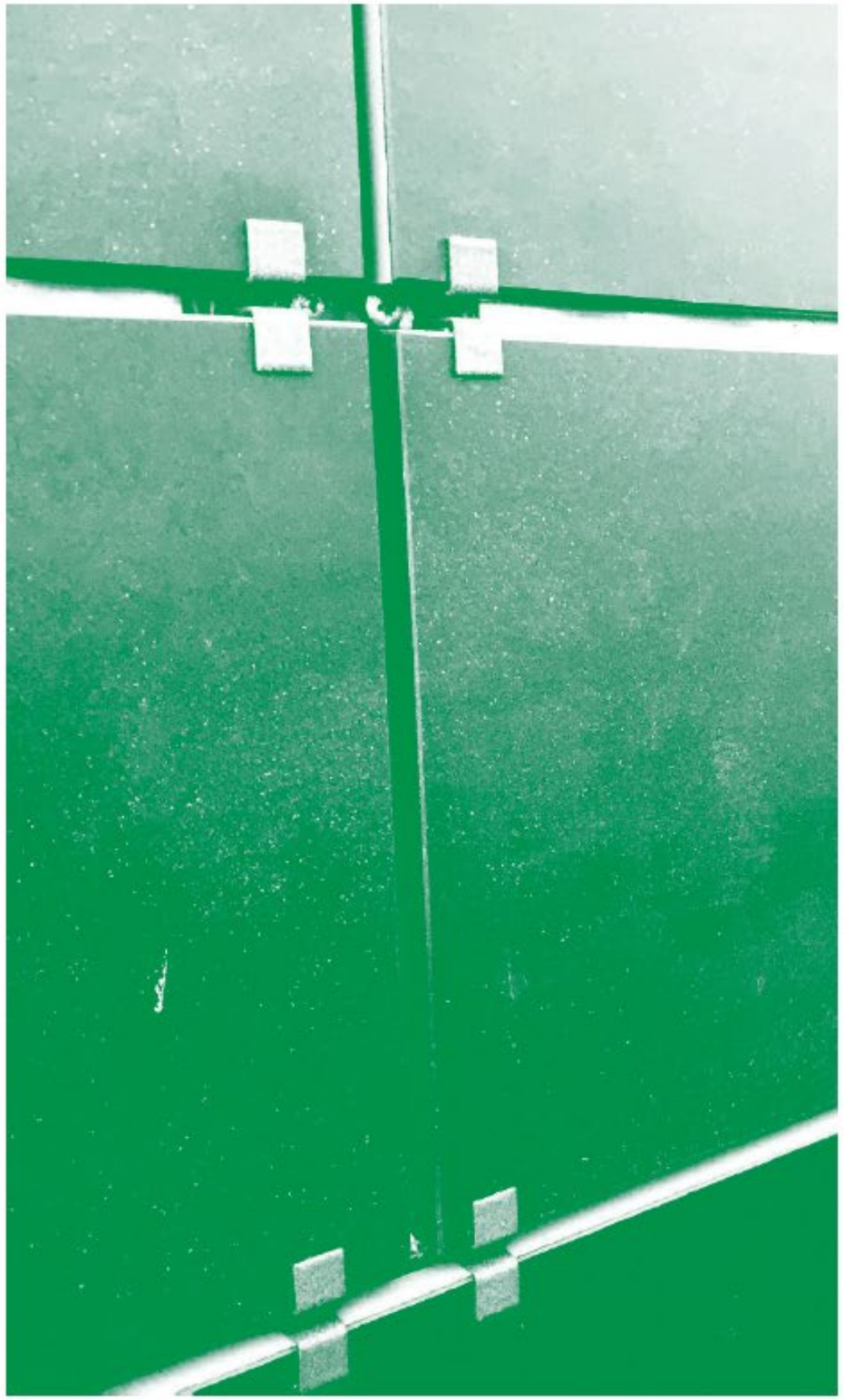


Detail 2: Vertical view of angular beam — column mandrel assembly.



Detail 3: Vertical view of column — foundation mandrel assembly.





Mosa Facade Systems
— existing products

The Dutch ceramic company Mosa already offers a façade solution designed for disassembly. It is a lightweight ventilated façade system with ceramic tiles mounted with mechanical fasteners, that comes either with visible or concealed fixations.

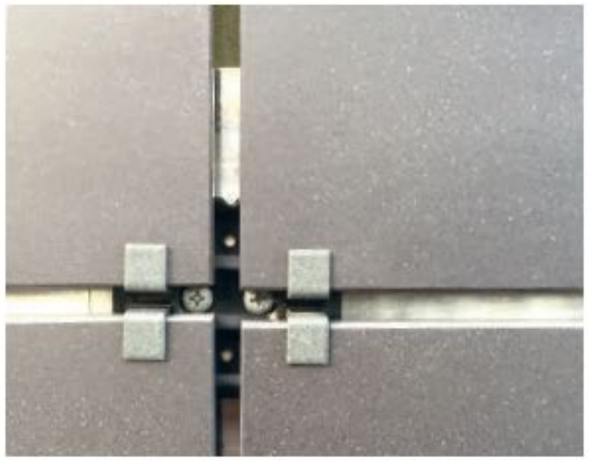
The tiles in the first solution are attached to a vertical aluminium profile on the underlying frame using a double clamp system. The clamps remain visible and are integrated into the facade as a part the architectural design.

In the second solution, the tiles are mounted on horizontally and vertically fitted aluminium profiles. Using an undercut drill in the rear of the tile and the anchor is fixed in this using a steel plug.

The mechanical fasteners secures the tiles can easily be attached and later detached to optimize renovation, deconstruction and reuse. All the tiles from Mosa is Cradle to Cradle [24] Certified™ which guarantees the material can be reused to high degree and fits into a circular building ecosystem. [25]

The detail shown is from the facade on Green Solution House (see more about the project on page 194 to 197).

24 Cradle to Cradle® is a registered trademark of MBDC, LLC **25** mosa.nl



The tiles from Mosa are easy to reuse and renovate due to its double clamp system and mechanical fasteners.

All photos © GXN

CIRCULATION

PUMPING STATION
(in use)

STORAGE

JOKE BAR

MAIN ENTRANCE

FOYER

TECHNICAL ROOM

CHANGING ROOMS

INFIRMARY

OFFICE

LOGISTICS / STORAGE

LOADING AREA

CAR LIFT-ENTRANCE

PARKING BOOTH

FLEXIBLE AUDITORIUM

EXHIBITION WALL

STAFF ROOM

RECEPTION
INFORMATION COUNTER

WAITING ROOM

PHYSICAL THERAPY

MOTOR DEVELOPMENT

COAT AREA

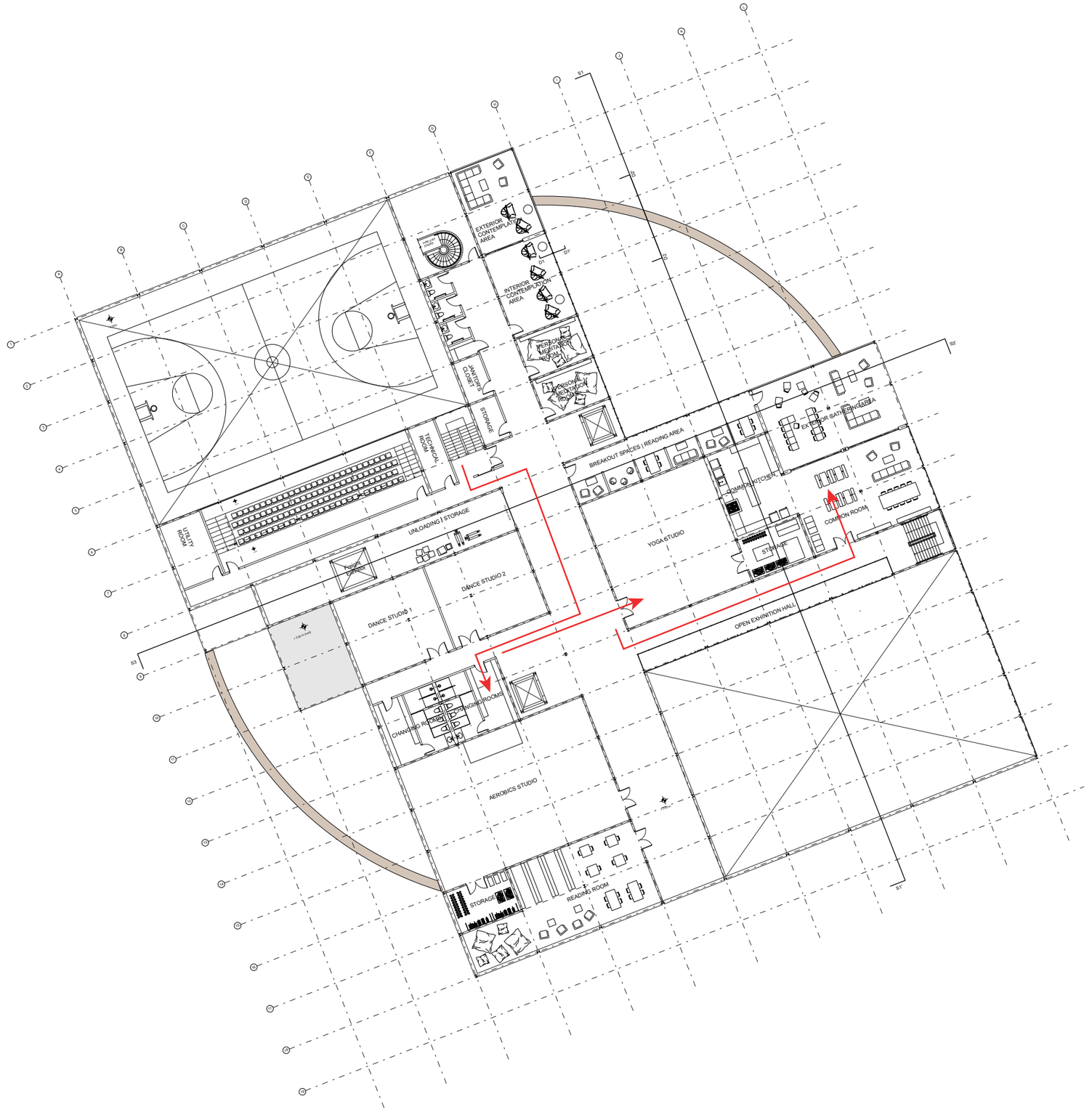
INFORMATION DESK

SHOWCASING AREA

HANDICAP FREIGHT ELEVATOR

GROUND FLOOR
scale 1:200

WELLNESS SCENARIO (YOGA STUDIO)



FIRST FLOOR
scale 1:200

WELLNESS SCENARIO (YOGA STUDIO)

PUMPING STATION
(in use)

STORAGE

JOKE BAR

MAIN ENTRANCE

FOYER

TECHNICAL ROOM

CHANGING ROOMS

INFIRMARY

OFFICE

LOGISTICS / STORAGE

LOADING AREA

CAR LIFT-ENTRANCE

PARKING BOOTH

CHANGING ROOMS

OFFICE

STAFF ROOM

RECEPTION
INFORMATION COUNTER

WAITING ROOM

PHYSICAL THERAPY

MOTOR DEVELOPMENT

FLEXIBLE AUDITORIUM

EXHIBITION WALL

COAT AREA

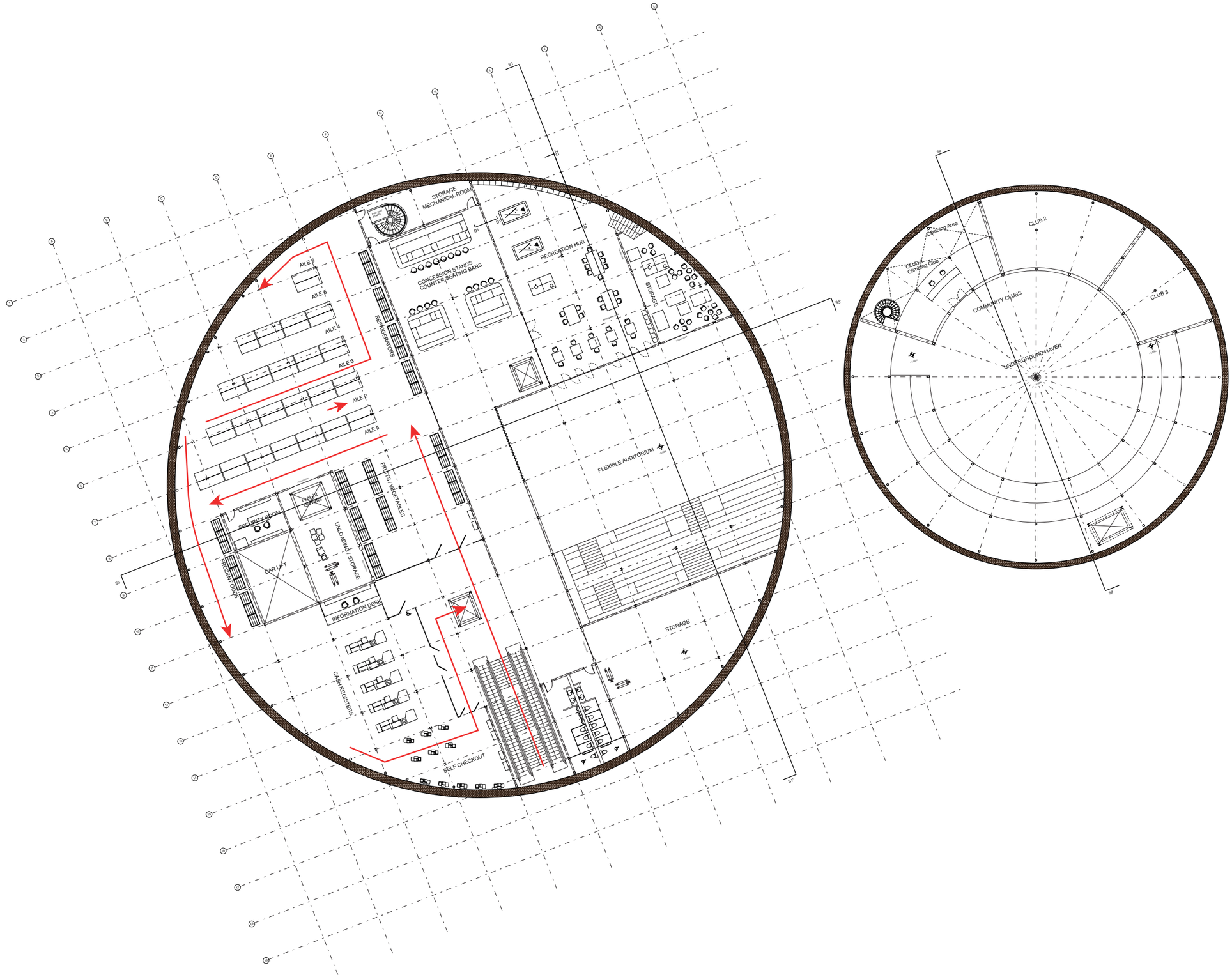
INFORMATION DESK

SHOWCASING AREA

PUBLIC & FREIGHT ELEVATOR

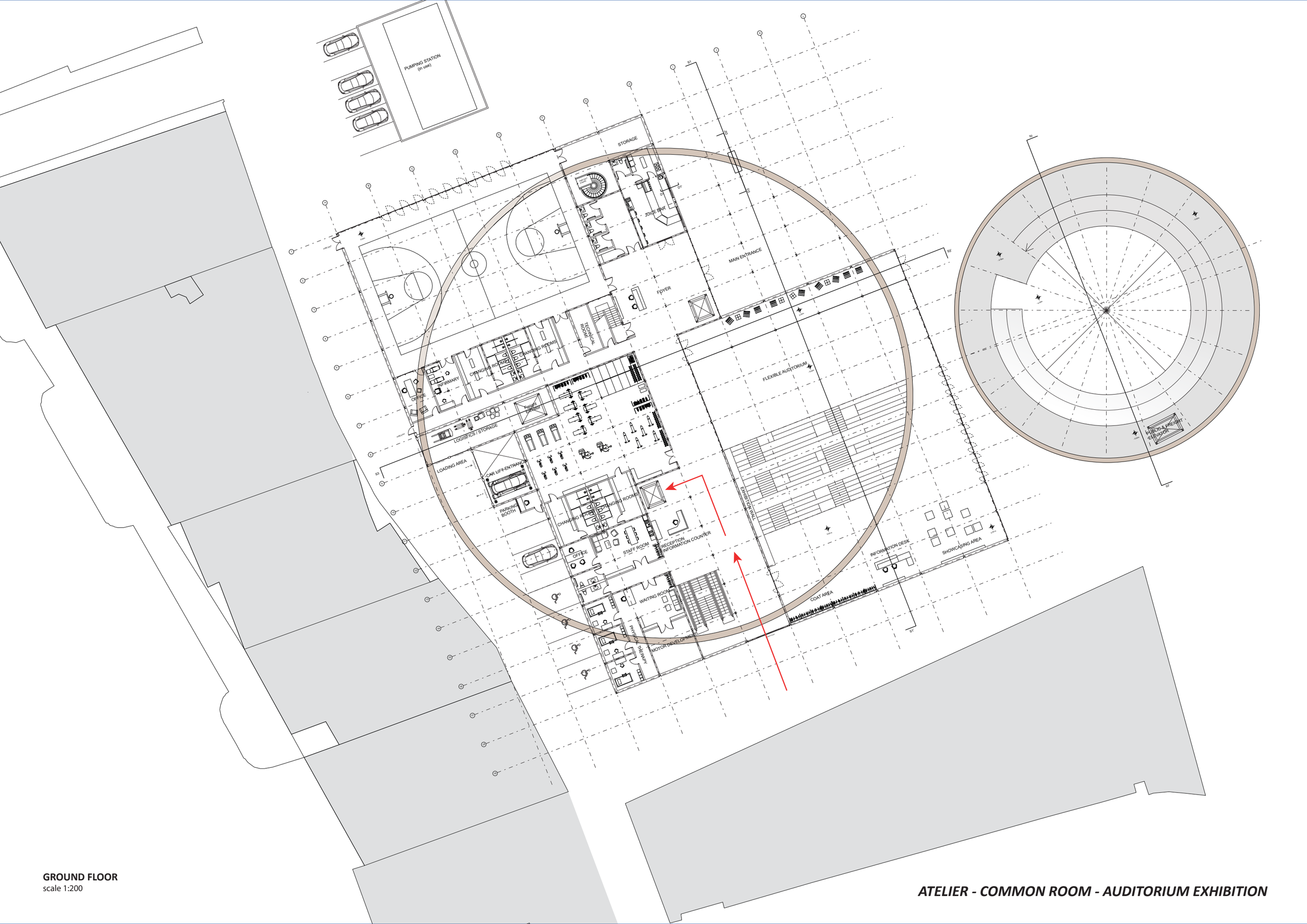
GROUND FLOOR
scale 1:200

SUPERMARKET SCENARIO



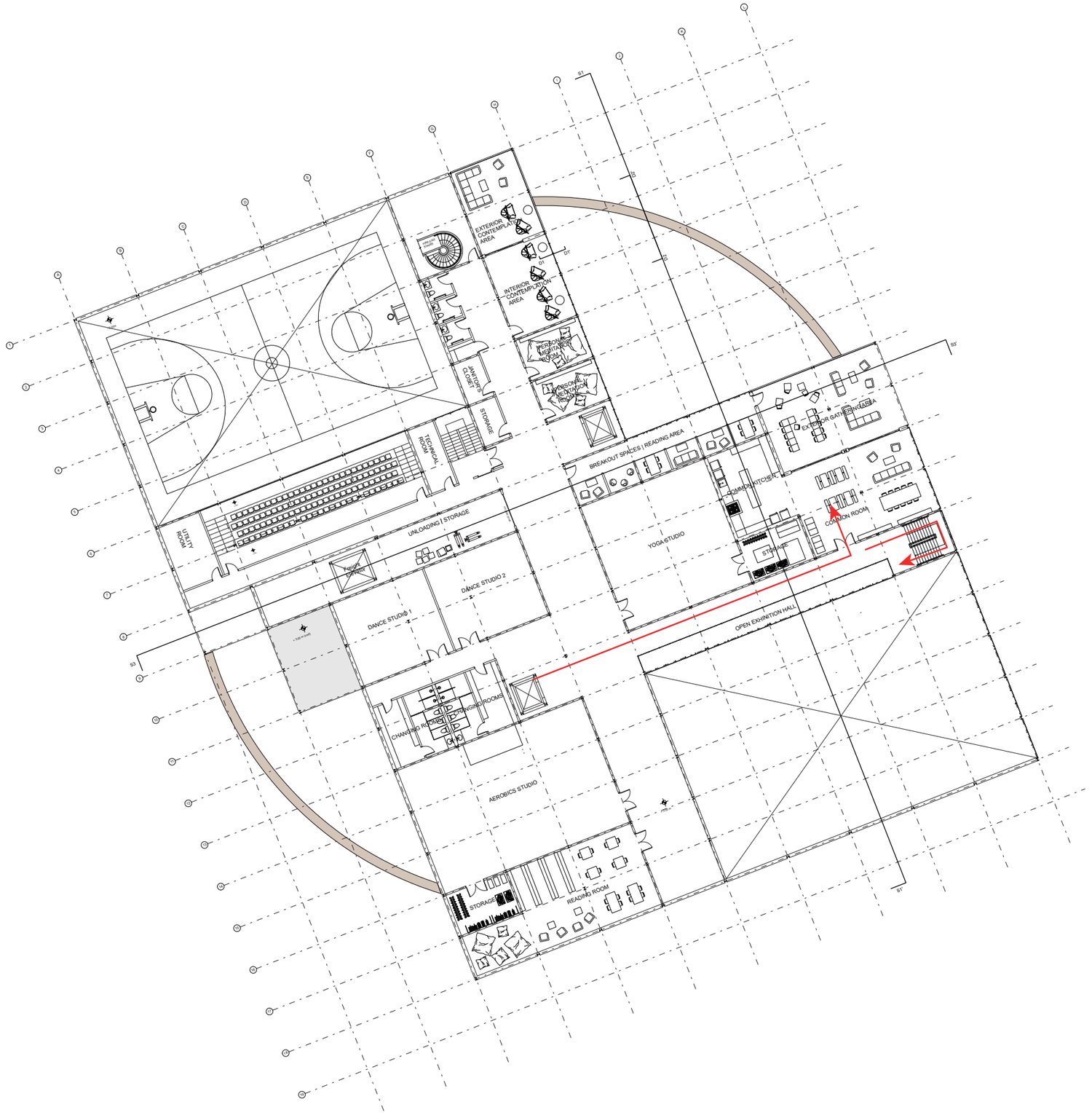
BASEMENT LEVEL -1
scale 1:200

SUPERMARKET SCENARIO



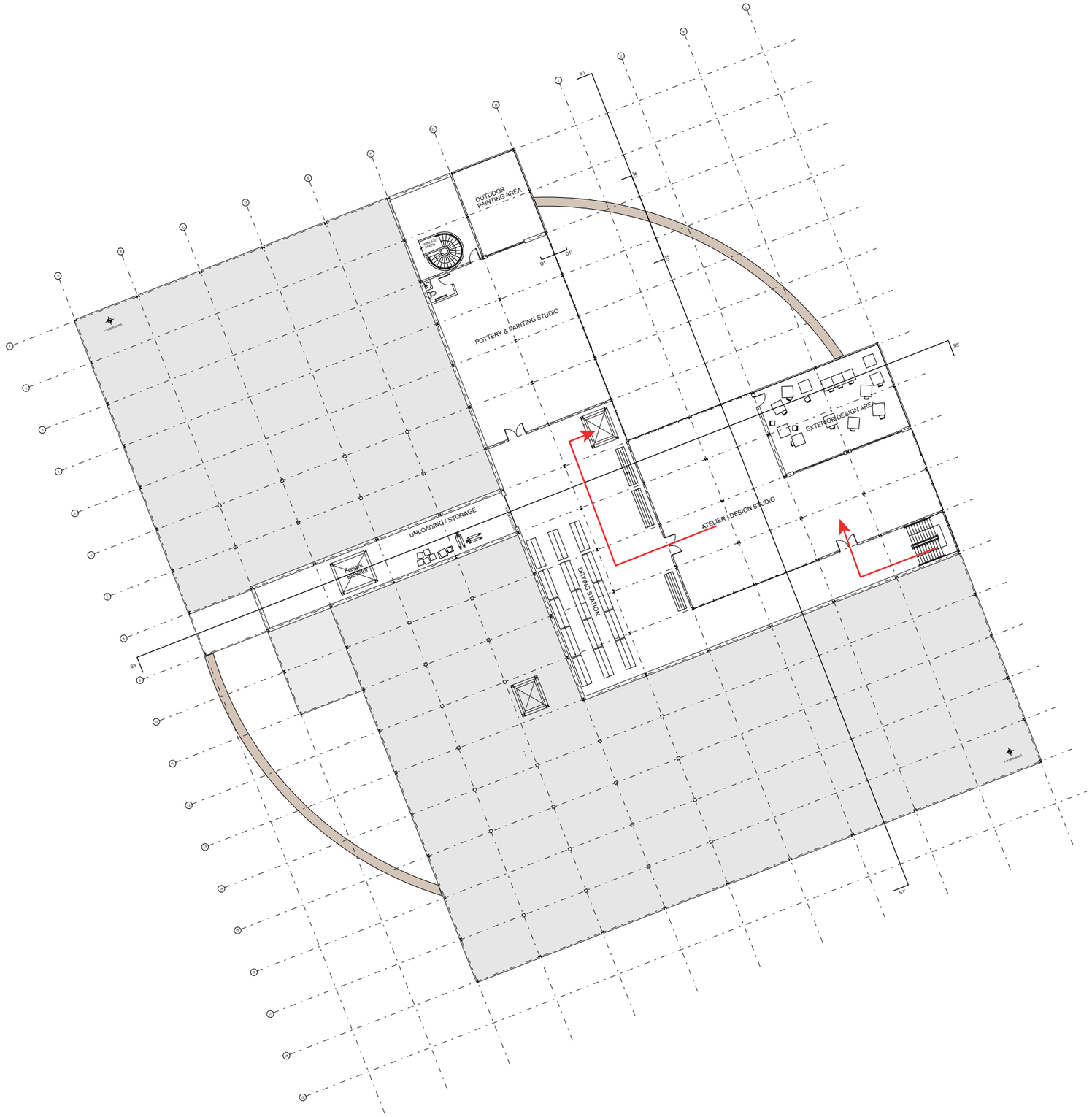
GROUND FLOOR
scale 1:200

ATELIER - COMMON ROOM - AUDITORIUM EXHIBITION



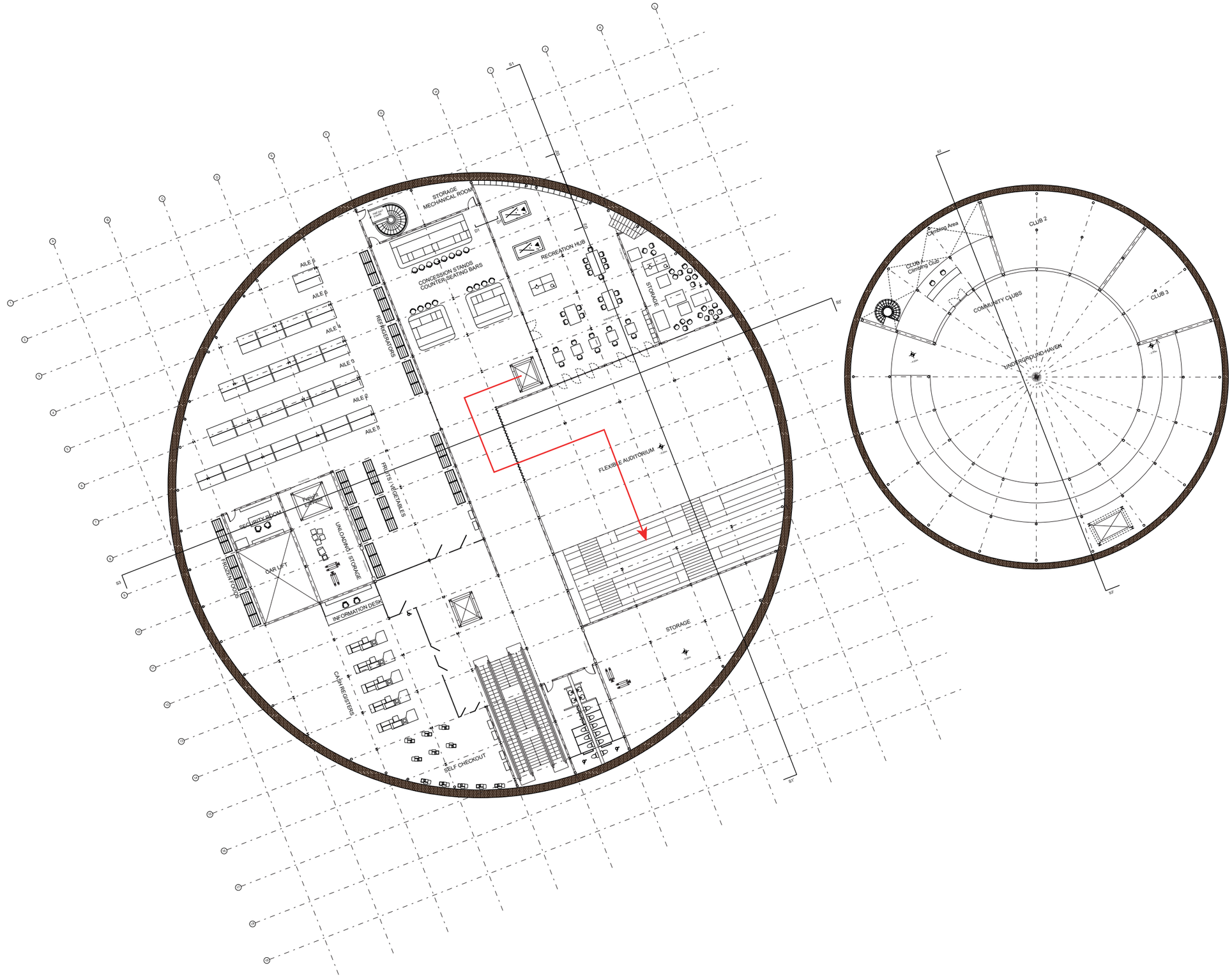
FIRST FLOOR
scale 1:200

ATELIER - COMMON ROOM - AUDITORIUM EXHIBITION



SECOND FLOOR
scale 1:200

ATELIER - COMMON ROOM - AUDITORIUM EXHIBITION



BASEMENT LEVEL -1
scale 1:200

ATELIER - COMMON ROOM - AUDITORIUM EXHIBITION

PUMPING STATION
(in use)

STORAGE

JOKE BAR

MAIN ENTRANCE

FOYER

TECHNICAL ROOM

CHANGING ROOMS

CHANGING ROOMS

INFIRMARY

OFFICE

FLEXIBLE AUDITORIUM

LOGISTICS / STORAGE

LOADING AREA

CAR LIFT-ENTRANCE

PARKING BOOTH

CHANGING ROOMS

CHANGING ROOMS

OFFICE

STAFF ROOM

RECEPTION
INFORMATION COUNTER

EXHIBITION WALL

INFORMATION DESK

SHOWCASING AREA

WAITING ROOM

COAT AREA

PHYSICAL THERAPY

MOTOR DEVELOPMENT

BLOCK-4 FREIGHT ELEVATOR

GROUND FLOOR
scale 1:200

ATELIER - COMMON ROOM - AUDITORIUM EXHIBITION

PUMPING STATION
(in use)

STORAGE

ZONE BAR

MAIN ENTRANCE

FOYER

TECHNICAL ROOM

CHANGING ROOMS

CHANGING ROOMS

INFIRMARY

OFFICE

LOGISTICS / STORAGE

LOADING AREA

CAR LIFT-ENTRANCE

PARKING BOOTH

CHANGING ROOMS

CHANGING ROOMS

OFFICE

STAFF ROOM

RECEPTION
INFORMATION COUNTER

WAITING ROOM

PHYSICAL THERAPY

MOTOR DEVELOPMENT

FLEXIBLE AUDITORIUM

EXHIBITION WALL

COAT AREA

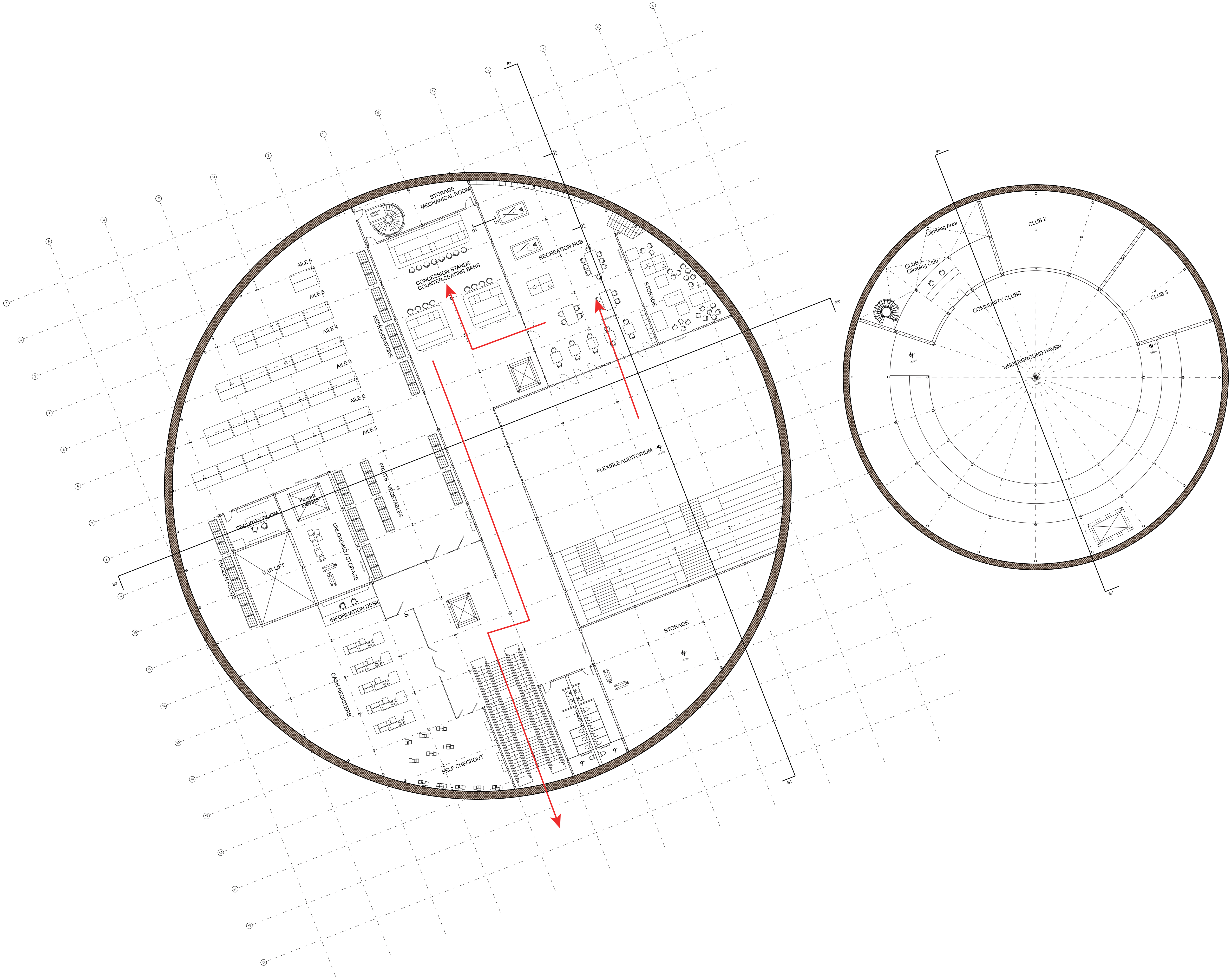
INFORMATION DESK

SHOWCASING AREA

PUBLIC & FREIGHT ELEVATOR

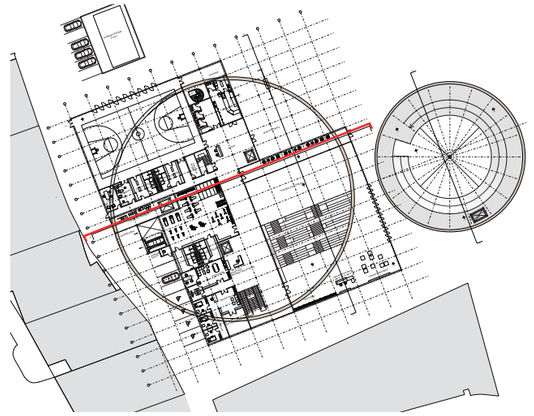
GROUND FLOOR
scale 1:200

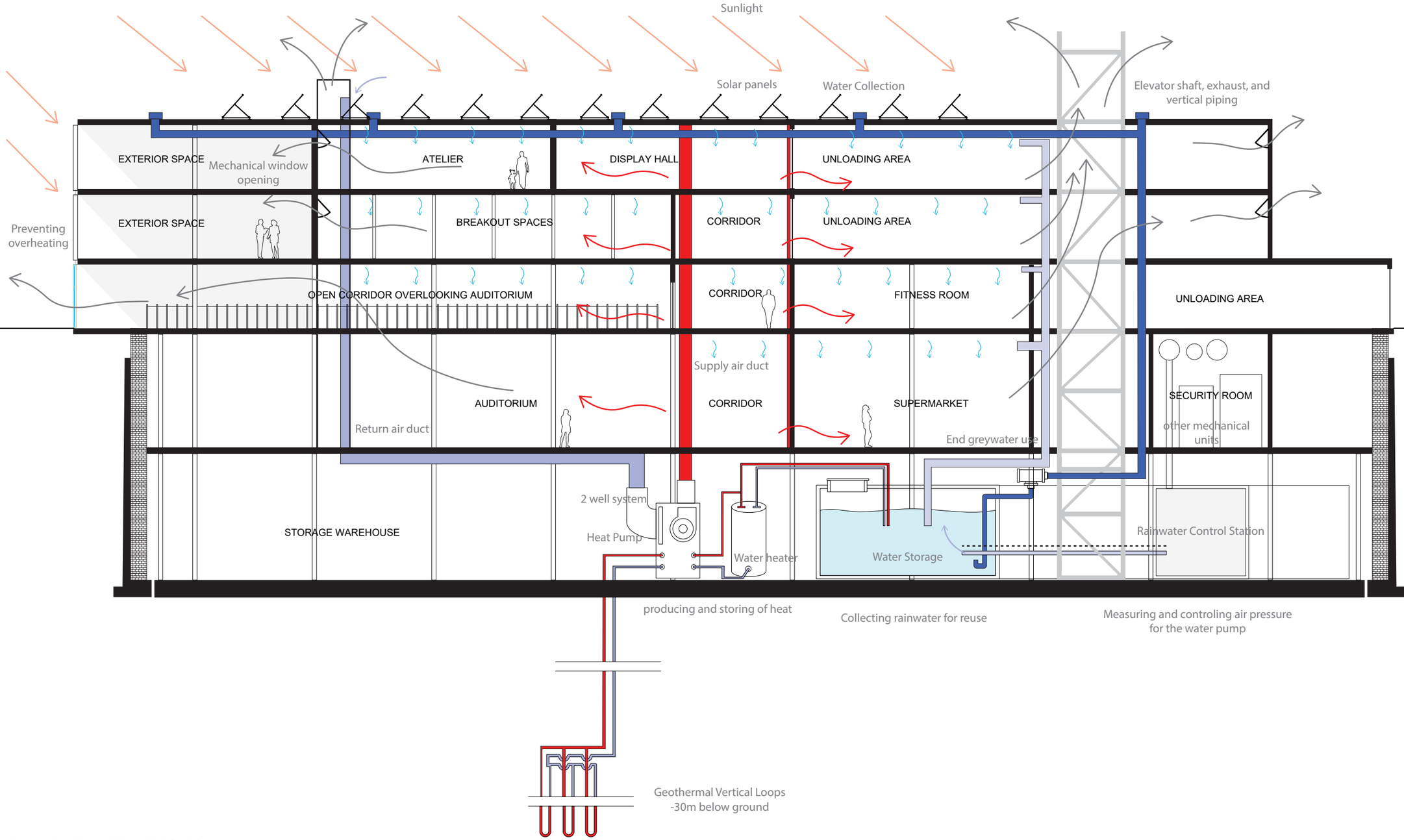
AUDITORIUM - RECREATIONAL HUB SCENARIO



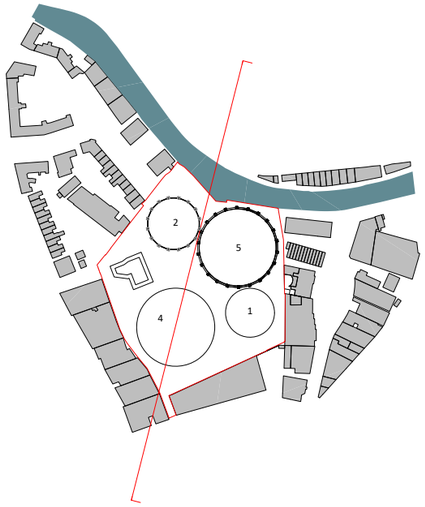
BASEMENT LEVEL -1
scale 1:200

ATELIER - [illegible]





ENVIRONMENTAL STRATEGIES



OVAL SPACE

ROYAL MAIL
DELIVARY OFFICE

8 PRITCHARD'S ROAD

GASHOLDER NO. 5

GASHOLDER NO. 4

ANDREWS ROAD

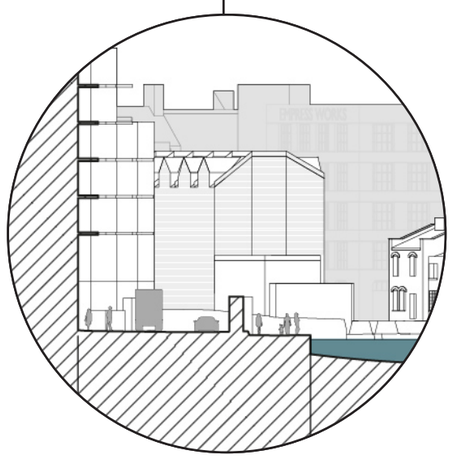
REGENT'S CANAL

SITE BOUNDARY

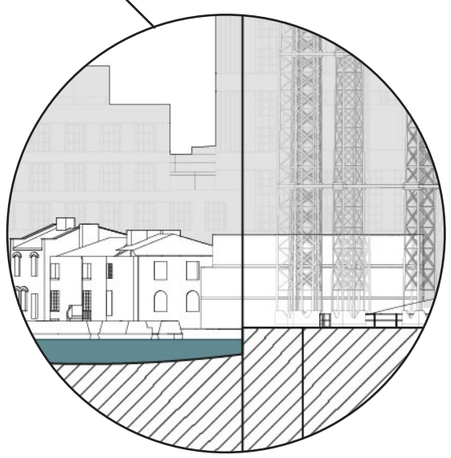
EMMA STREET

HACKNEY ROAD

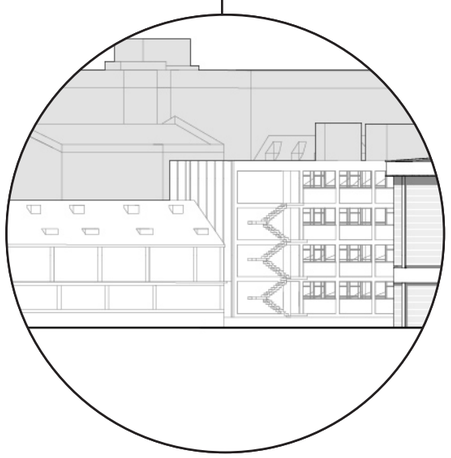
0 5 10 20 50



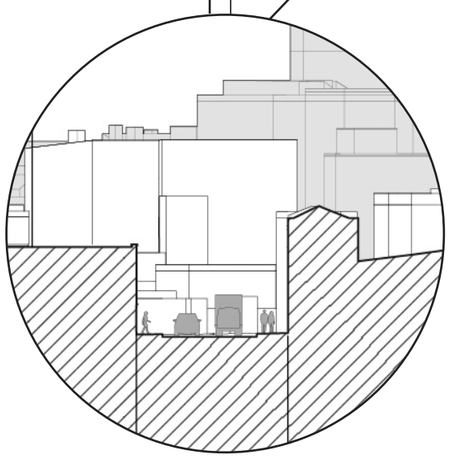
WALK ALONG THE REGENT'S
CANAL NORTH TOWPATH



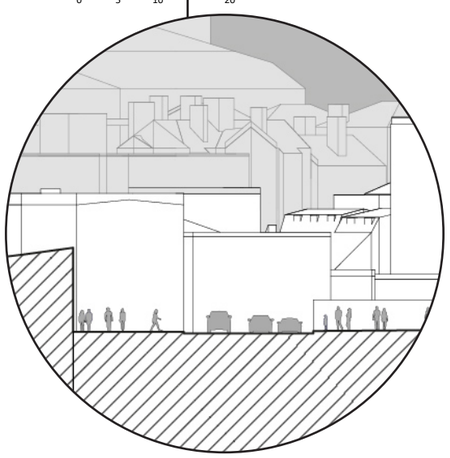
INACCESSIBLE TOWPATH
SOUTH OF REGENT'S CANAL



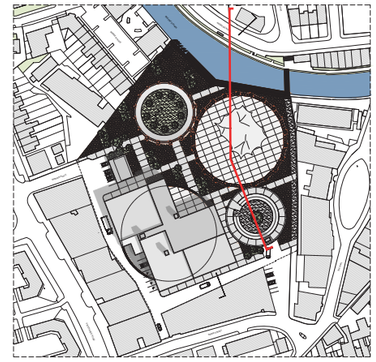
EXCAVATED GH NO. 4
VACANT SPACE, EMPTY SITE

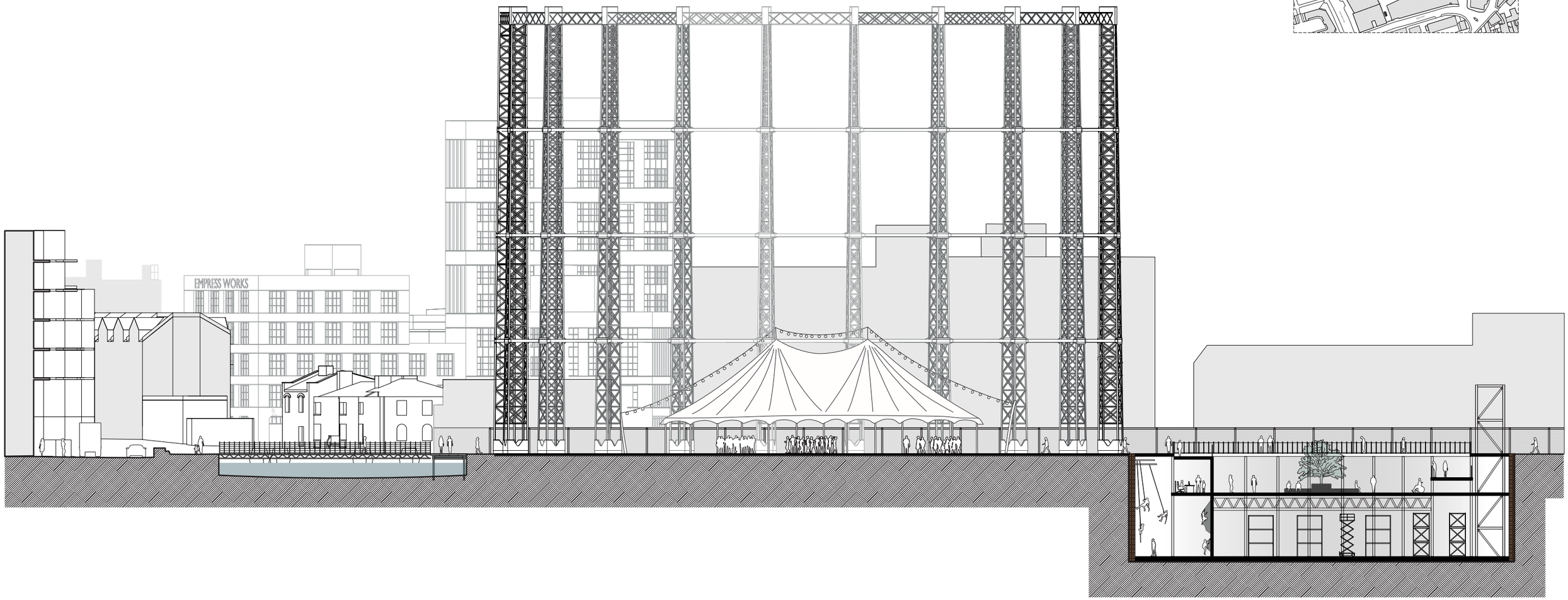


BUSY NEIGHBOURING STREETS

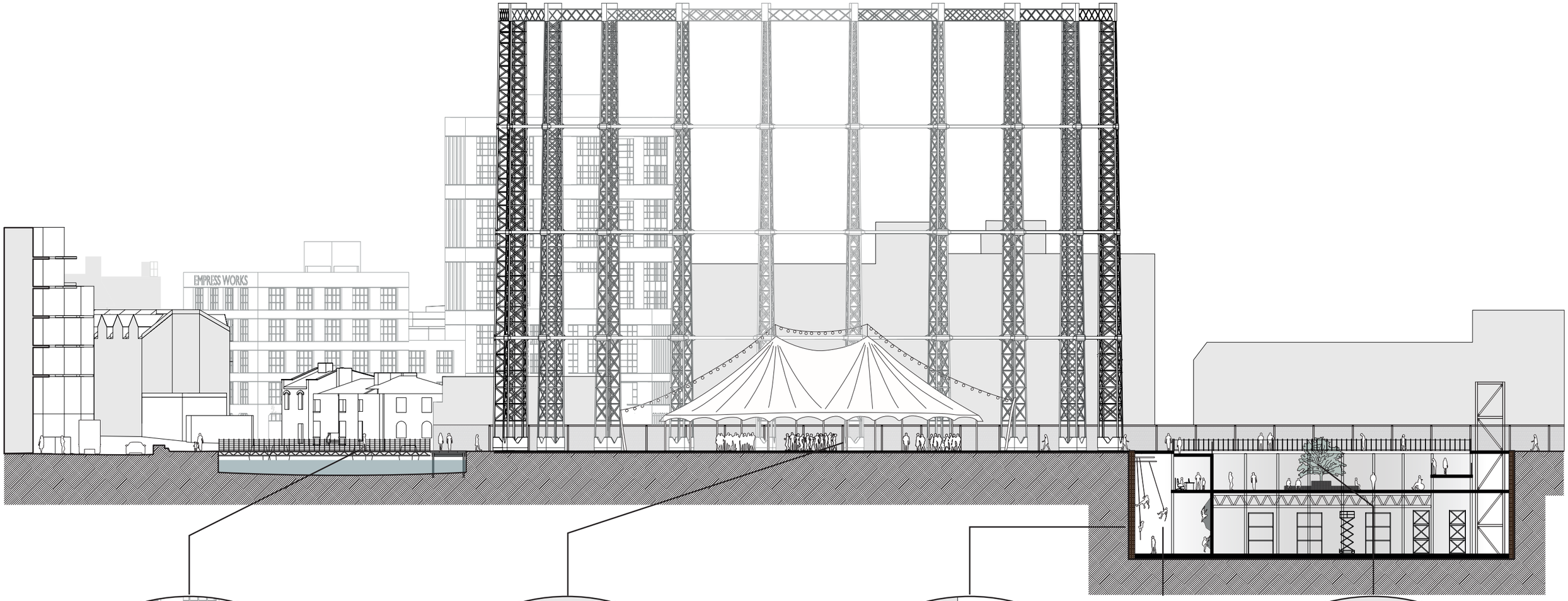


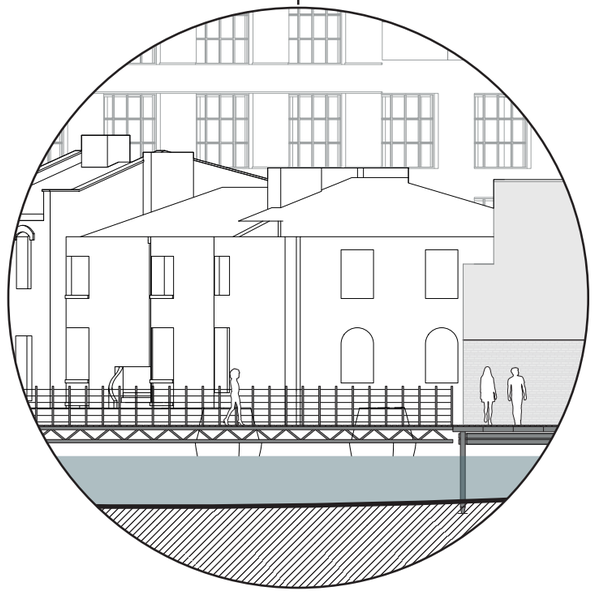
BUSY NEIGHBOURING STREETS



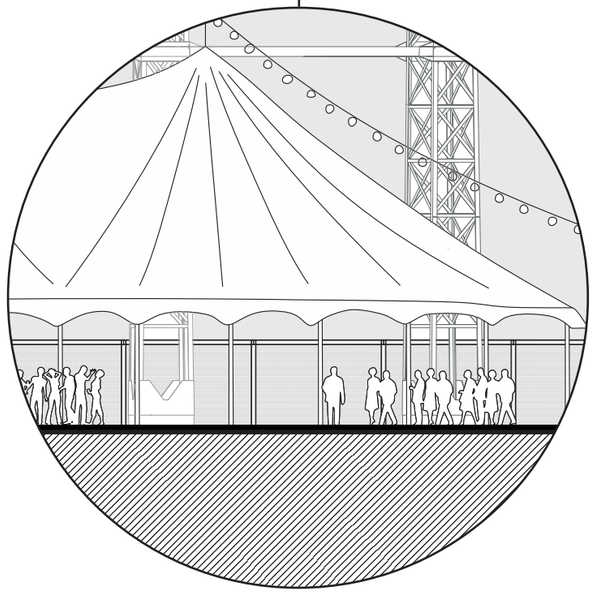


SECTION S2-S2'

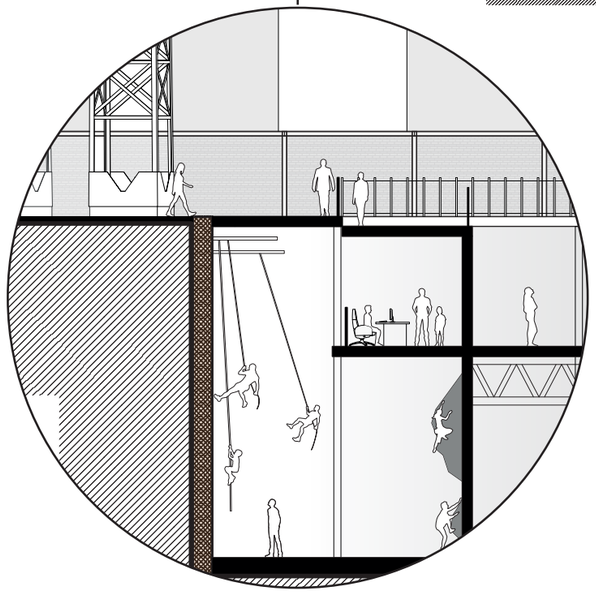




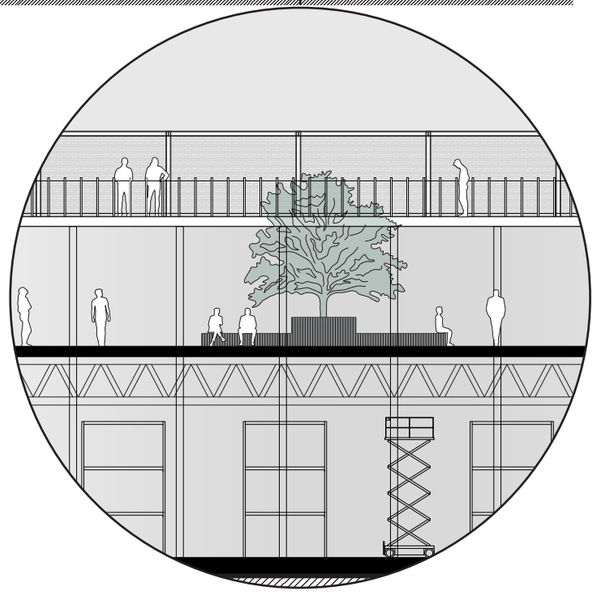
PEDESTRIAN BRIDGE
CONNECTING HACKNEY WITH
TOWER HAMLETS BOROUGH



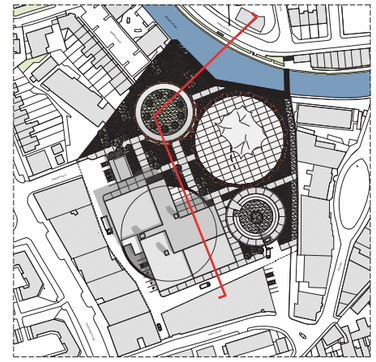
GASHOLDER NO. 5 USED AS
EVENT VENUE

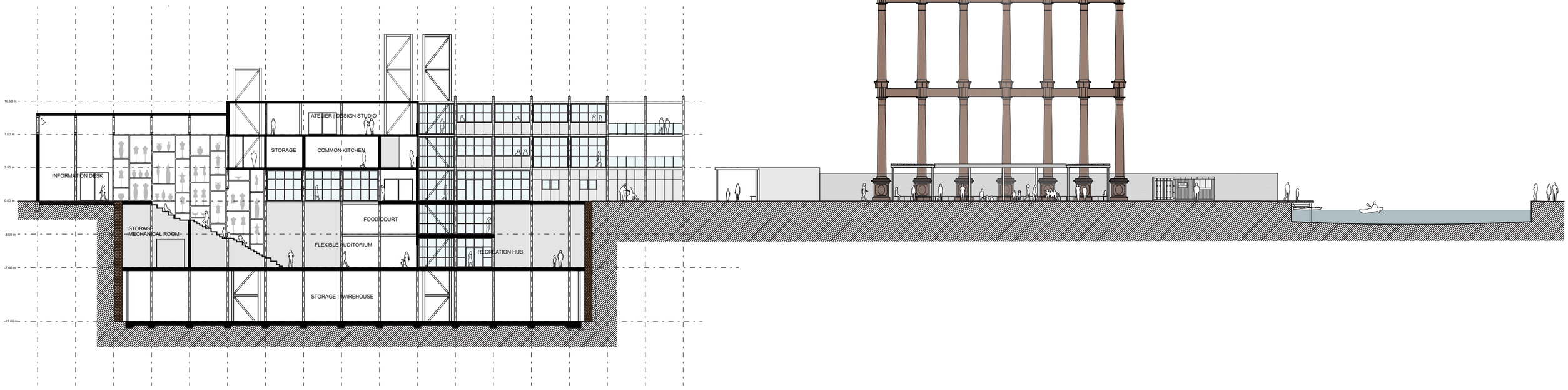


GASHOLDER NO. 1 TANK
COMMUNITY ASSOCIATION
SPACE. CLOMBING/BOULDERING
PROGRAMME

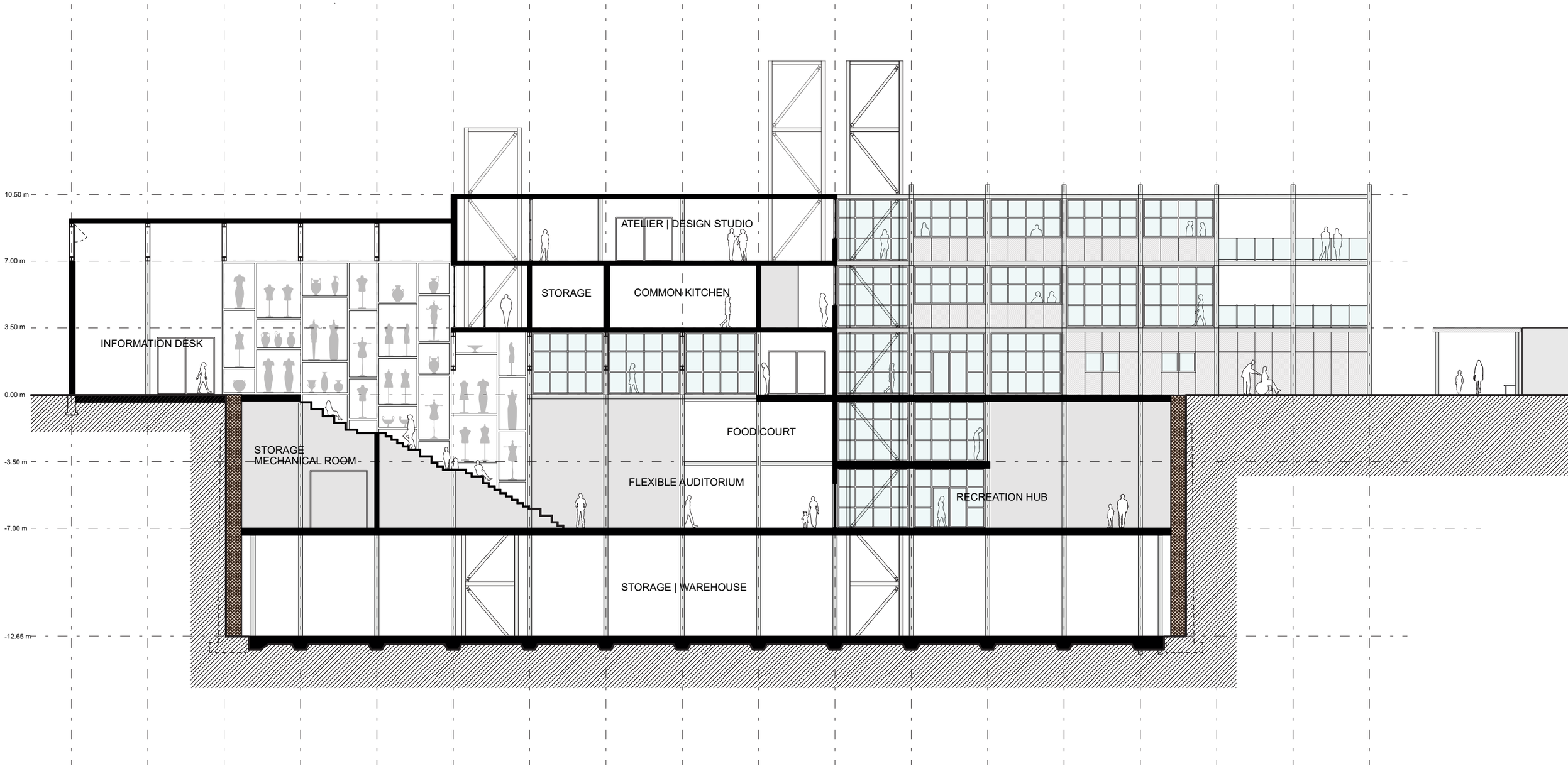


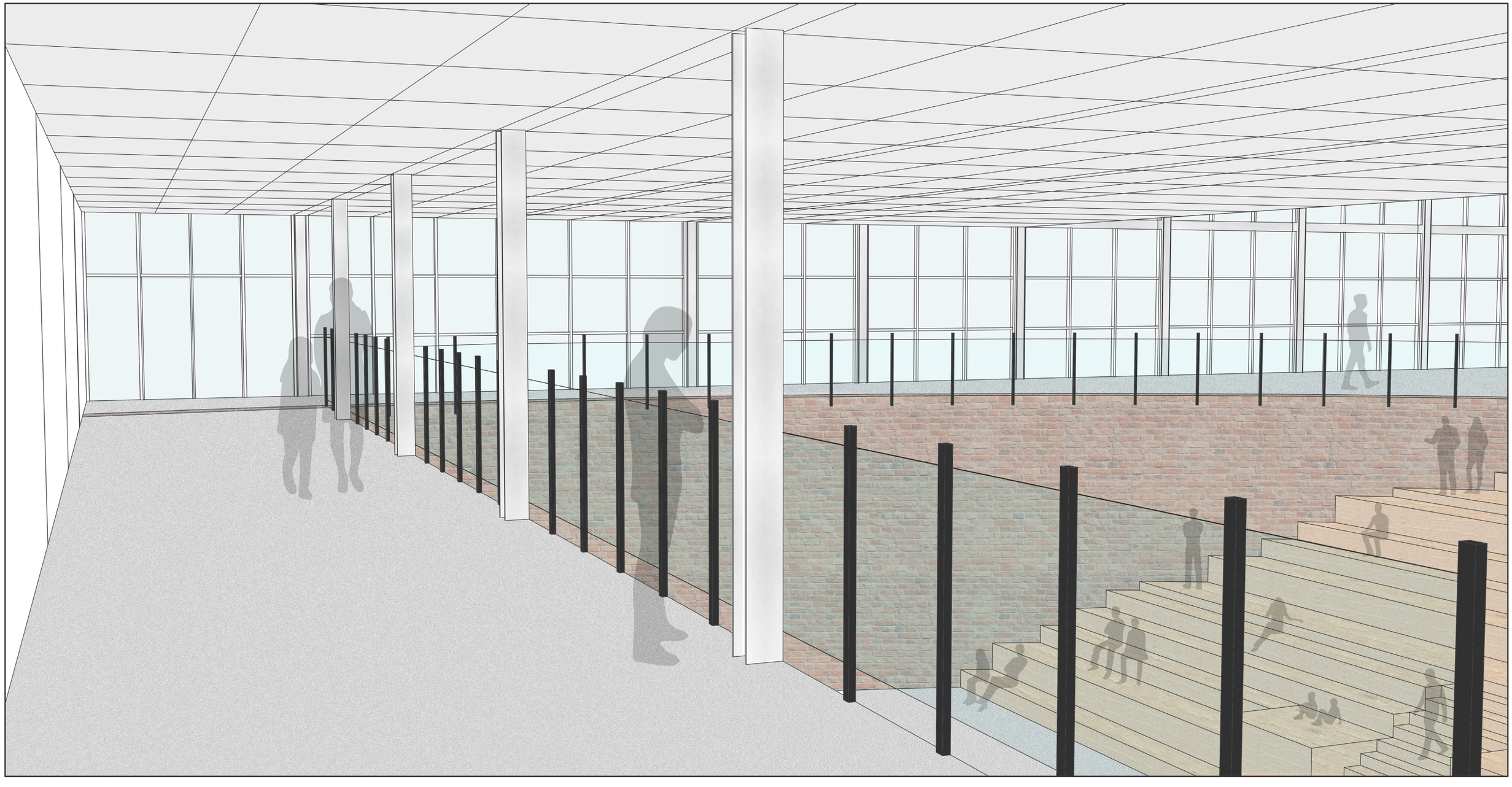
GASHOLDER NO. 1 TANK
UNDERGROUND HAVEN
PROMENADE EXPOSED TO THE
BRICK TANK

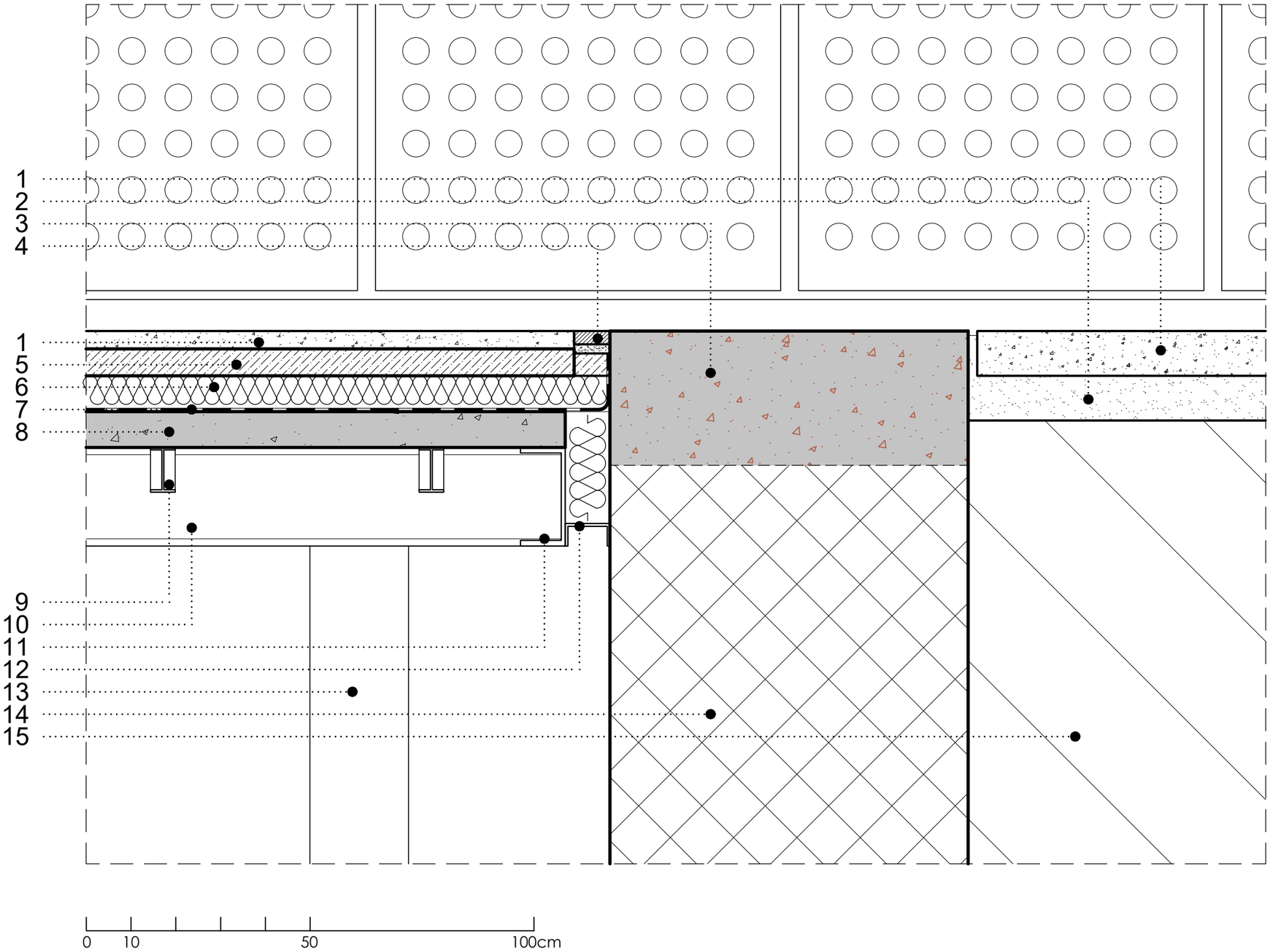




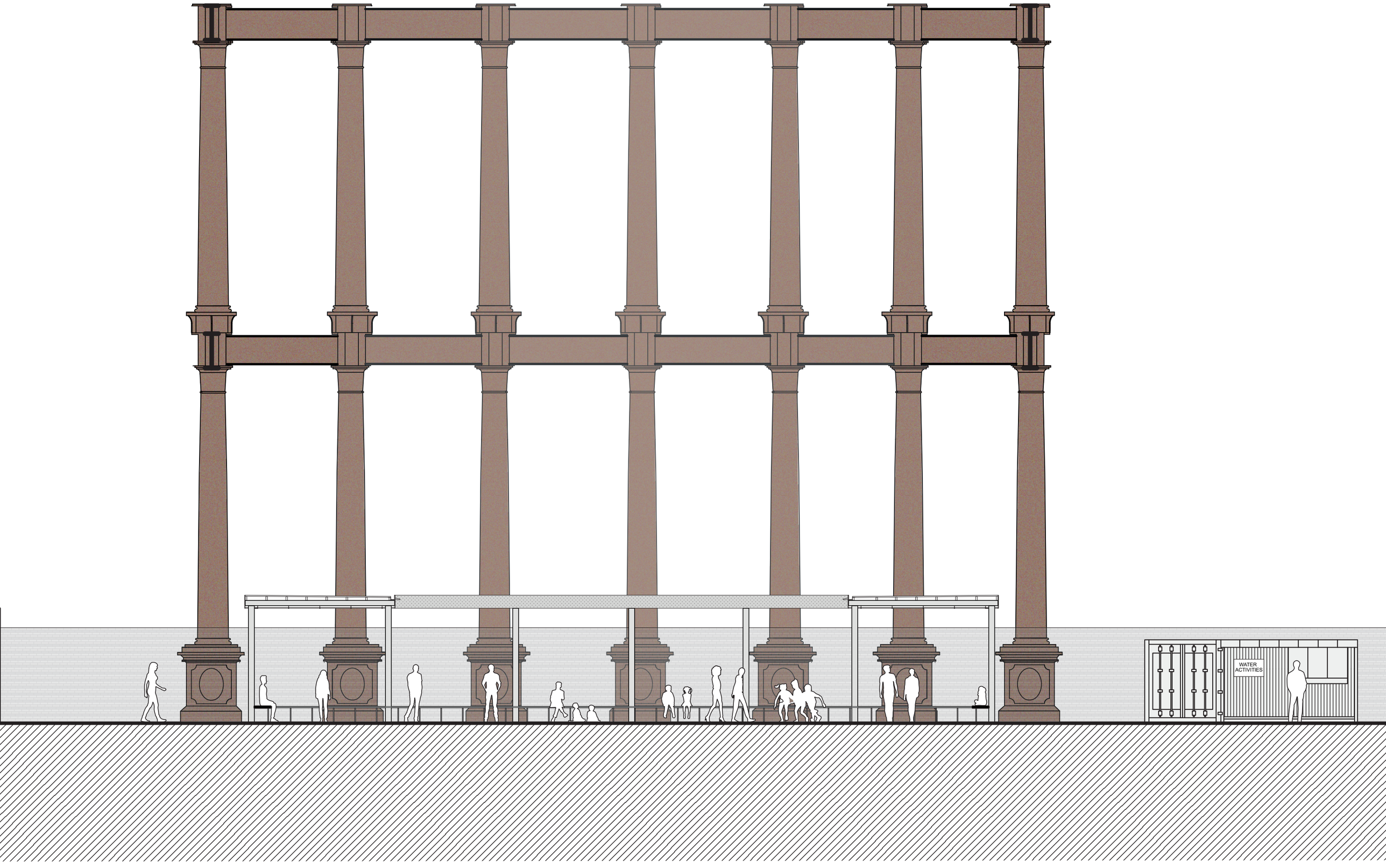
SECTION S1-S1'


10.50 m
7.00 m
3.50 m
0.00 m
-3.50 m
-7.00 m
-12.65 m
INFORMATION DESK
ATELIER | DESIGN STUDIO
STORAGE
COMMON KITCHEN
STORAGE
MECHANICAL ROOM
FOOD COURT
FLEXIBLE AUDITORIUM
RECREATION HUB
STORAGE | WAREHOUSE





1. Concrete topping Slab
2. Sand
3. Concrete imbedded brick mosaic
4. Ceramic Tiles
5. Foamed concrete
6. Insulation 7 cm
7. DPM
8. Trapezoidal Concrete Slab
9. IPE 100 beam
10. HEB 220 beam
11. UNP 220 curved beam
12. UNP 100 profile
13. Circular ST 37-2 1/2" Column
14. Original gasholder brick wall 800r
15. Ground


WATER
ACTIVITIES

THANK YOU.