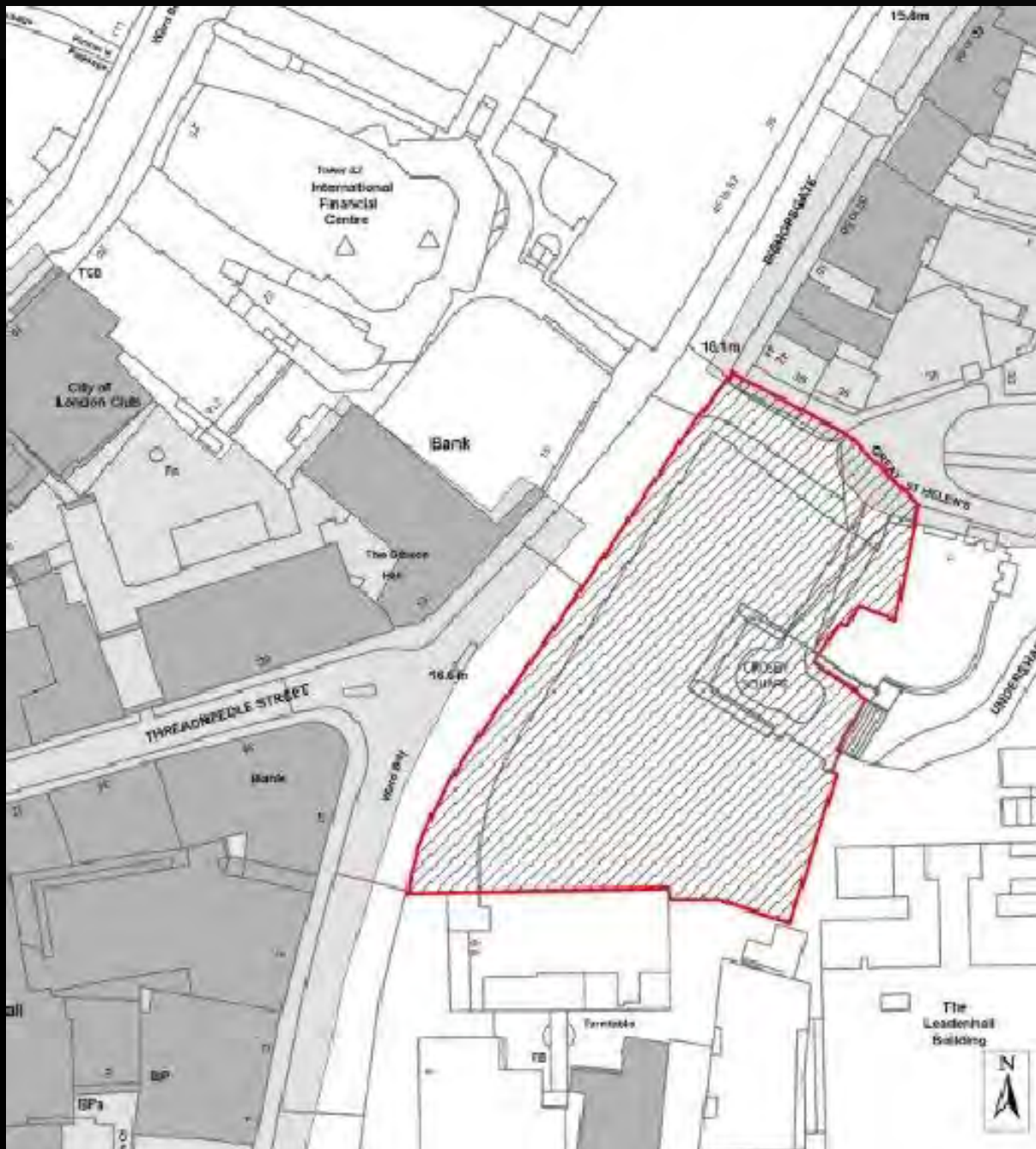


Planning & Transportation Committee

17th November 2015



Existing site plan



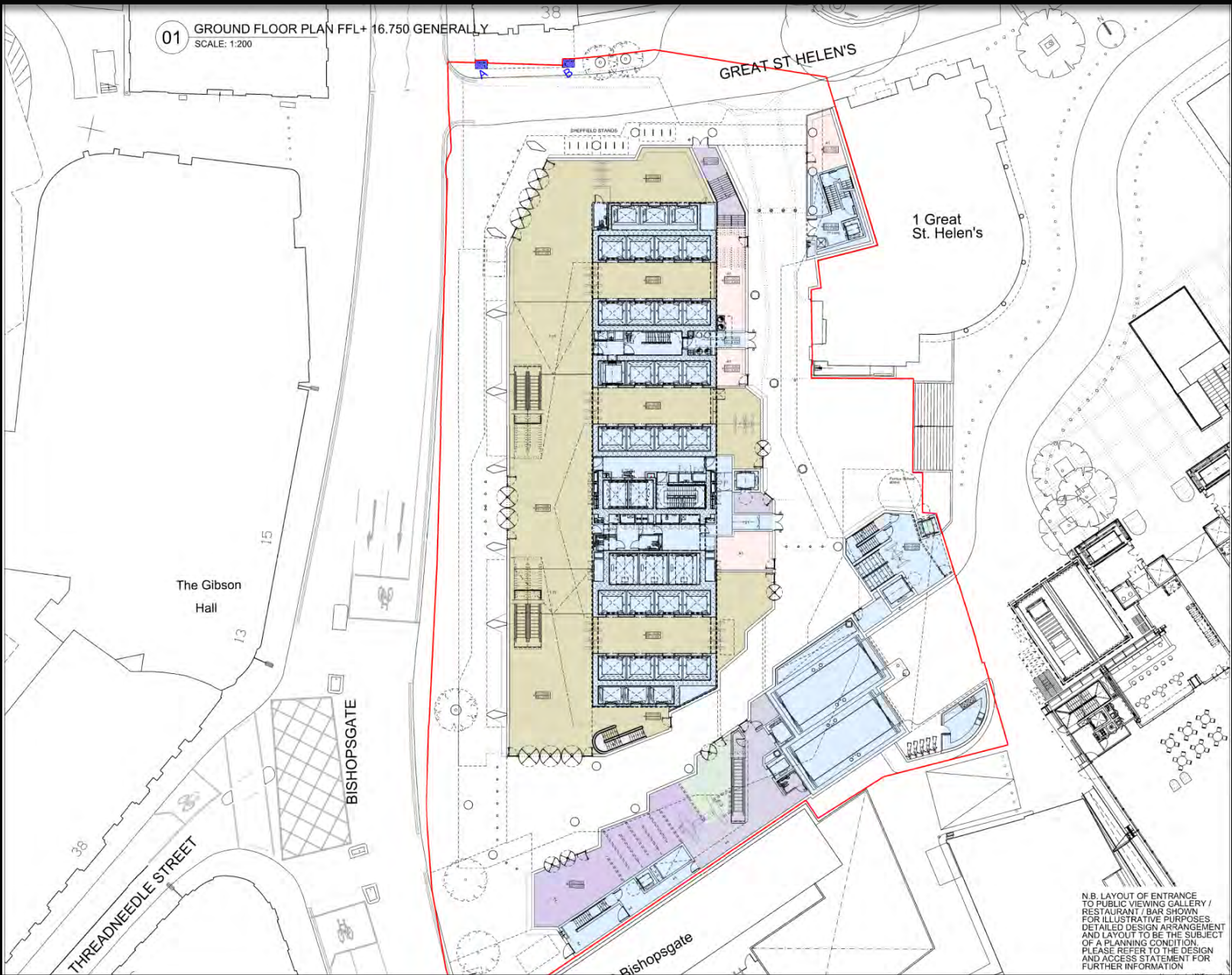
22 Bishopsgate construction site



Approved Pinnacle Scheme

01

GROUND FLOOR PLAN FFL+ 16.750 GENERALLY
SCALE: 1:200

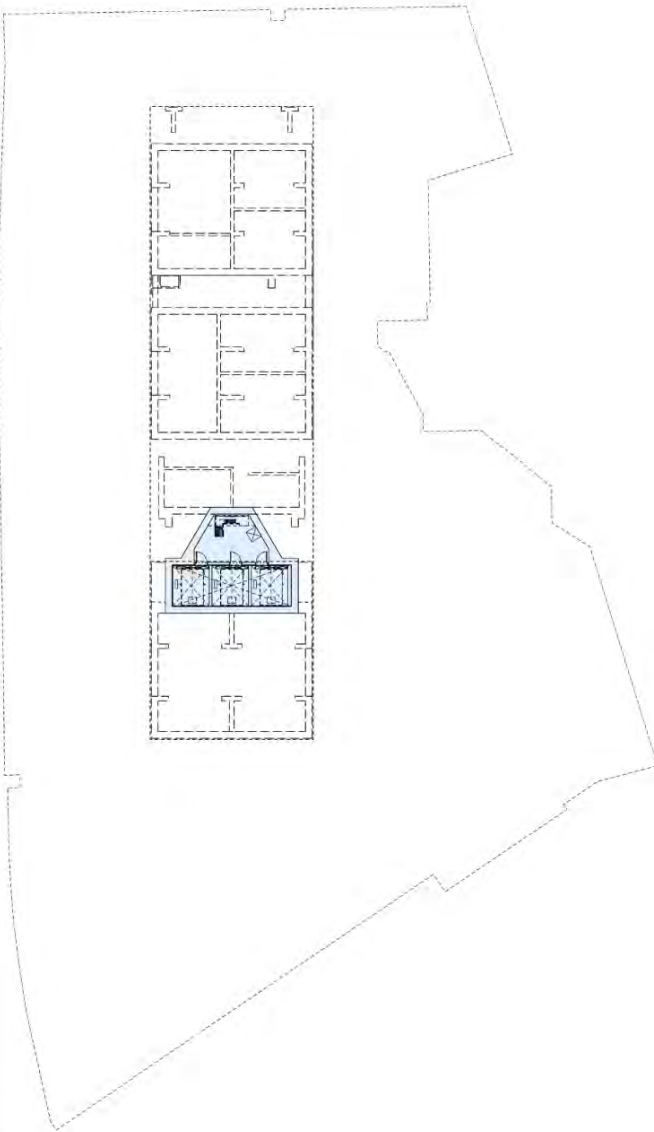


N.B. LAYOUT OF ENTRANCE
TO PUBLIC VIEWING GALLERY /
RESTAURANT / BAR SHOWN
FOR ILLUSTRATIVE PURPOSES
DETAILED DESIGN ARRANGEMENT
AND LAYOUT TO BE THE SUBJECT
OF A PLANNING CONDITION.
PLEASE REFER TO THE DESIGN
AND ACCESS STATEMENT FOR
FURTHER INFORMATION

Ground Floor Plan

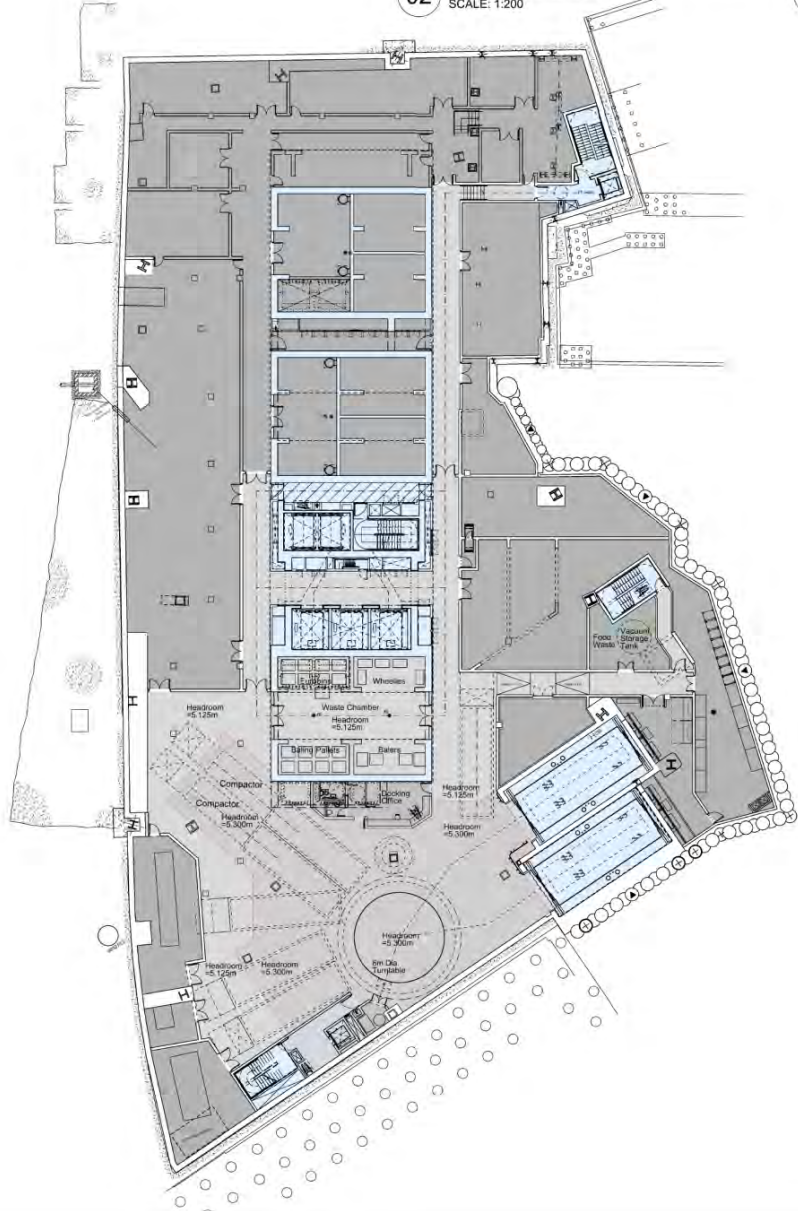
01

LIFT PIT ACCESS- 3.525m BOD
SCALE: 1:200



02

B3 PLAN FFL+ 3.875m AOD
SCALE: 1:200



Lift pits and Level B3



01 B2 PLAN FFL+ 9.950m AOD
SCALE: 1:200

02 B1 PLAN FFL+ 12.850m AOD
SCALE: 1:200

N.B. LAYOUT OF CYCLE FACILITIES SHOWN FOR ILLUSTRATIVE PURPOSES. DETAILED DESIGN ARRANGEMENT AND LAYOUT TO BE THE SUBJECT OF A PLANNING CONDITION. PLEASE REFER TO THE DESIGN AND ACCESS STATEMENT FOR FURTHER INFORMATION

N.B. LAYOUT OF CYCLE FACILITIES SHOWN FOR ILLUSTRATIVE PURPOSES. DETAILED DESIGN ARRANGEMENT AND LAYOUT TO BE THE SUBJECT OF A PLANNING CONDITION. PLEASE REFER TO THE DESIGN AND ACCESS STATEMENT FOR FURTHER INFORMATION

Basement Levels B2 and B1

01

GROUND FLOOR PLAN FFL+ 16.750 GENERALLY

SCALE: 1:200

38

GREAT ST HELEN'S

1 Great St. Helen's

The Gibson Hall

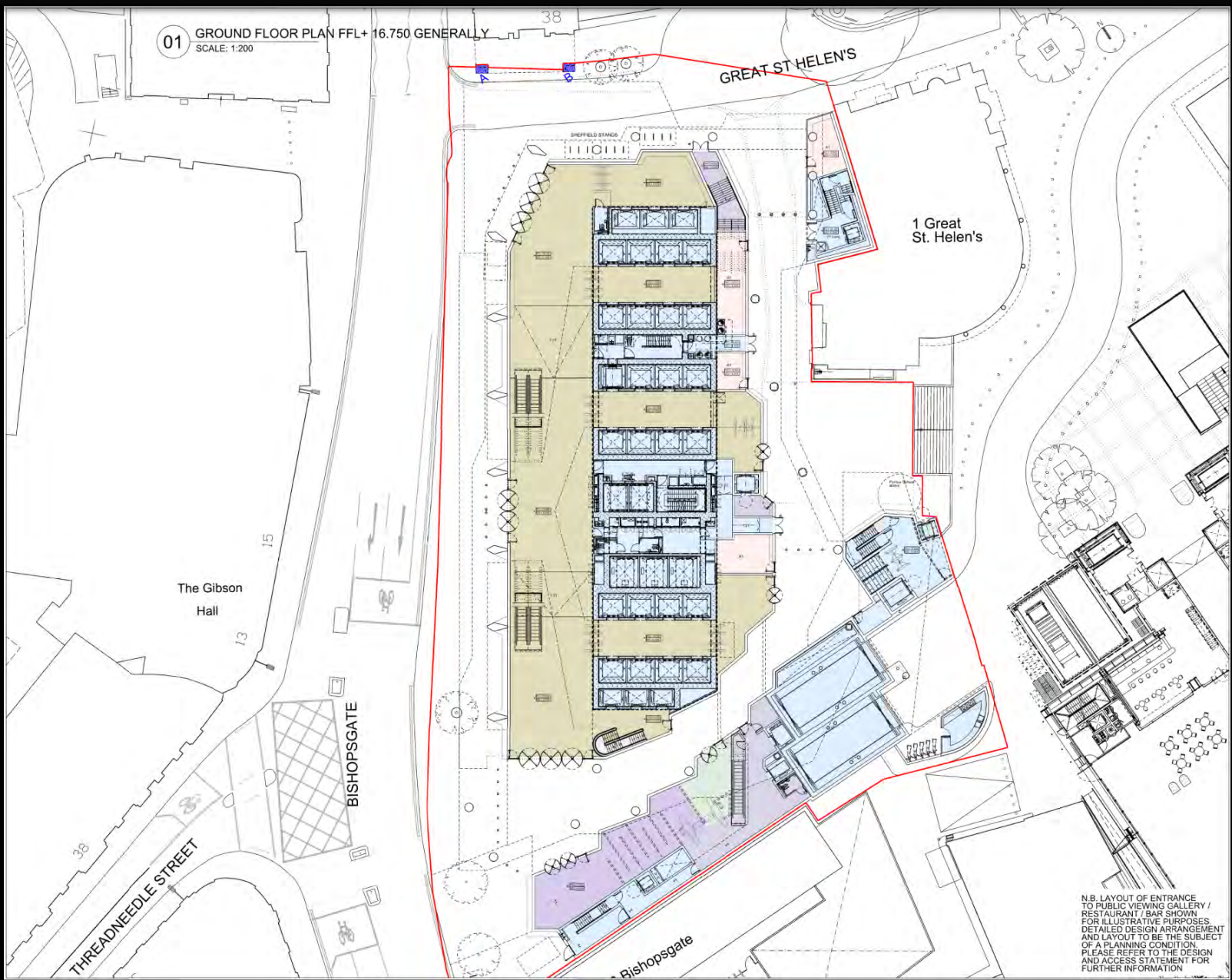
BISHOPSGATE

THREADNEEDLE STREET

Bishopsgate

N.B. LAYOUT OF ENTRANCE / RESTAURANT / BAR SHOWN FOR ILLUSTRATIVE PURPOSES. DETAILED DESIGN ARRANGEMENT AND LAYOUT TO BE THE SUBJECT OF A PLANNING CONDITION. PLEASE REFER TO THE DESIGN AND ACCESS STATEMENT FOR FURTHER INFORMATION

Ground Level



01

FIRST FLOOR PLAN FFL+ 20.600m AOD GENERALLY
SCALE: 1:200

38

GREAT ST HELEN'S

1 Great St. Helen's

The Gibson Hall

15

13

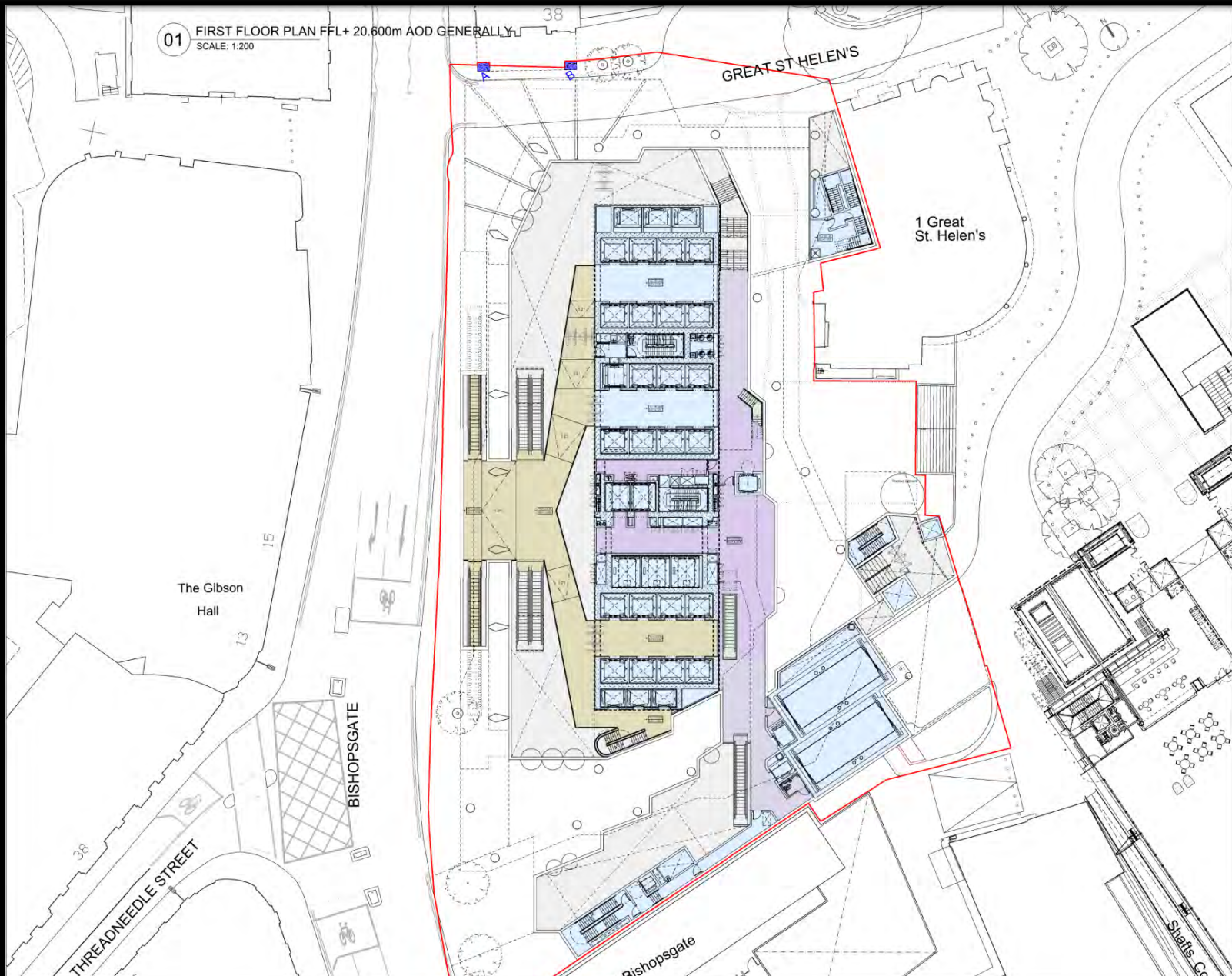
BISHOPSGATE

38
THREADNEEDLE STREET

Bishopsgate

Shafts Co

First Floor



01

FIRST FLOOR MEZZ. PLAN FFL+ 24.150m AOD.GENERALLY
SCALE: 1:200

38

GREAT ST HELEN'S

1 Great St. Helen's

The Gibson Hall

BISHOPSGATE

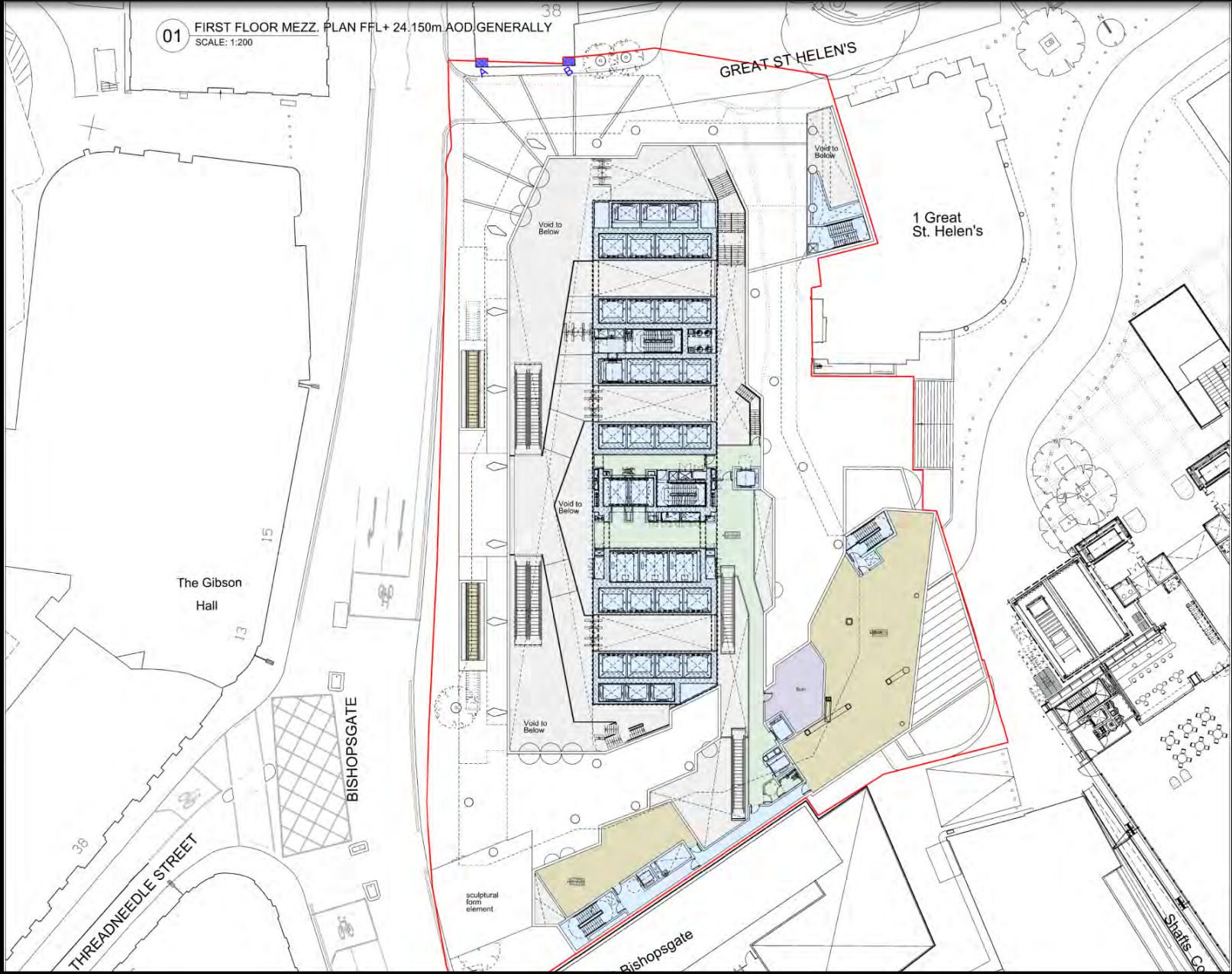
THREADNEEDLE STREET

sculptural form element

Bishopsgate

Shatts Co

First (Mezzanine) Level



01

SECOND FLOOR PLAN FFL+ 27.700m AOD
SCALE: 1:200

38

GREAT ST HELEN'S

1 Great St. Helen's

The Gibson Hall

15

13

BISHOPSGATE

THREADNEEDLE STREET

38

sculptural form element

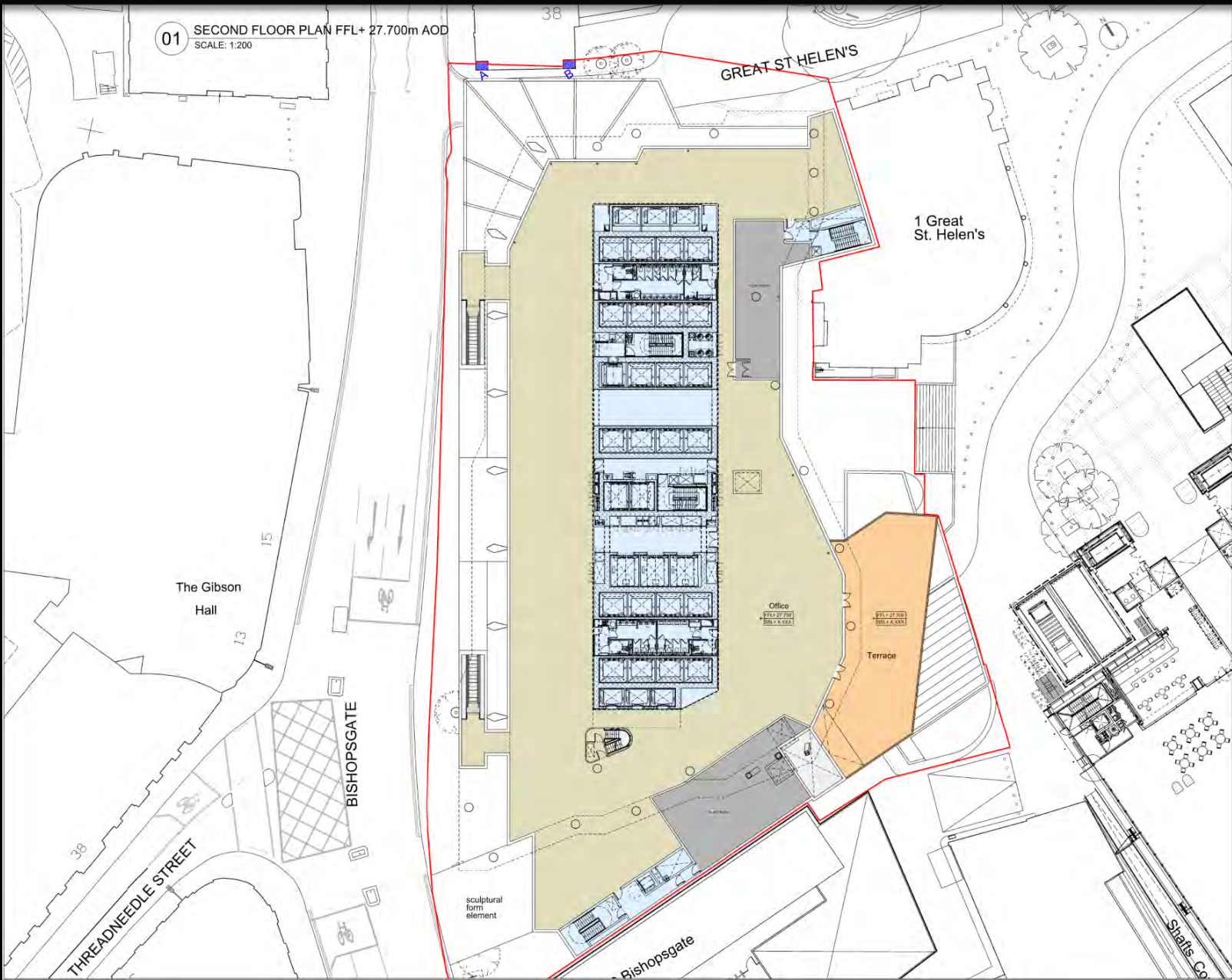
Office
BBL 1.27.700
BBL 1.3.503

Terrace
BBL 1.27.700
BBL 1.3.503

Bishopsgate

Shafiq's Co

Second Floor



01 LEVEL 3 PLAN FFL+ 33.850m AOD
SCALE: 1:200

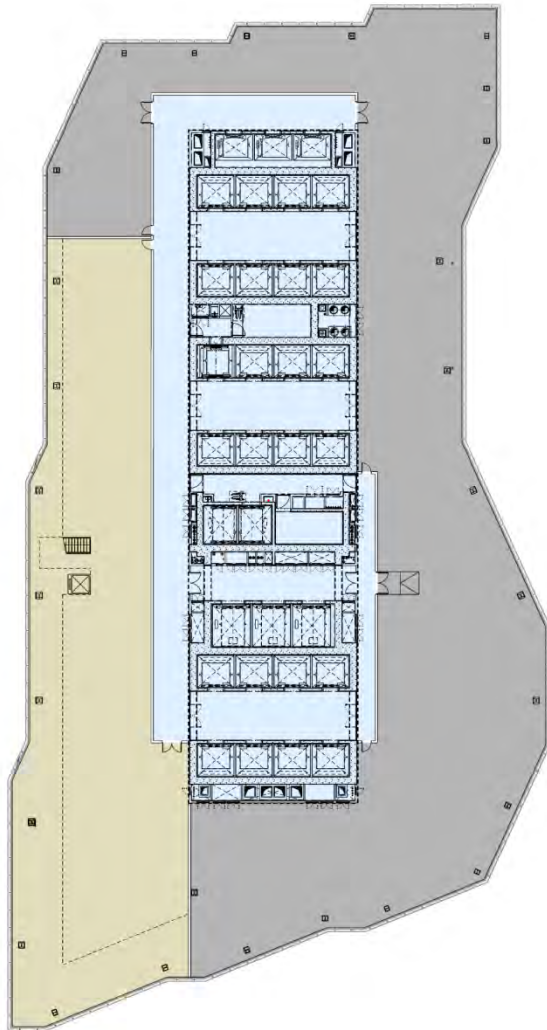


02 LEVELS 04 - 06 PLAN
SCALE: 1:200

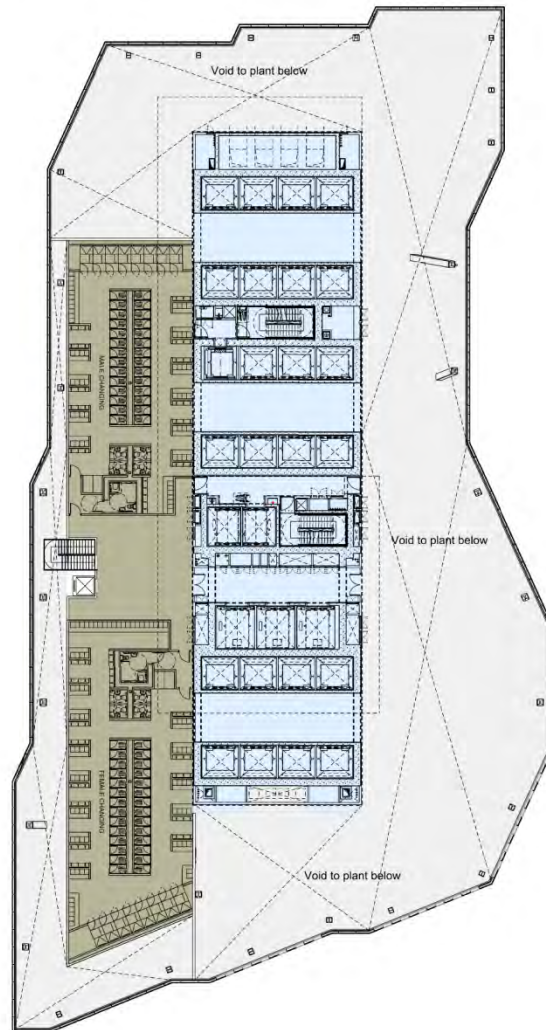


Floors 3 and 4-6

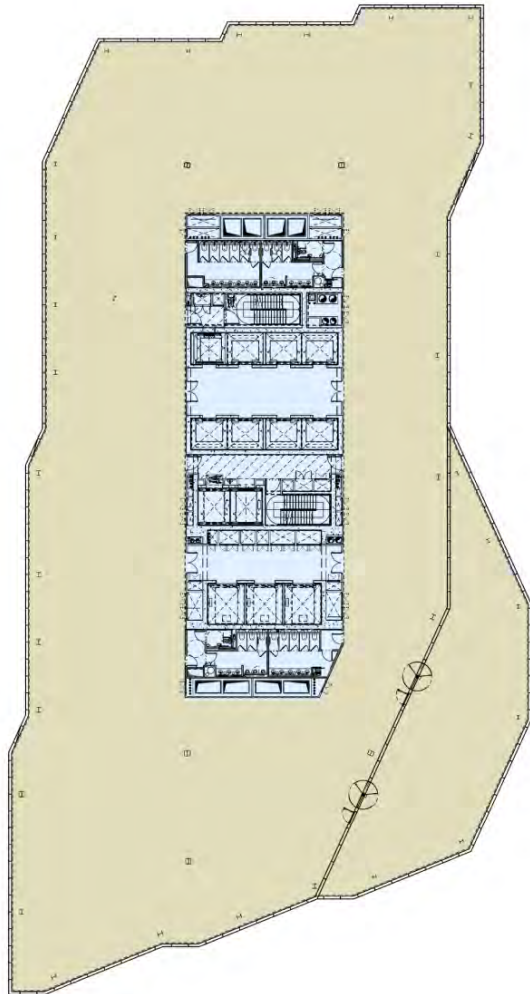
01 LEVEL 7 PLAN FFL+ 50.010m AOD
SCALE: 1:200



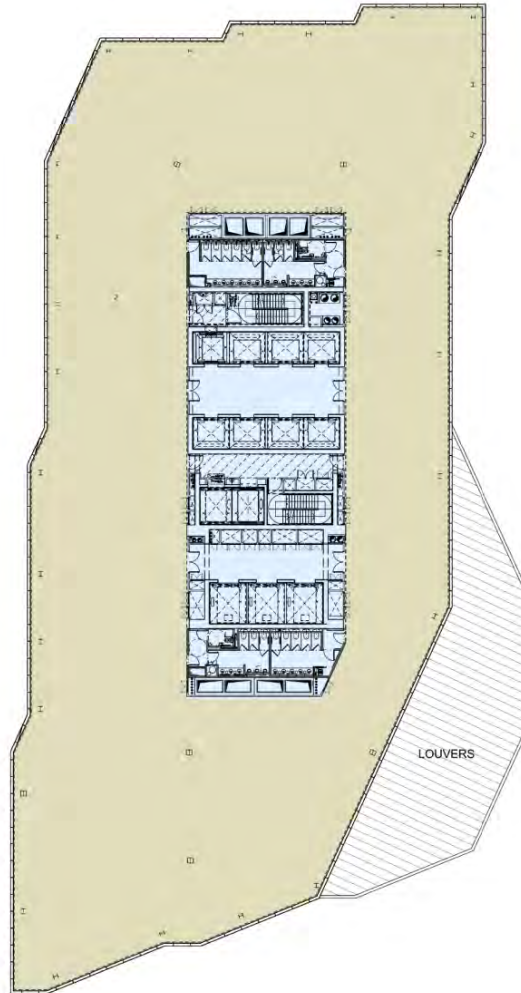
02 LEVEL 7M PLAN FFL+ 53.560m AOD
SCALE: 1:200



01 LEVEL 48 PLAN FFL+ 223.930m AOD
SCALE: 1:200



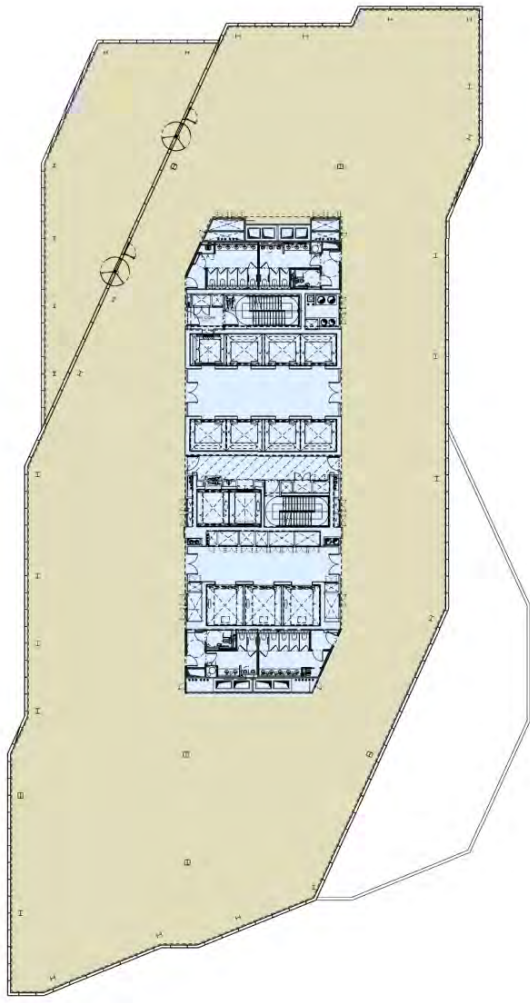
02 LEVEL 49 PLAN FFL+ 227.820m AOD
SCALE: 1:200



NOTE: DOOR LOCATIONS INDICATIVE

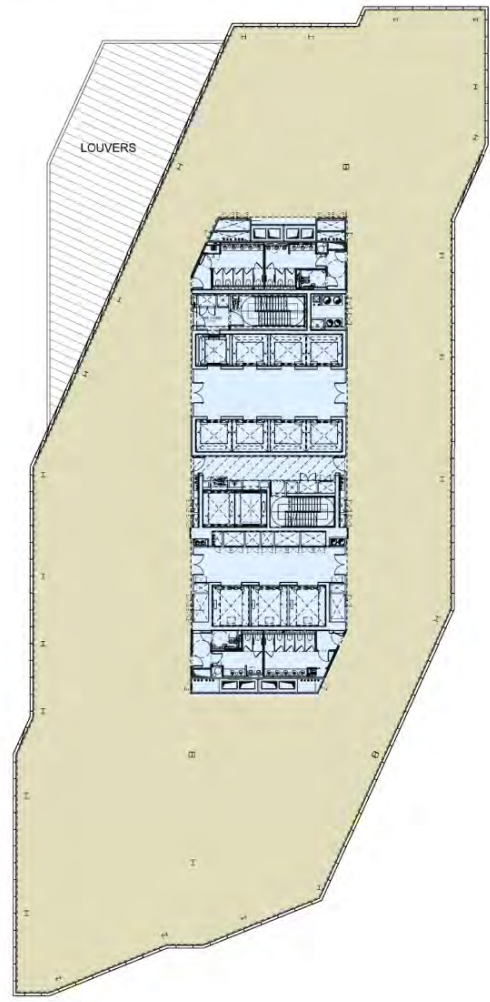
01

LEVEL 50 PLAN FFL+ 231.710m AOD
SCALE: 1:200



02

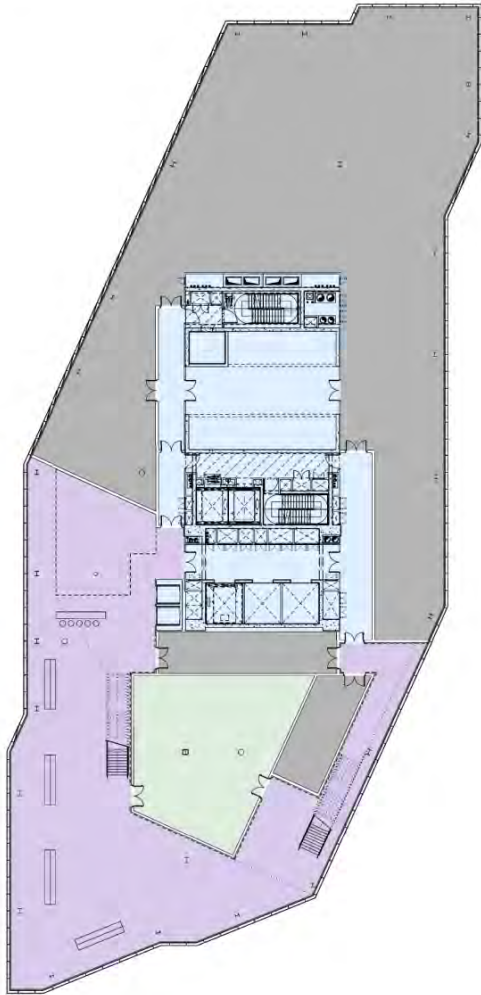
LEVEL 51 PLAN FFL+ 235.600m AOD
SCALE: 1:200



NOTE: DOOR LOCATIONS INDICATIVE

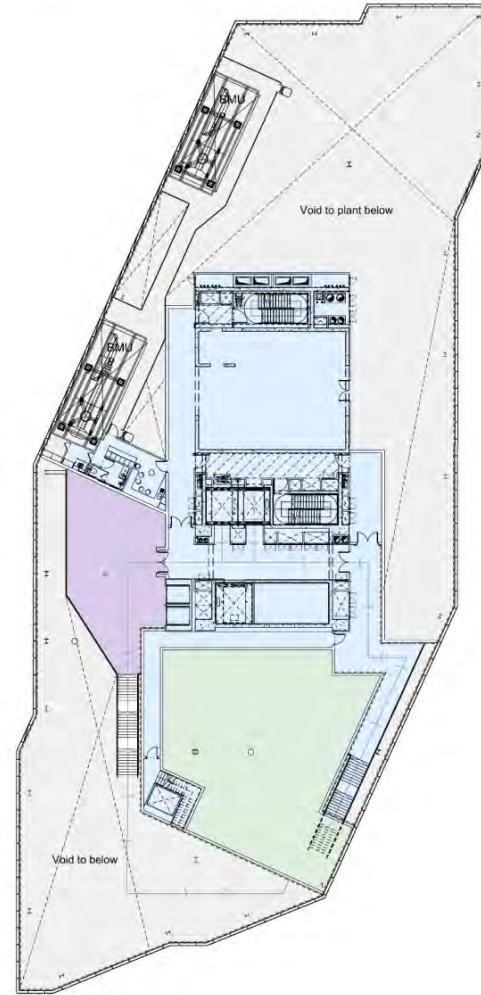
01

LEVEL 58 PLAN FFL+ 264.940m AOD
SCALE: 1:200



02

LEVEL 58M PLAN FFL+ 270.050m AOD
SCALE: 1:200

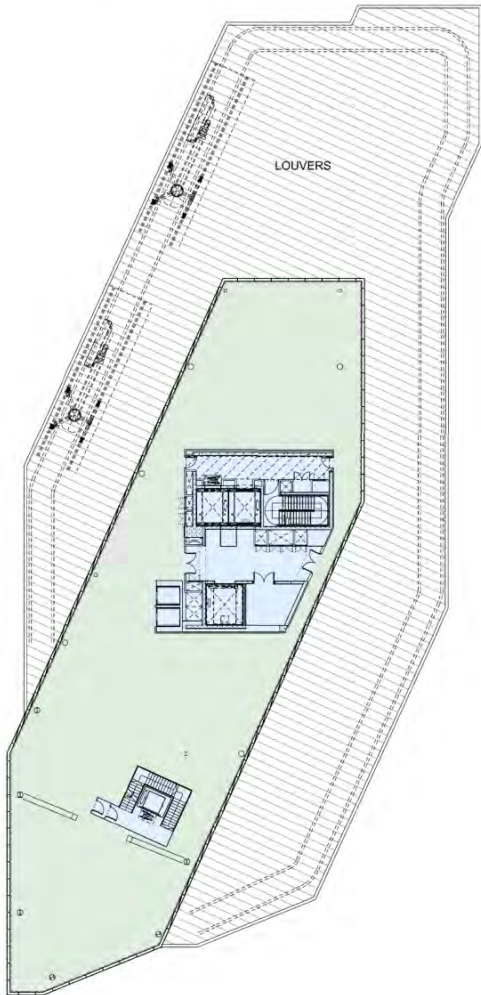


N.B. LAYOUT OF PUBLIC VIEWING GALLERY SHOWN FOR ILLUSTRATIVE PURPOSES. DETAILED DESIGN ARRANGEMENT AND LAYOUT TO BE THE SUBJECT OF A PLANNING CONDITION. PLEASE REFER TO THE DESIGN AND ACCESS STATEMENT FOR FURTHER INFORMATION

Floors 58 and 58 (Mezzanine) with Viewing Gallery (in purple)

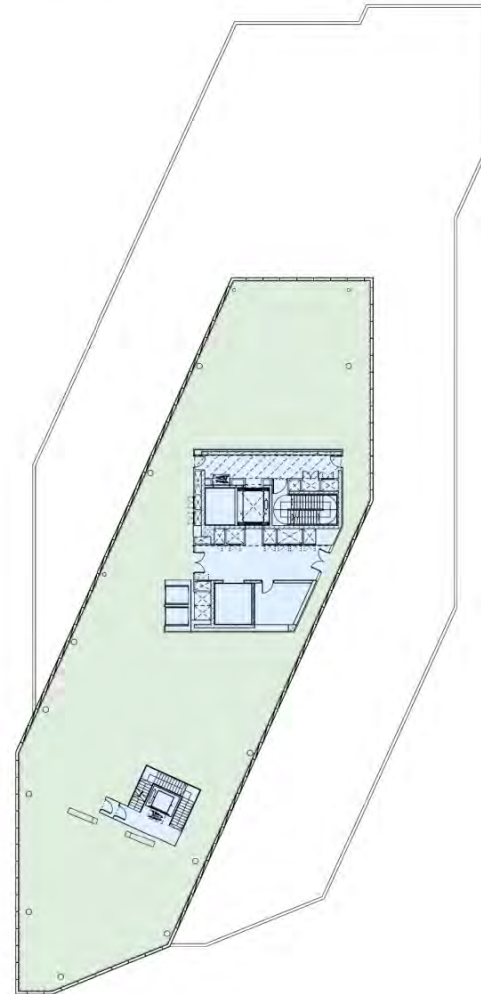
01

LEVEL 59 PLAN FFL+ 273.940m AOD
SCALE: 1:200



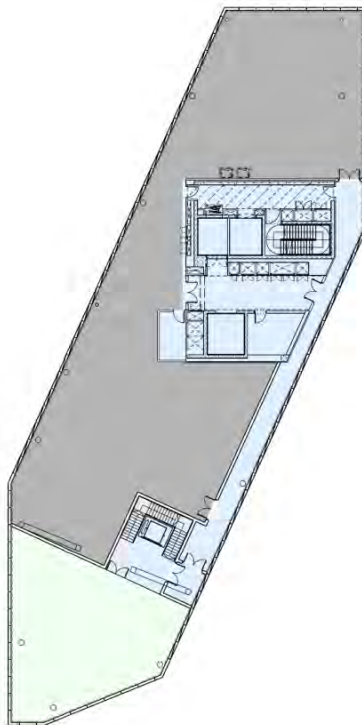
02

LEVEL 60 PLAN FFL+ 279.940m AOD
SCALE: 1:200



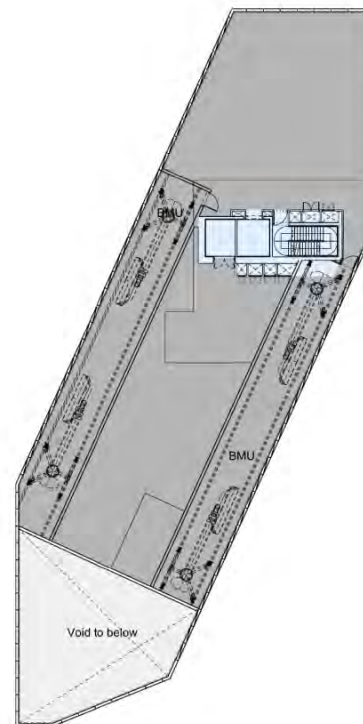
01

LEVEL 61 PLAN FFL+ 285.940m AOD
SCALE: 1:200

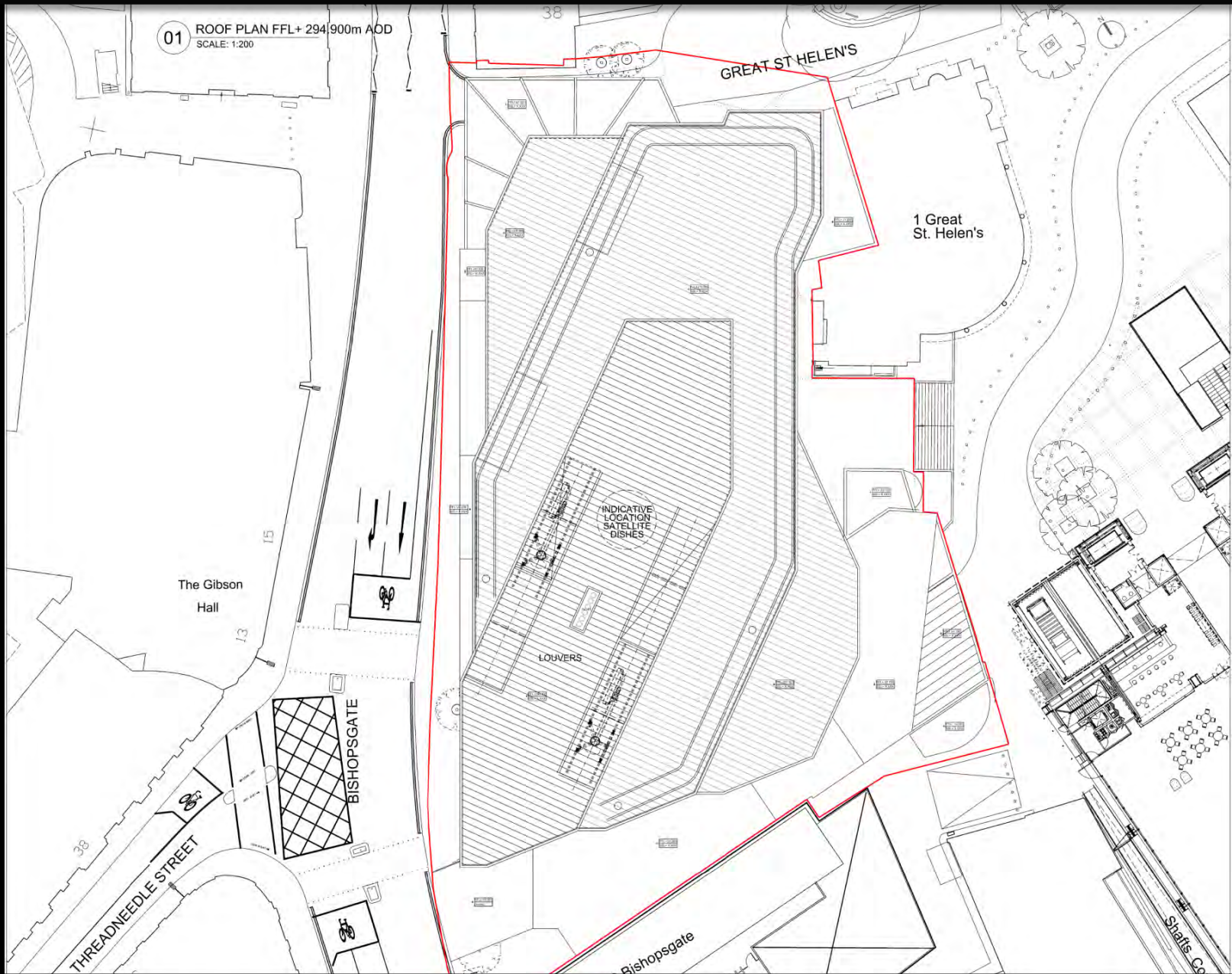


02

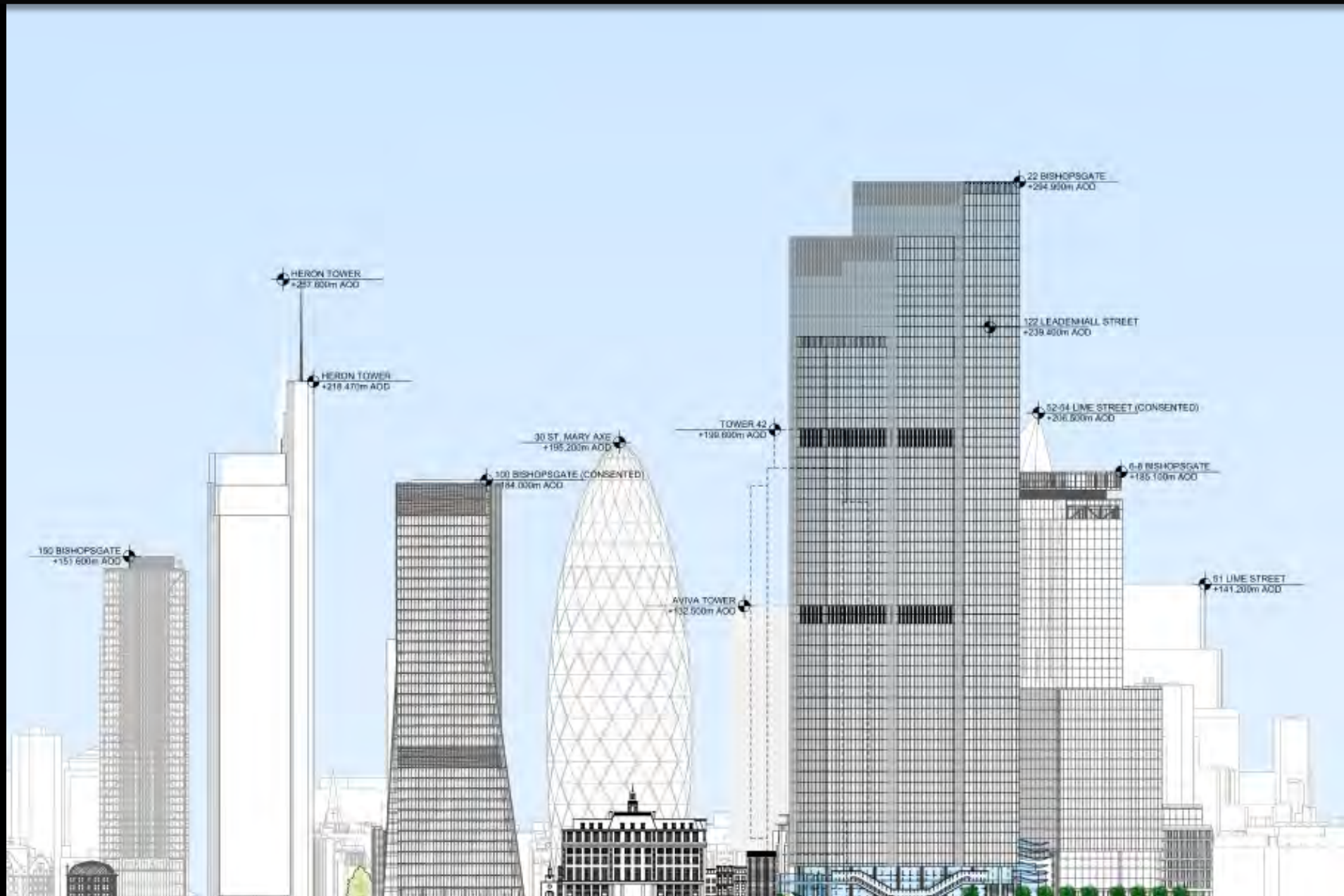
LEVEL 61M PLAN FFL+ 290.500m AOD
SCALE: 1:200



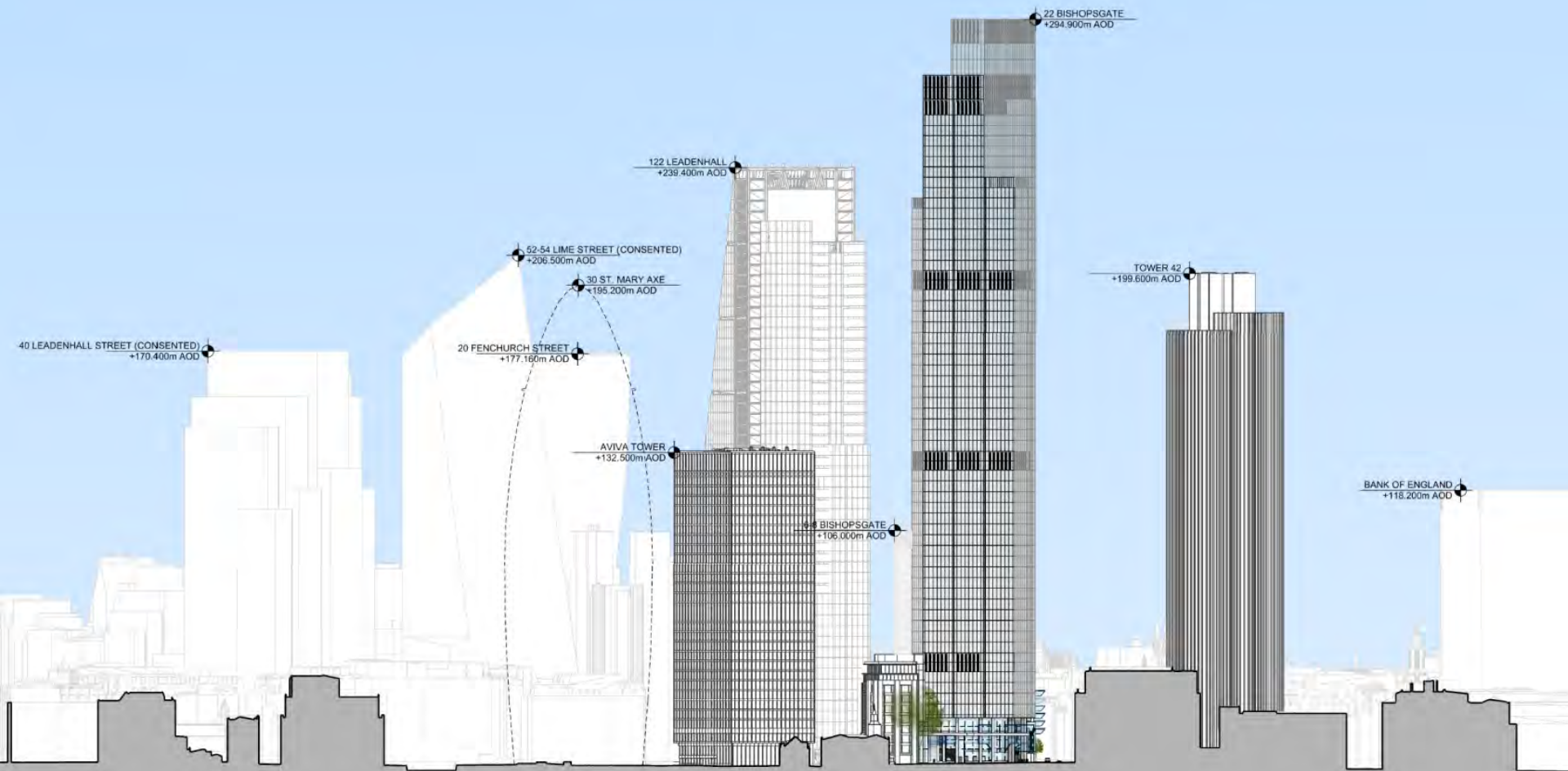
01 ROOF PLAN FFL+ 294.900m AOD
SCALE: 1:200



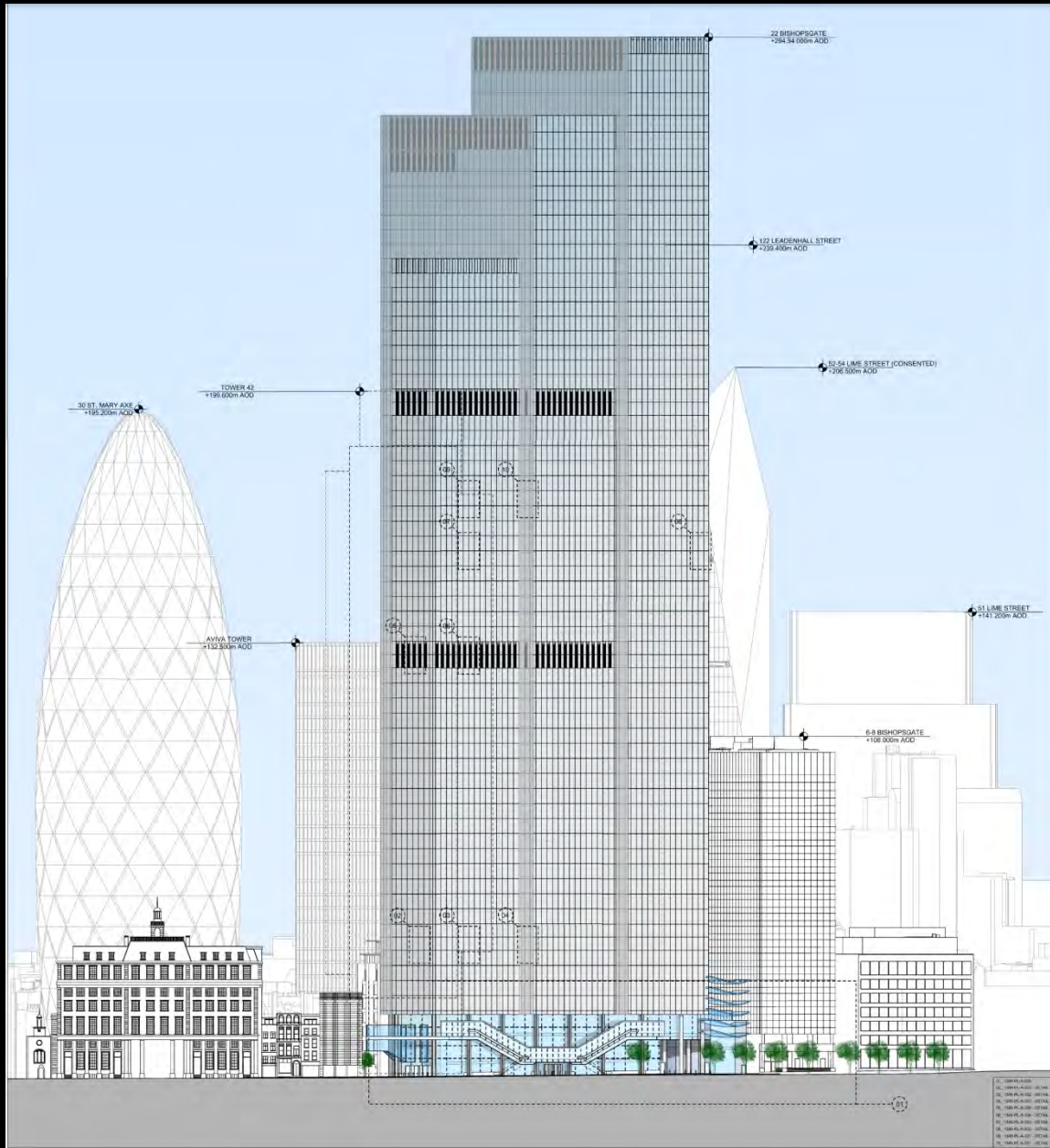
Roof Plan



Overall elevation in context-west-along Bishopsgate-with other permitted schemes



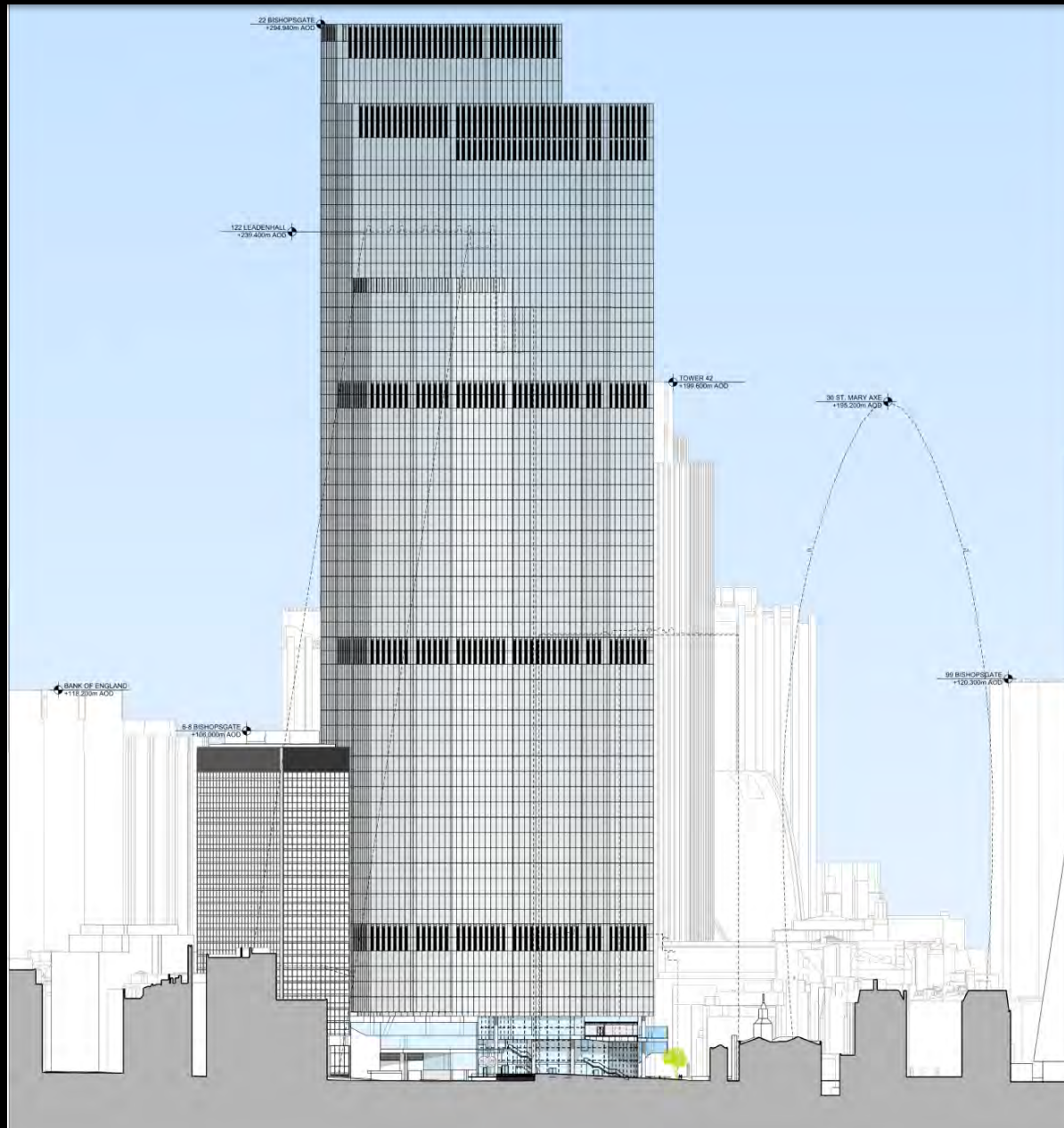
Overall elevation in context-north-along Great St. Helen's



West Elevation



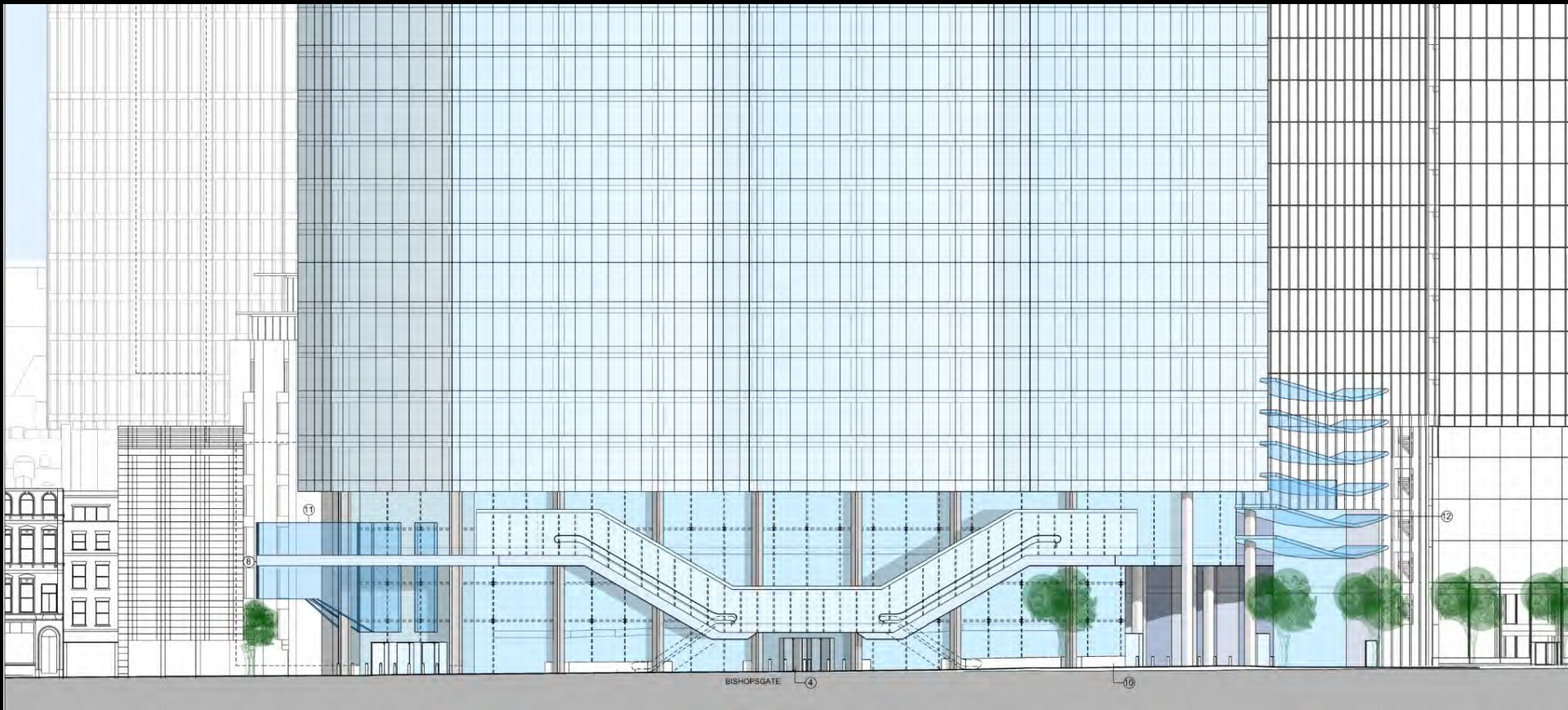
North Elevation



East Elevation



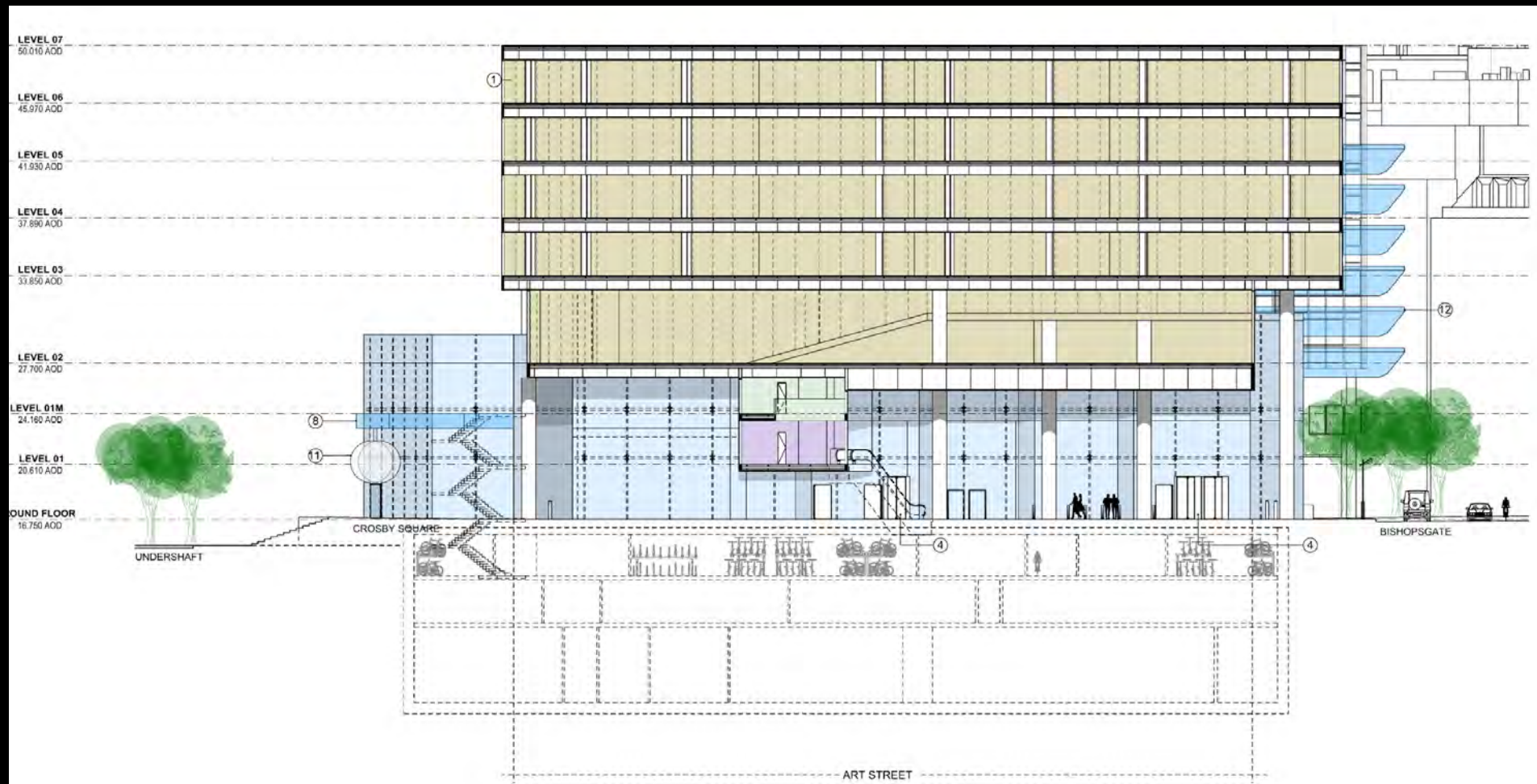
South Elevation



Detailed lobby elevation (Bishopsgate)



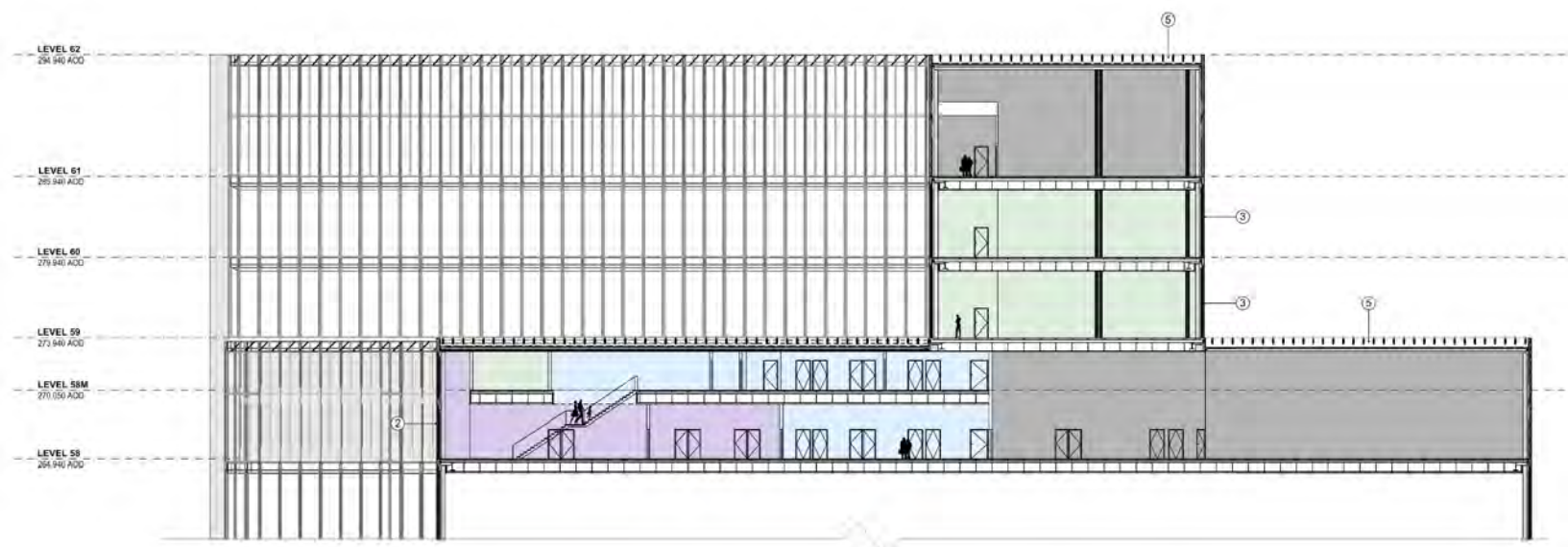
Bishopsgate frontage with Office lobby



Cross-section passageway



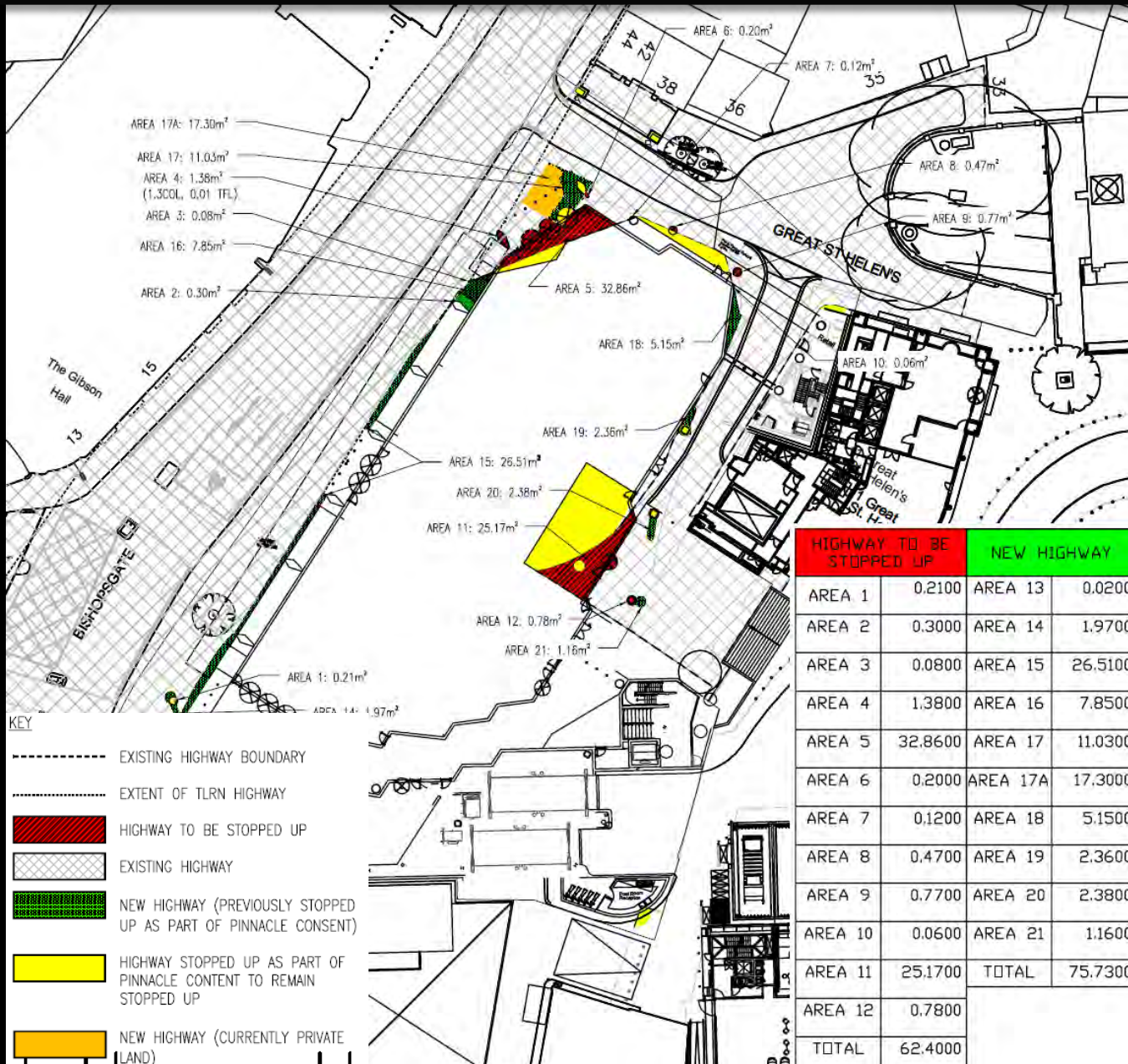
SECTION AA



Part section-cross-top of building (with Viewing Gallery in Purple)

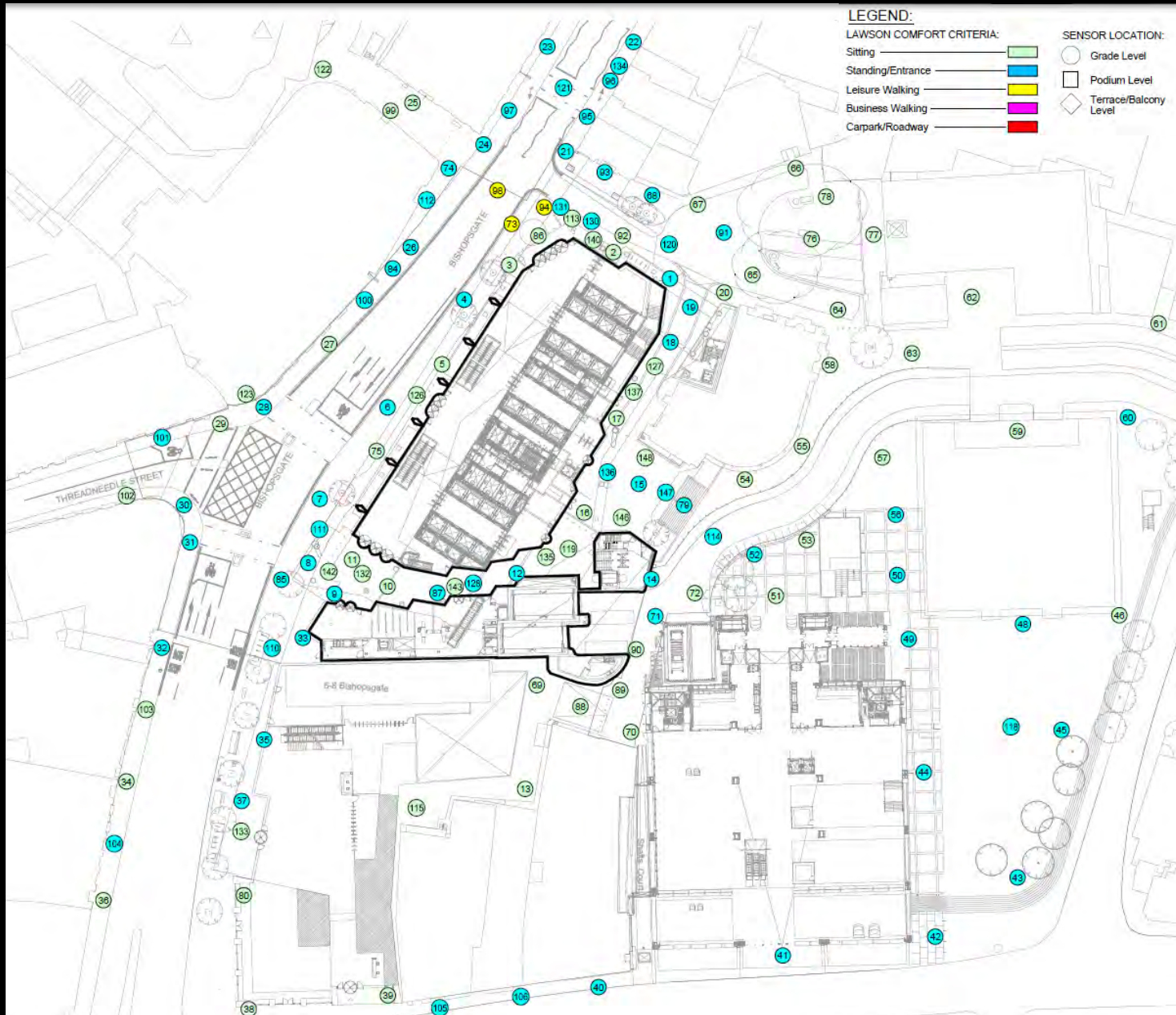


Public viewing gallery (Visual) with view to the south (below)

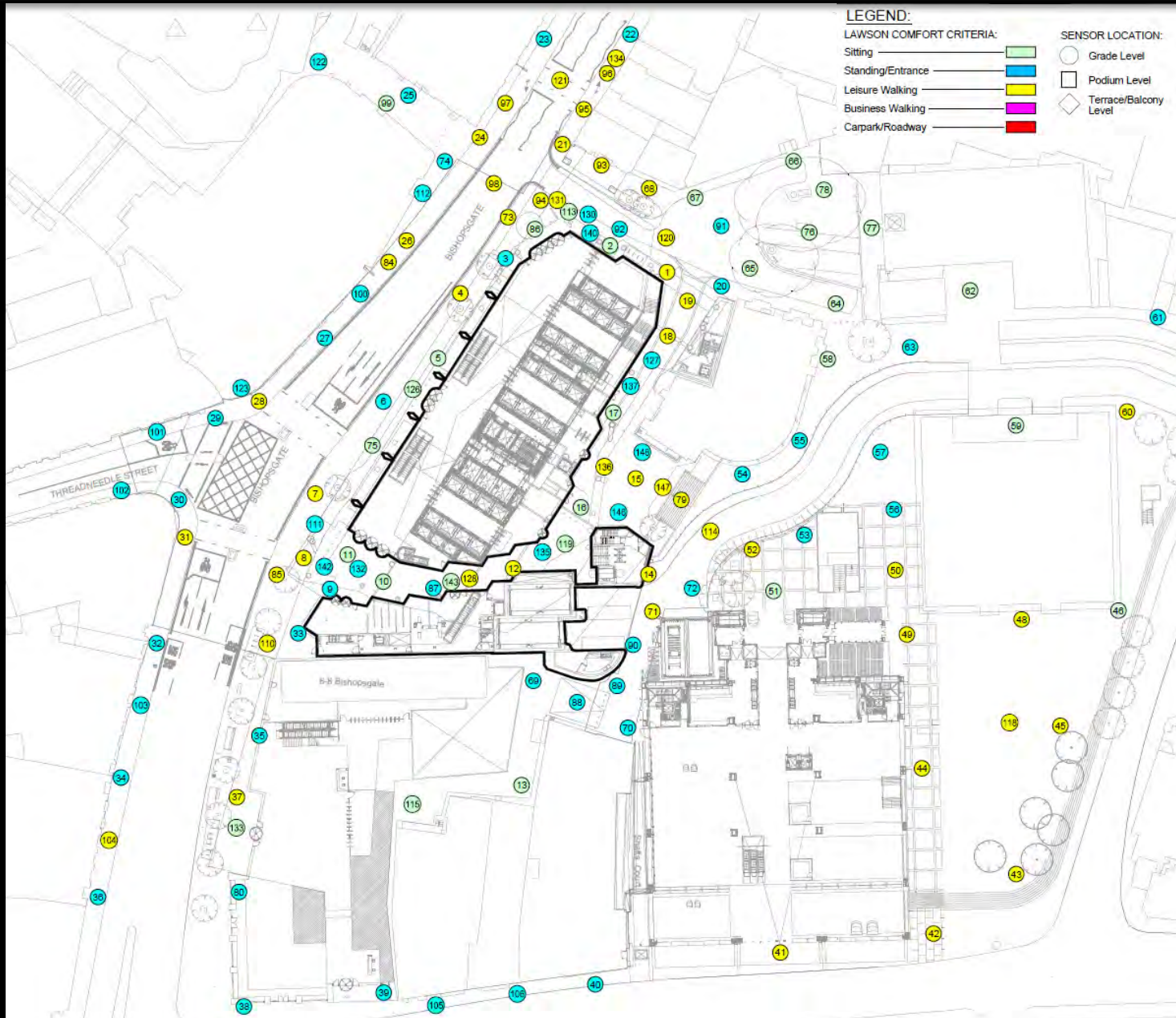


HIGHWAY TO BE STOPPED UP		NEW HIGHWAY	
AREA 1	0.2100	AREA 13	0.0200
AREA 2	0.3000	AREA 14	1.9700
AREA 3	0.0800	AREA 15	26.5100
AREA 4	1.3800	AREA 16	7.8500
AREA 5	32.8600	AREA 17	11.0300
AREA 6	0.2000	AREA 17A	17.3000
AREA 7	0.1200	AREA 18	5.1500
AREA 8	0.4700	AREA 19	2.3600
AREA 9	0.7700	AREA 20	2.3800
AREA 10	0.0600	AREA 21	1.1600
AREA 11	25.1700	TOTAL	75.7300
AREA 12	0.7800		
TOTAL	62.4000		

Stopping-up of highways plan



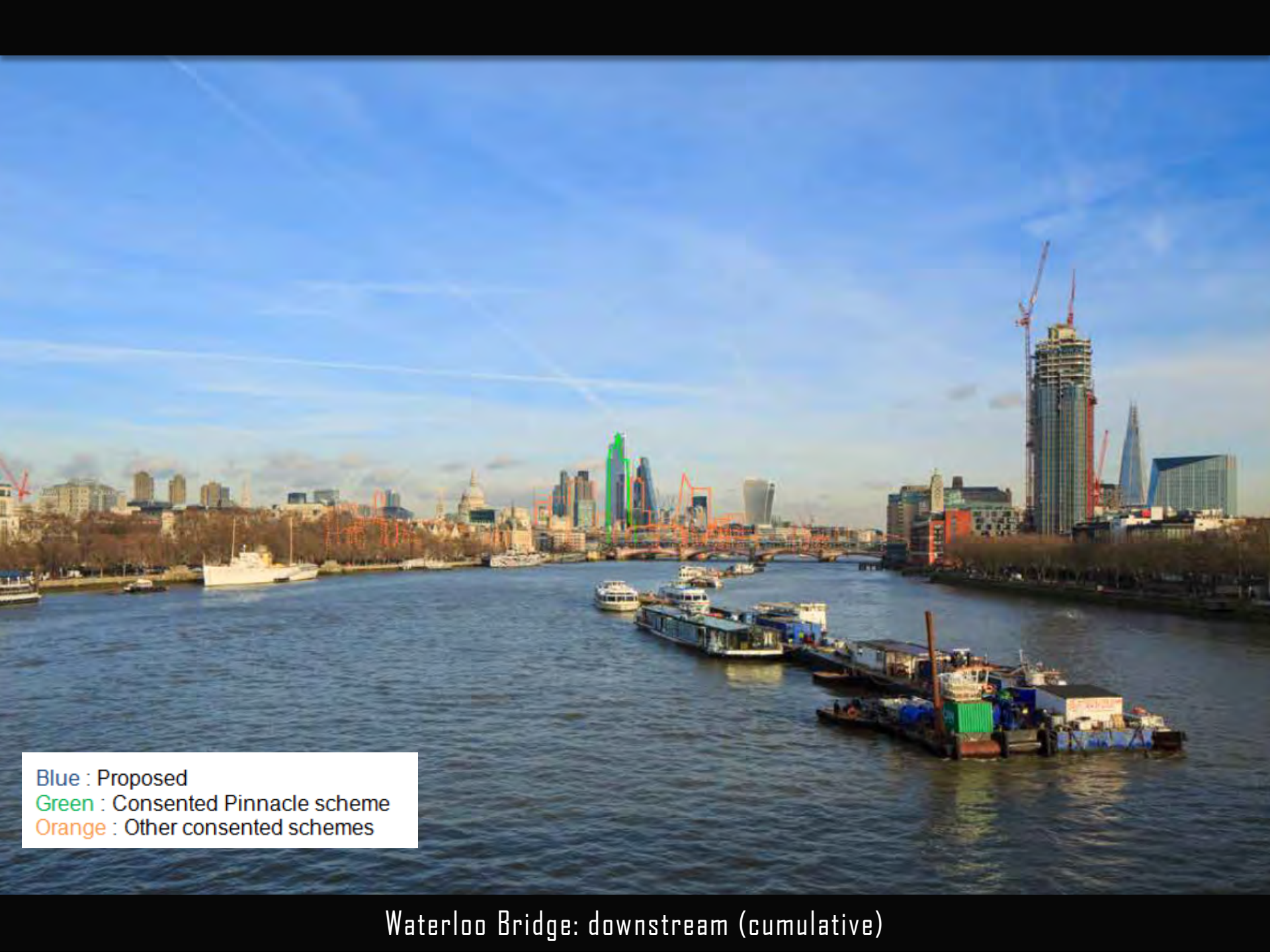
Wind Mitigation – Summer Season



Wind Mitigation - Windiest Season



Waterloo Bridge: downstream (Proposed)

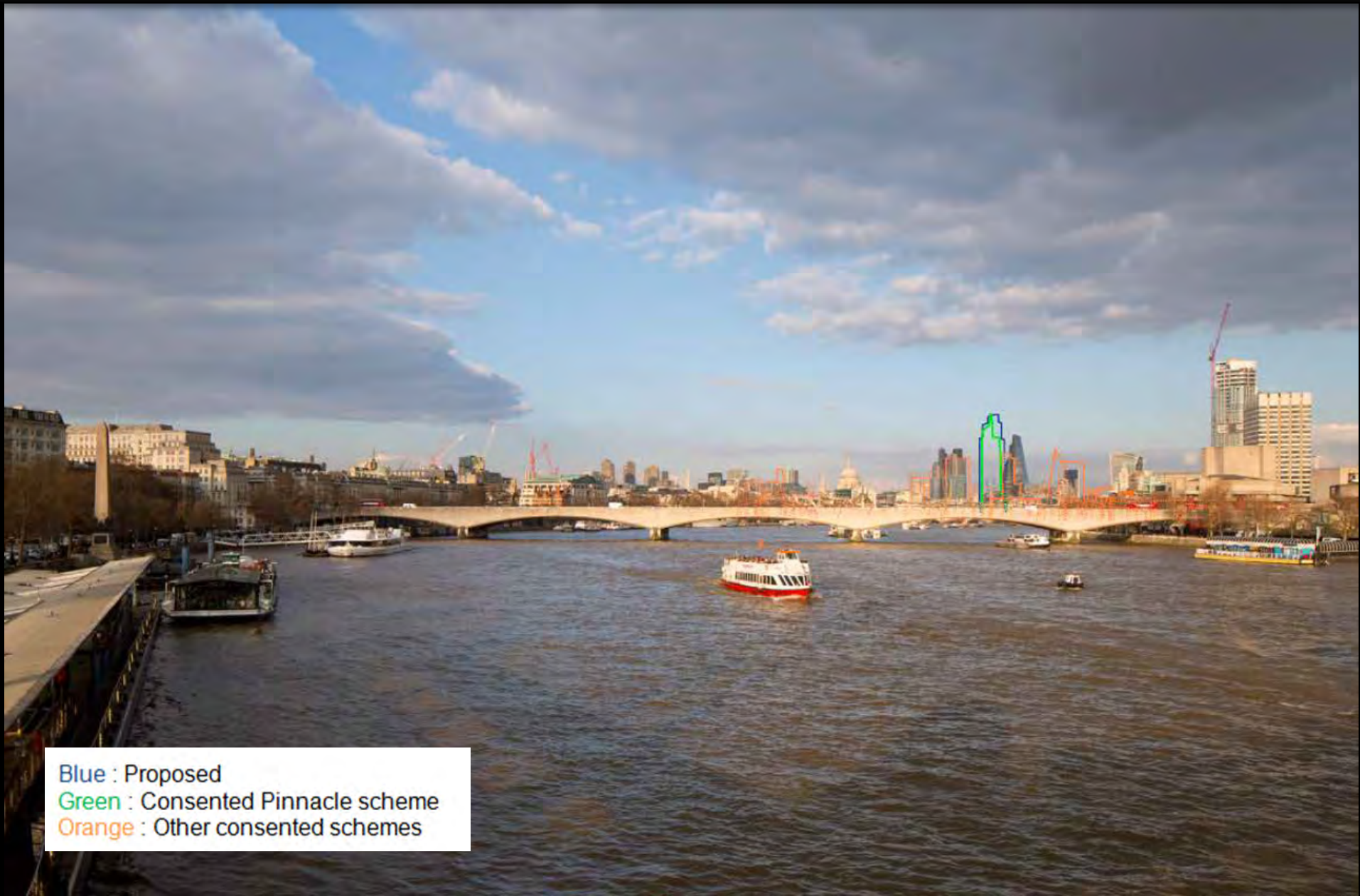


Blue : Proposed
Green : Consented Pinnacle scheme
Orange : Other consented schemes

Waterloo Bridge: downstream (cumulative)



Golden Jubilee/Hungerford Footbridges: downstream (Proposed)



Blue : Proposed

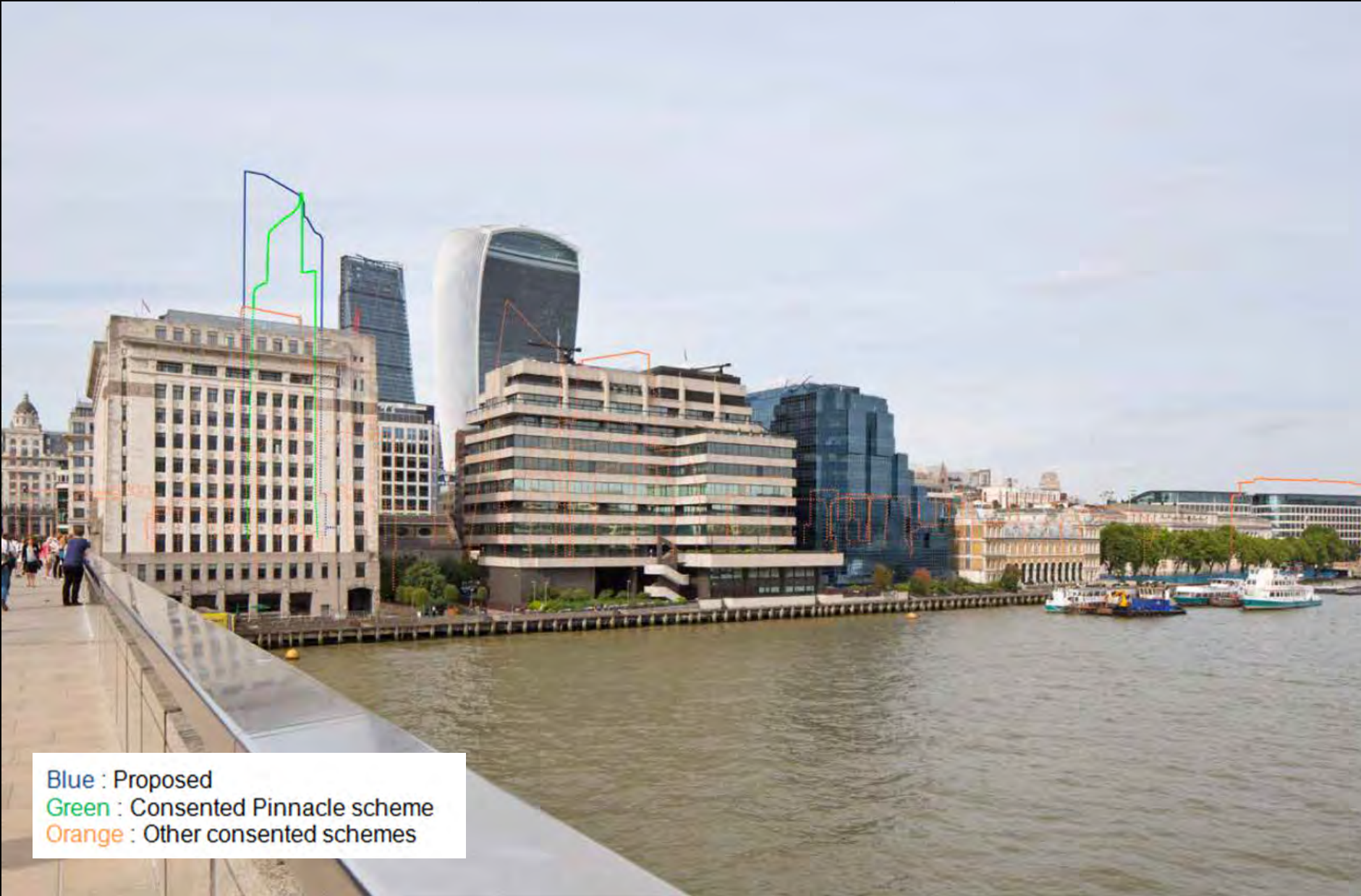
Green : Consented Pinnacle scheme

Orange : Other consented schemes

Golden Jubilee/Hungerford Footbridges (Cumulative) : downstream



London Bridge: (Proposed)

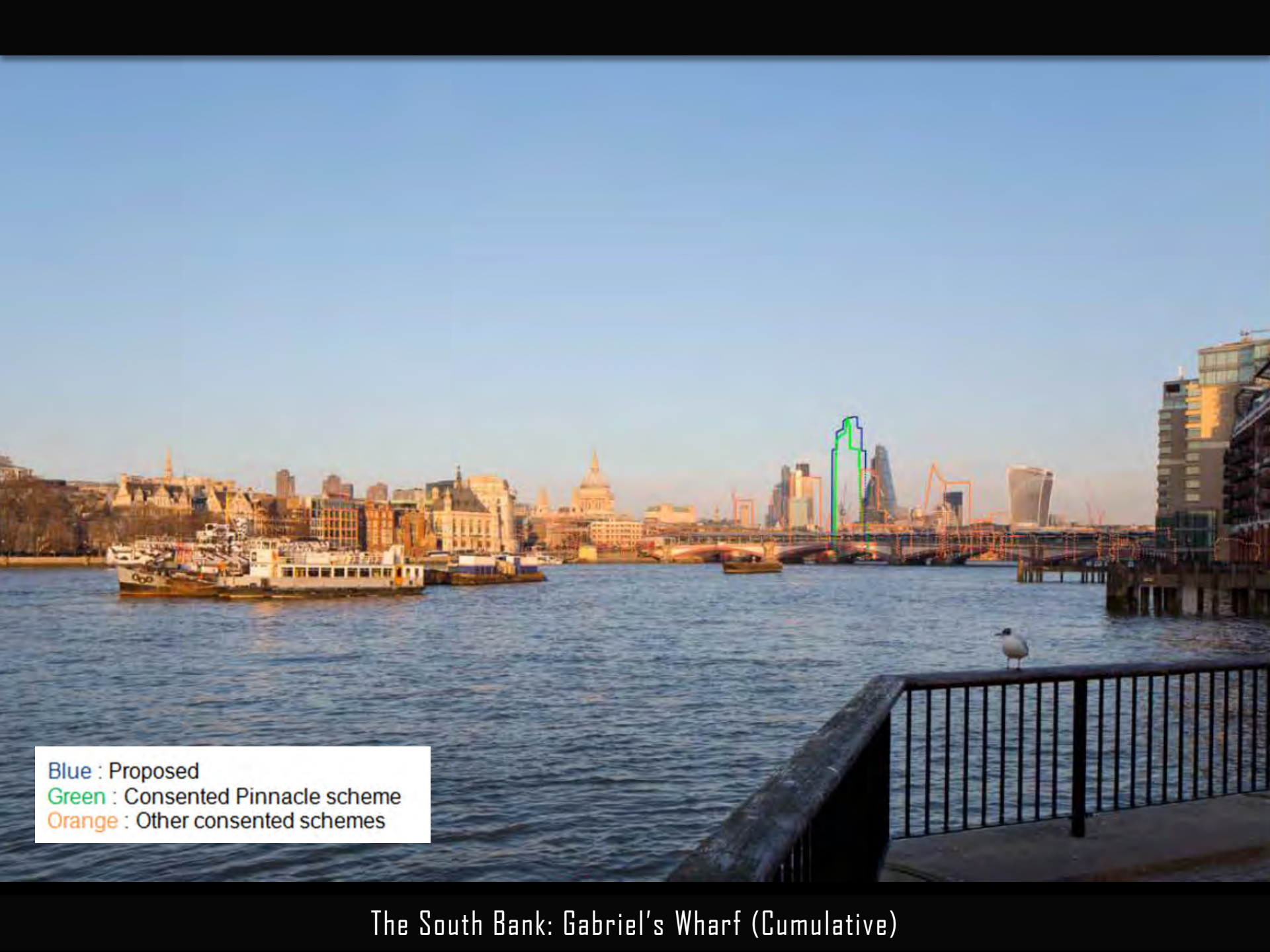


Blue : Proposed
Green : Consented Pinnacle scheme
Orange : Other consented schemes

London Bridge: (Cumulative)



South Bank: Gabriel's Wharf (Proposed)



Blue : Proposed

Green : Consented Pinnacle scheme

Orange : Other consented schemes

The South Bank: Gabriel's Wharf (Cumulative)



The Queen's walk at City Hall (Proposed with other Permitted schemes)

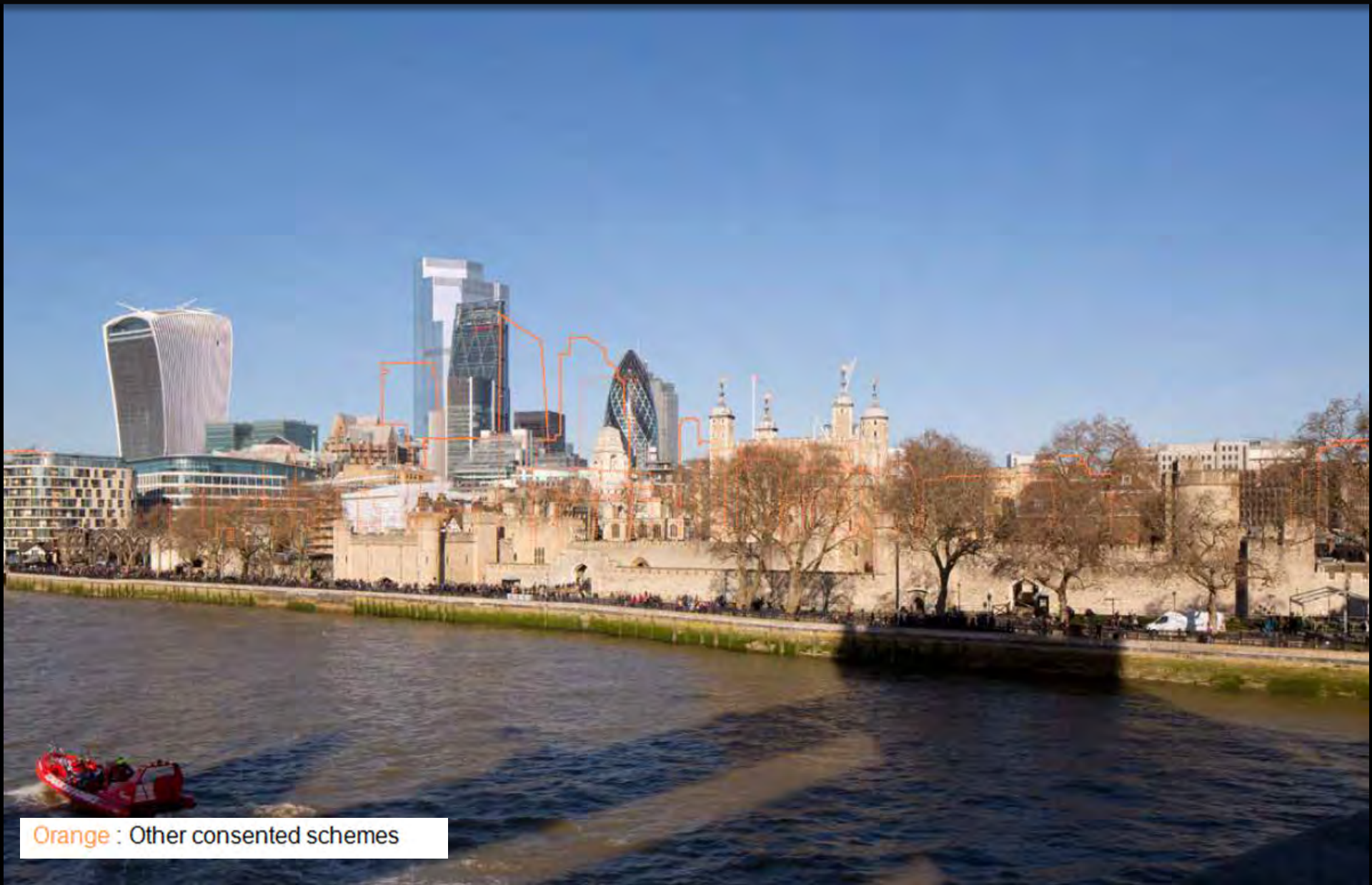


Blue : Proposed

Green : Consented Pinnacle scheme

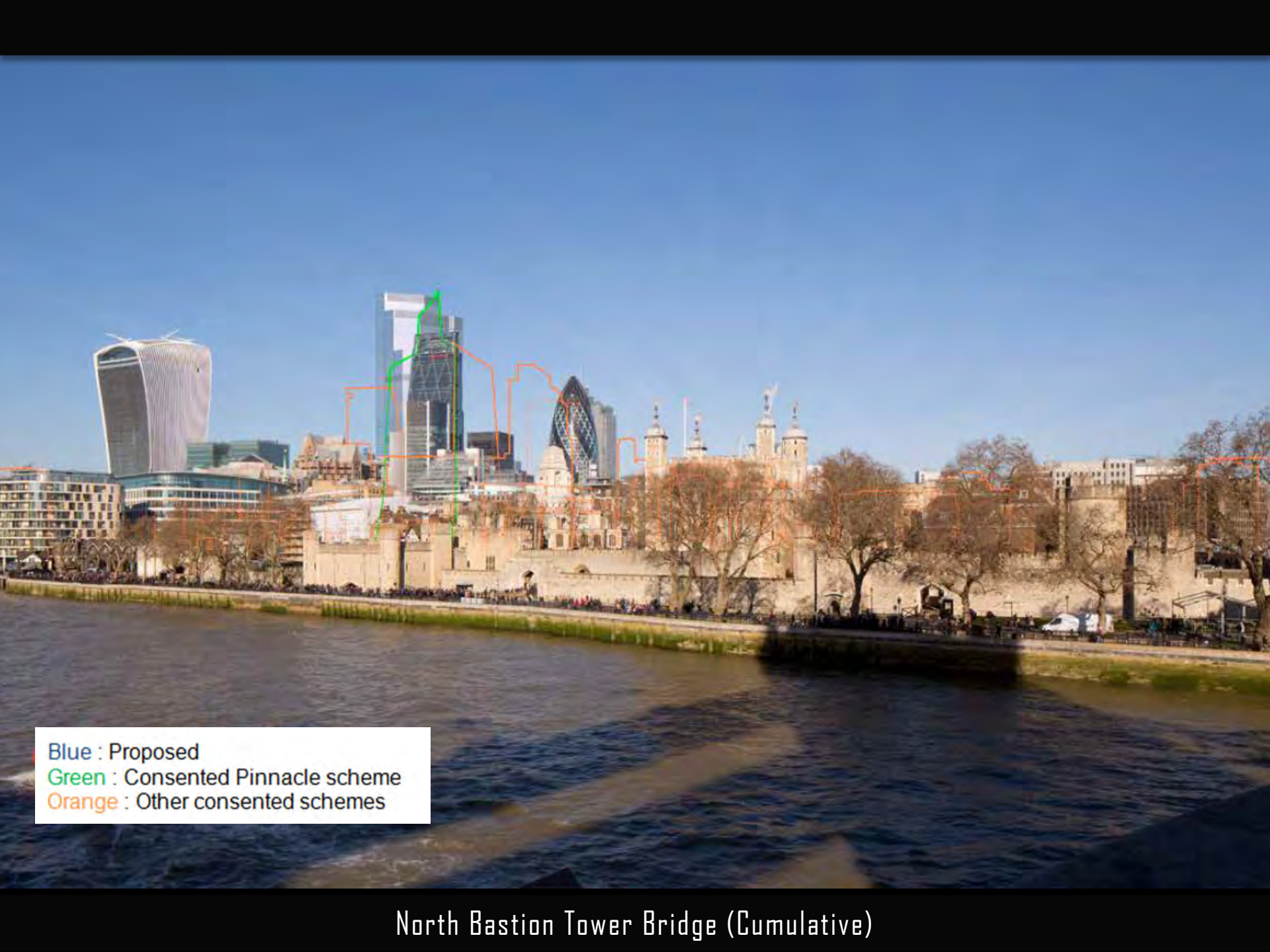
Orange : Other consented schemes

The Queen's Walk at City Hall (Cumulative)



Orange : Other consented schemes

North Bastion Tower Bridge (Proposed with other Permitted schemes)



Blue : Proposed
Green : Consented Pinnacle scheme
Orange : Other consented schemes

North Bastion Tower Bridge (Cumulative)

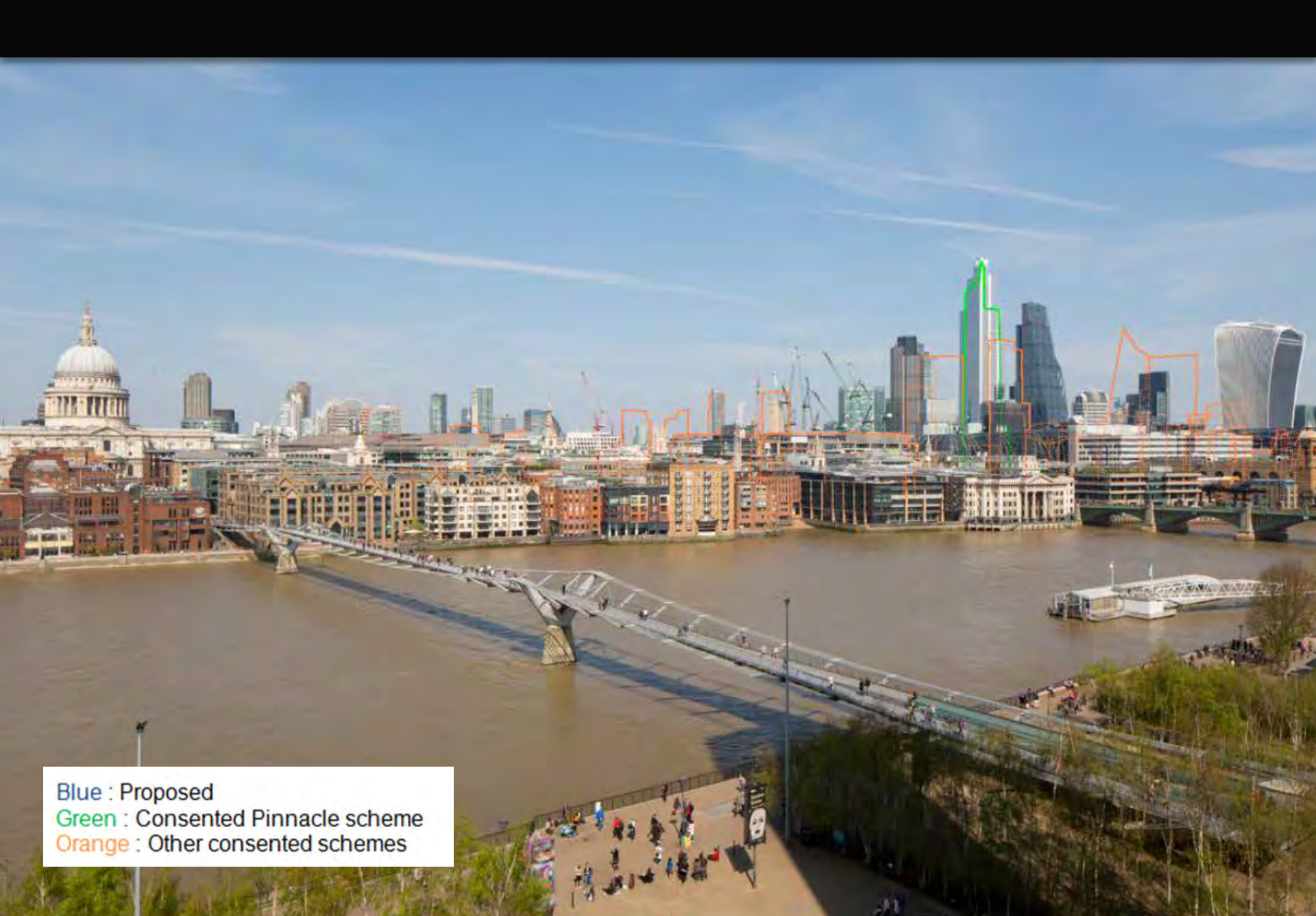


Blue : Proposed
Green : Consented Pinnacle scheme
Orange : Other consented schemes

Tower of London : Scaffold Site (Cumulative)



Tate Modern, viewing gallery (Proposed with Permitted schemes)



Blue : Proposed
Green : Consented Pinnacle scheme
Orange : Other consented schemes

Tate Modern, viewing gallery (Cumulative)



St. Paul's Golden Gallery (Proposed with Consented Schemes)



Blue : Proposed
Green : Consented Pinnacle scheme
Orange : Other consented schemes

St. Paul's Cathedral Golden Gallery (Cumulative)



Blue : Proposed

Proposed Fleet Street opposite Whitefriars Street



Monument viewing gallery (Proposed)



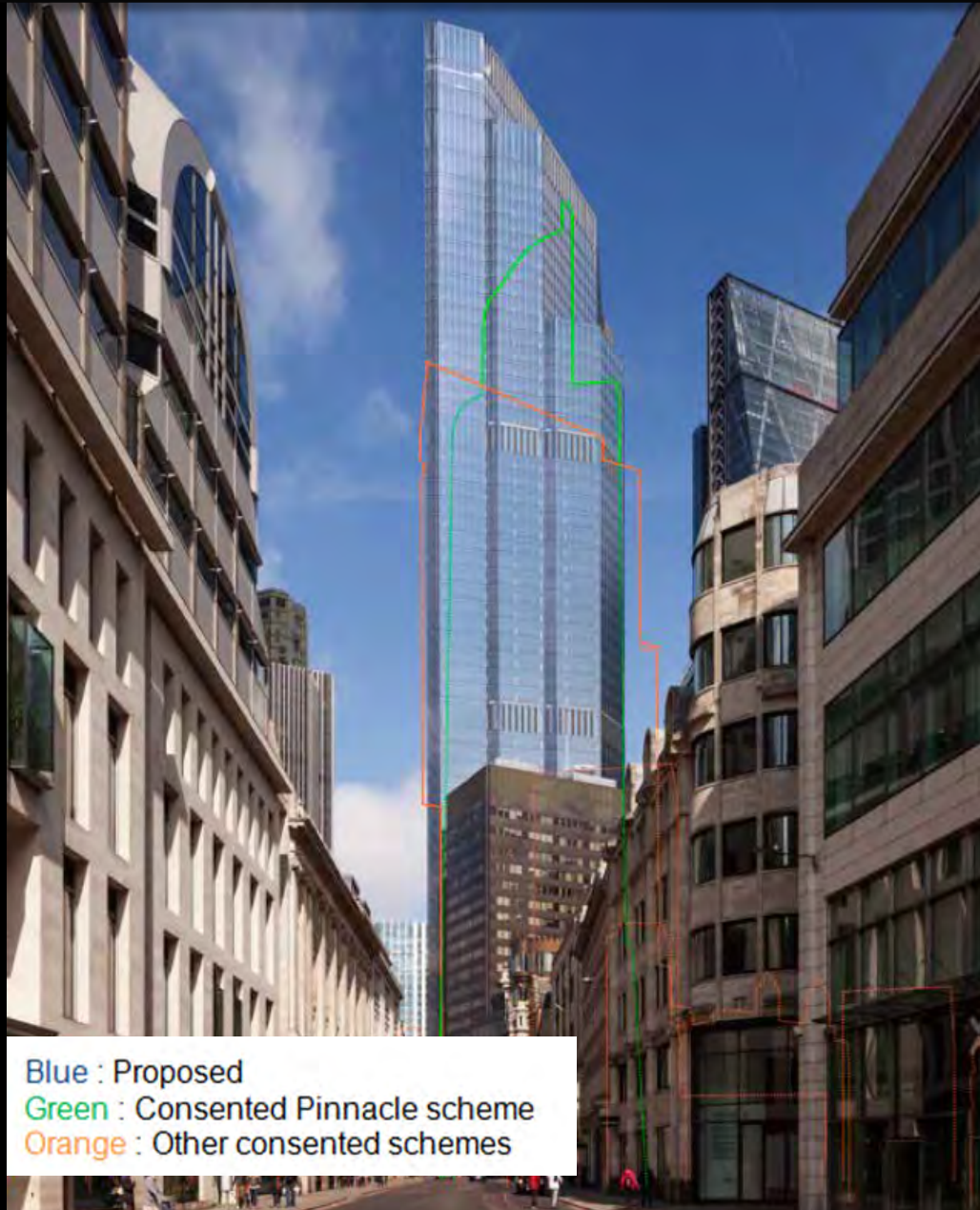
Blue : Proposed
Green : Consented Pinnacle scheme
Orange : Other consented schemes

Monument Viewing Gallery (Cumulative)



Orange : Other consented schemes

Gracechurch Street, at junction with Lombard Street (Proposed with other Permitted schemes)



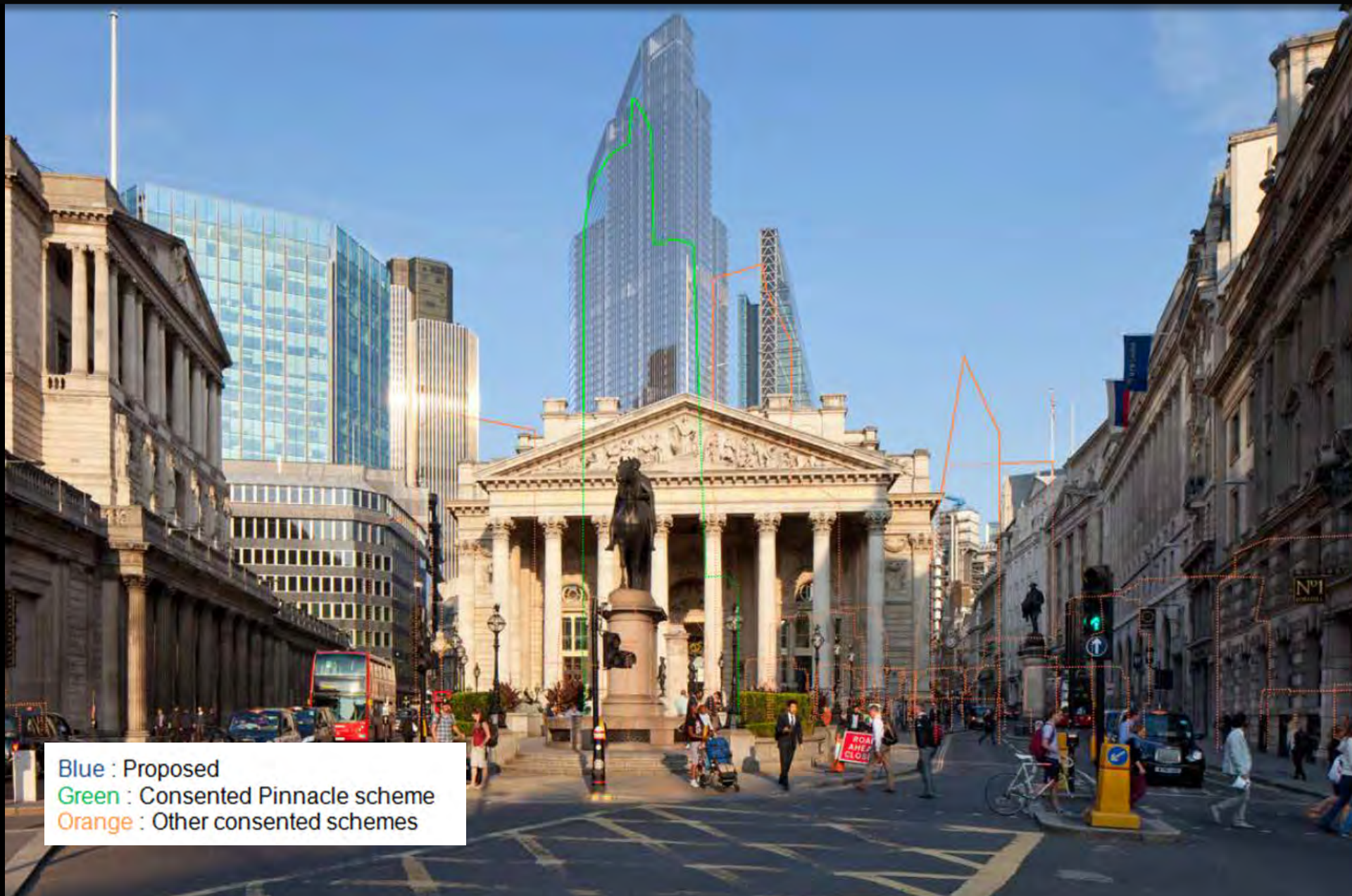
Blue : Proposed
Green : Consented Pinnacle scheme
Orange : Other consented schemes

Gracechurch Street, at junction with Lombard Street (Cumulative)



Orange : Other consented schemes

Bank Junction (Proposed with Permitted schemes)



Blue : Proposed
Green : Consented Pinnacle scheme
Orange : Other consented schemes

Bank Junction (Cumulative)



Bishopsgate, at junction with Liverpool Street (Proposed with other Permitted schemes)



Blue : Proposed
Green : Consented Pinnacle scheme
Orange : Other consented schemes

Bishopsgate, at junction with Liverpool Street (Cumulative)



Bishopsgate at junction of Wormwood Street (Proposed and Permitted schemes)



Bishopsgate, at junction with Wormwood Street (Cumulative)



Bishopsgate looking south : Permitted Pinnacle Scheme and Proposed



Bishopsgate frontage : Permitted Pinnacle scheme and Proposed



St Helen's Churchyard (Proposed)



Great St Helens : Permitted Pinnacle scheme and Proposed



Outside 6-8 Bishopsgate looking north (Proposed)

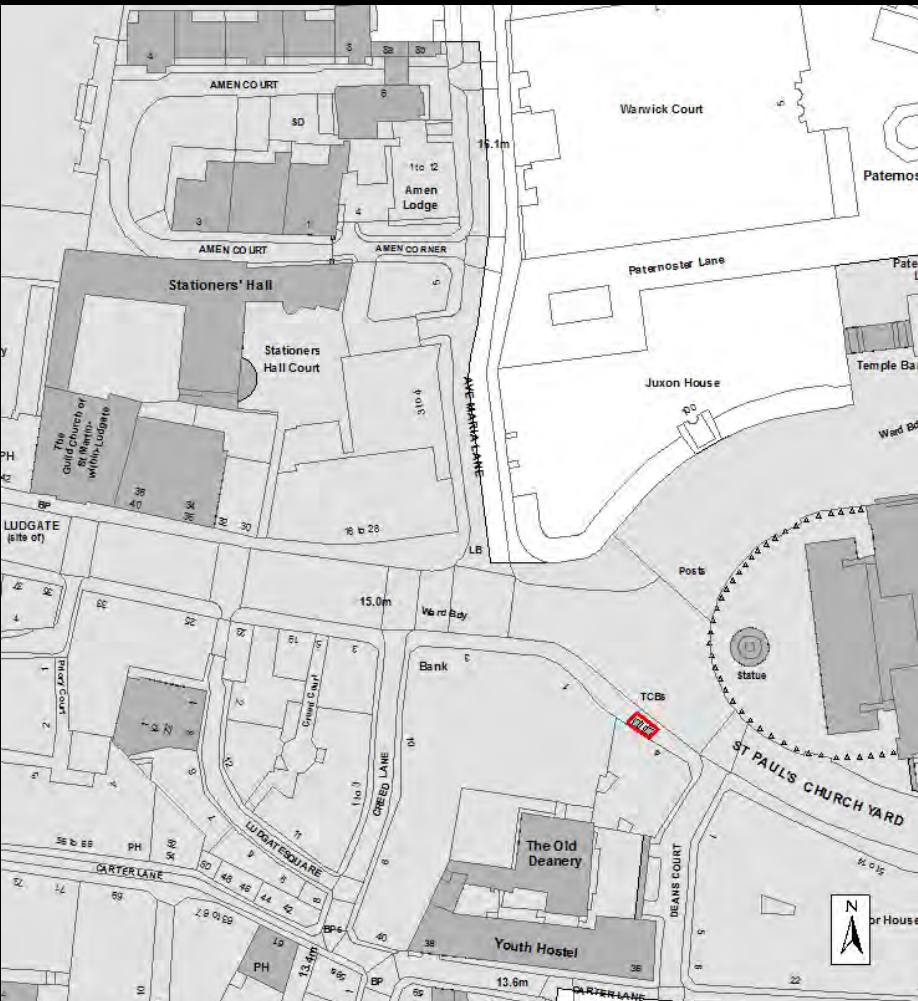


Undershaft to Crosby Square (Proposed)



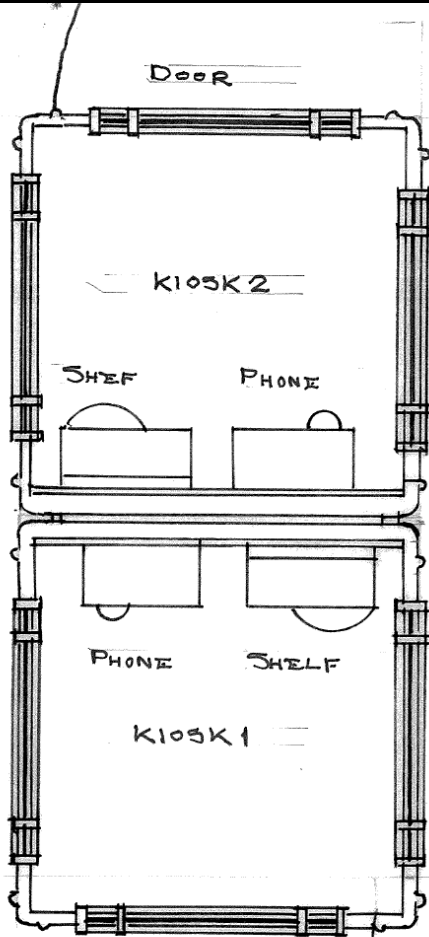
View from Tate Modern (Image credit: Hayes Davidson)

Payphone Boxes outside 4 St Paul's Churchyard

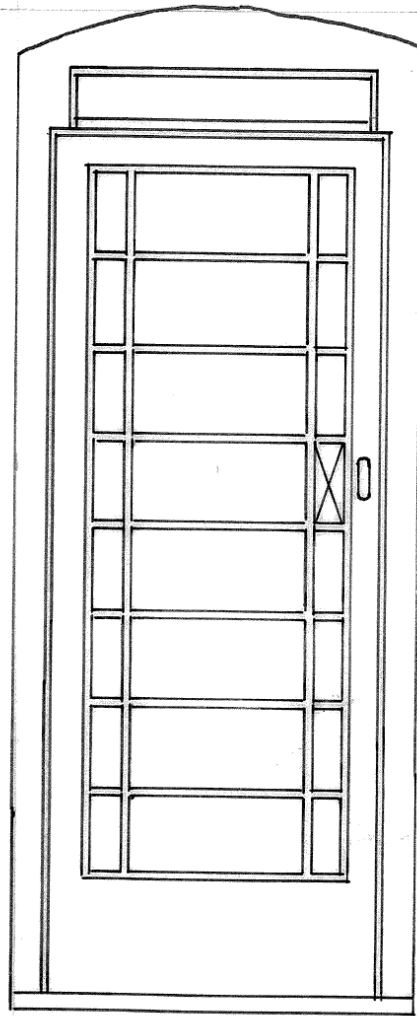


Site location plan

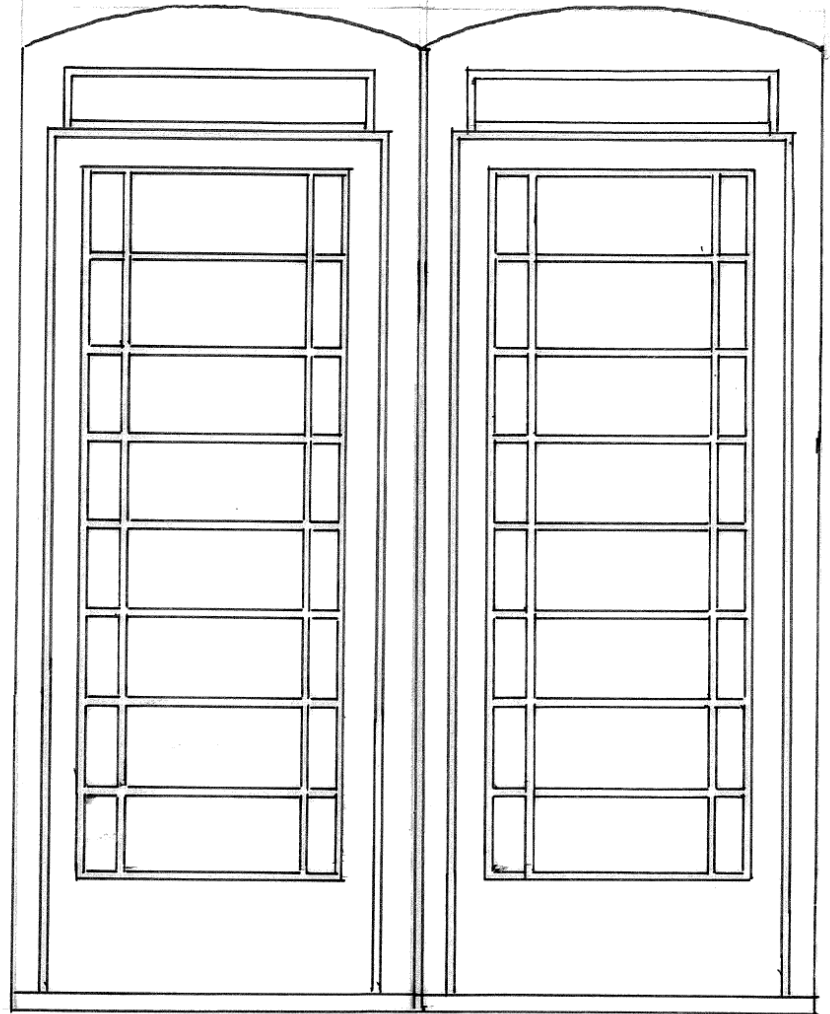
Payphone Boxes outside 4 St Paul's Churchyard



PLAN EXISTING
TELEPHONE KIOSK
850 MM WIDE
850 MM DEEP
2150 MM HIGH

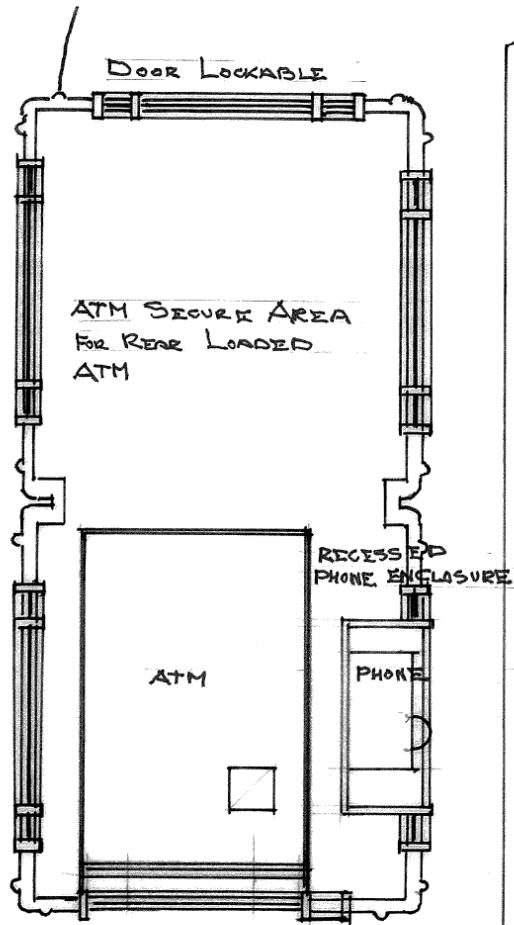


FRONT ELEVATION EXISTING

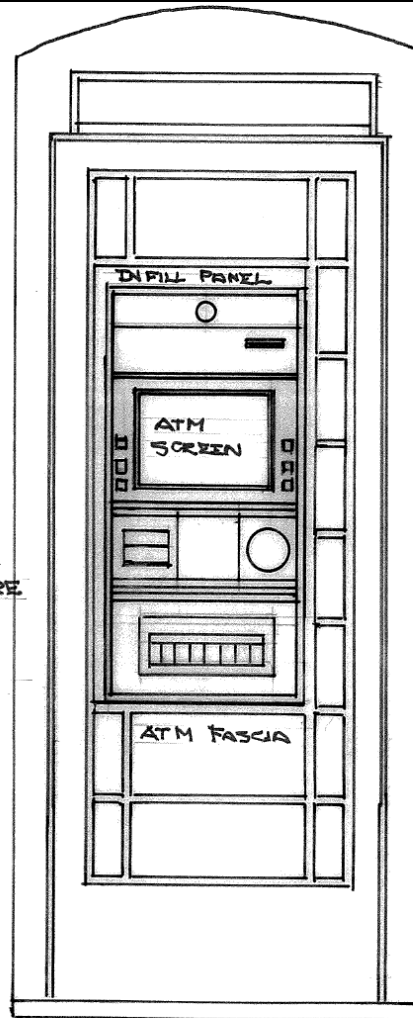


SIDE ELEVATION EXISTING

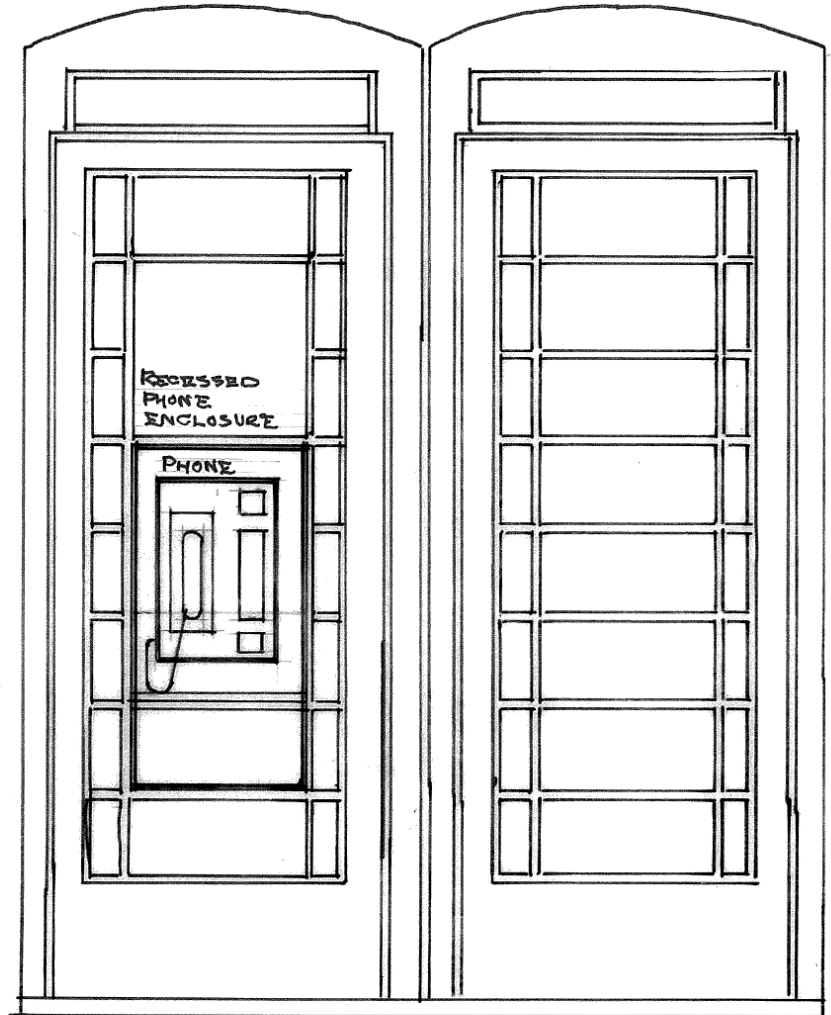
Payphone Boxes outside 4 St Paul's Churchyard



PLAN PROPOSED



FRONT ELEVATION PROPOSED



SIDE ELEVATION PROPOSED

Planning & Transportation Next Committee

15th December 2015

Planning for daylight and sunlight

Dr Paul Littlefair
BRE
November 2015

Part of the BRE Trust



Planning issues

- Loss of daylight to neighbours
- Loss of sunlight to neighbours
- Daylight to new dwellings
- Sunlight to new dwellings
- Sunlight in gardens and open spaces
- Solar dazzle
- Trees and hedges
- Solar energy

'Site layout planning for daylight and sunlight: a guide to good practice'

– New edition 2011

SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT

A guide to good practice

SECOND EDITION

Paul Littlefair



brepress

bretrust

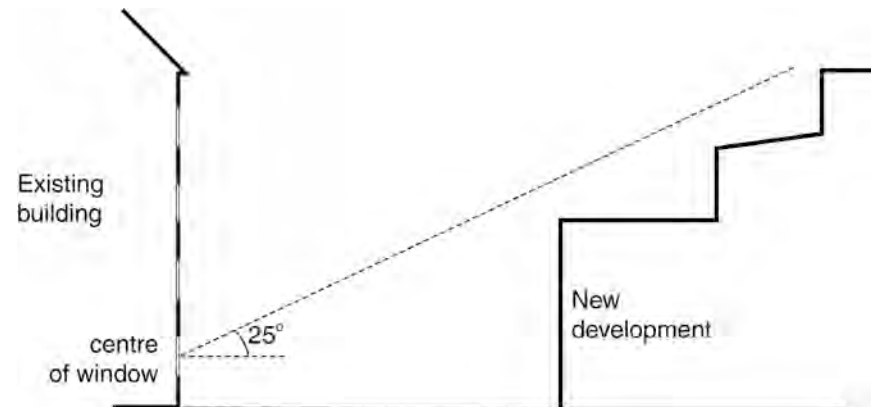
Loss of daylight to other buildings nearby

- Usually housing, but can apply to non-domestic with a need for daylight
- Applies to main window of living rooms, kitchens and bedrooms, not halls, stairs, bathrooms etc
- BRE Report gives simple angular criteria and calculation methods



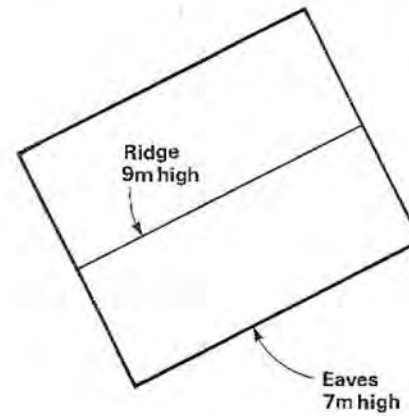
Scoping: loss of daylight and sunlight to neighbours

- Draw radius three times height of development
- Are there residential or other sensitive buildings in this area?
- May be affected if opposite new development and it subtends more than 25° to horizontal (spacing to height 2 to 1)
- Or if new development to one side and exceeds 45° angles



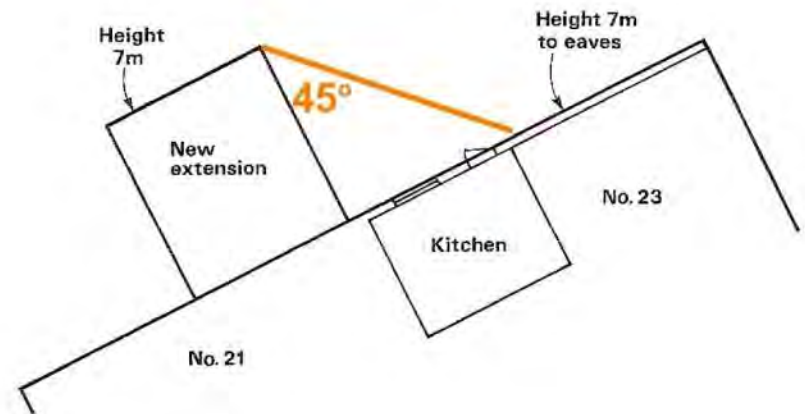
45 degree approach

Scale 1:100



ELEVATION 21-23 LUMEN AVENUE

Scale 1:100



Vertical sky component

Vertical sky component

$$\text{VSC} = E_v / E_h \times 100\%$$

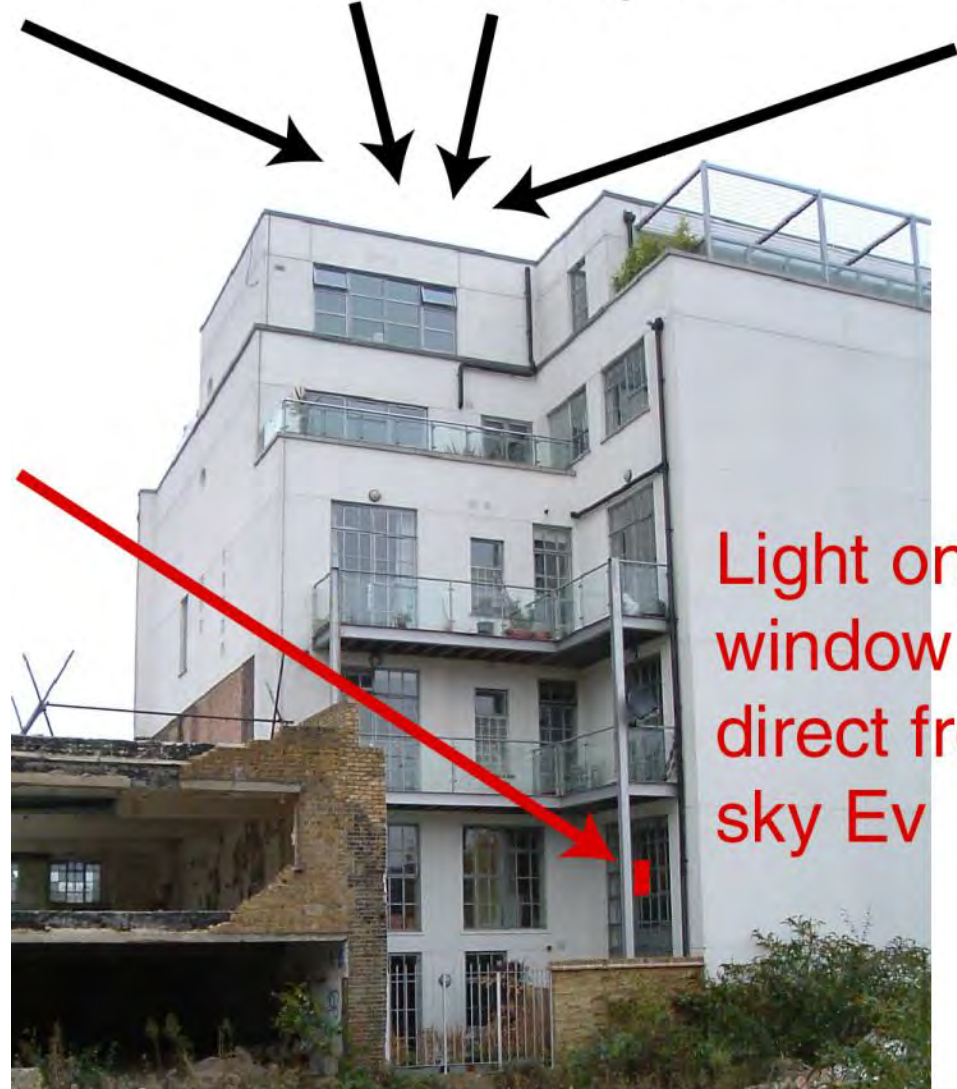
where E_v = direct sky light reaching window

E_h = light on unobstructed plane

Maximum value 40%

27% gives good potential for daylighting

Light on unobstructed horizontal plane E_h

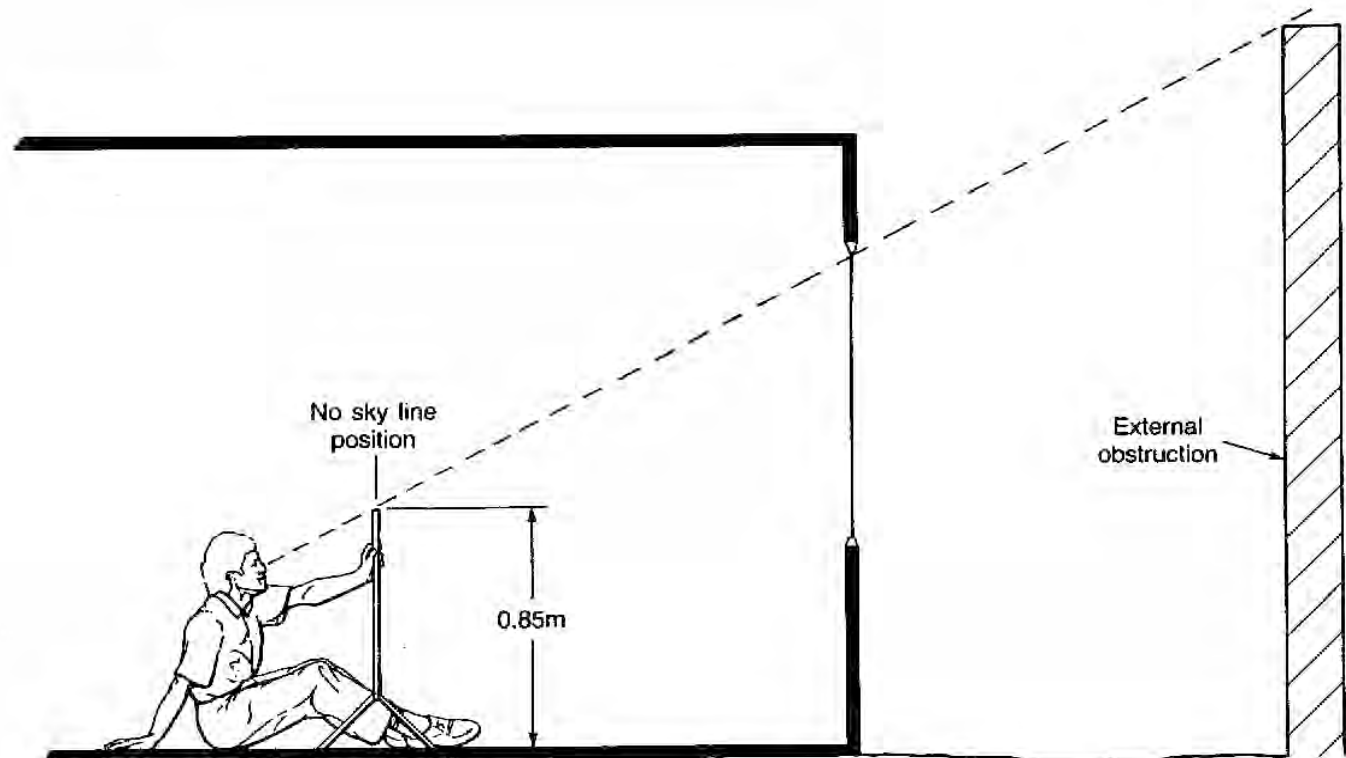


Light on window direct from sky E_v

Daylight: vertical sky component

- If new building exceeds angular guidelines, can quantify effect by calculating vertical sky component at centre of each main window
- VSC is a measure of amount of daylight reaching window. Maximum is 40%.
- If VSC above 27% with the new development in place, still enough daylight.
- If VSC above 0.8 times existing value, loss is small.

- Daylight distribution affected if area of room that can receive direct sky light is less than 0.8 times previous area
- Do calculation 'where room layouts are known'
- An extra criterion, not an alternative



Loss of sunlight: annual probable sunlight hours

- Loss of sunlight can be quantified by calculating annual probable sunlight hours to main living room windows
- Defined as hours of sunlight falling on centre of window in typical year, as % of unobstructed ground.
- Only windows facing within 90° of due south need to be taken into account
- If existing window still receives 25% of annual probable sunlight hours year round, 5% in winter (23 Sept-21 March), enough sunlight still reaches it
- Otherwise if it receives more than 0.8 times former value, both all year round and in the winter, or if the overall annual loss is not greater than 4% of annual probable sunlight hours, loss of sunlight is small

- The advice is not mandatory.
- Numerical guidelines should be interpreted flexibly since natural lighting is only one of many factors in site layout design
- In special circumstances the planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.
- Guide encourages flexibility (Appendix F)



A good neighbour?



- If existing building is close to boundary or narrow street, or has balconies or projections that block its own light, may need to relax guidelines and allow a greater loss of light

Lightwells



Rights to Light

- A legal right that one property may acquire over the land of another, usually after 20 years or by legal agreement
- If light reduced to below sufficient level, adjoining owner or tenant may sue. May get damages or an injunction to prevent building.
- Right to light from the sky alone, not sunlight
- Rights to light separate from the planning process

Scoping: daylight provision to new development

Concern for new residential buildings, especially living rooms, where:

- Part of basement flats
- Other floors where there are large nearby obstructions, subtending $>45^\circ$
- In lightwells or inside corners of courtyards
- Rooms have large balconies or overhangs
- Rooms are unusually deep, more than 6m or so from windows
- Windows are unusually small (windows less than one tenth floor area)

The last two may arise from conversions of commercial or industrial buildings.



Daylight in new dwellings; average daylight factor

- The average daylight factor (ADF) is the average illuminance in a space divided by the simultaneous horizontal unobstructed illuminance outside, under standard overcast sky conditions.
- 5% ADF gives a well daylit space
- 2-5% gives good daylighting though supplementary electric lighting may sometimes be needed.
- BS 8206 Part 2 gives minimum values for housing of 2% for kitchens, 1.5% for living rooms, 1% for bedrooms

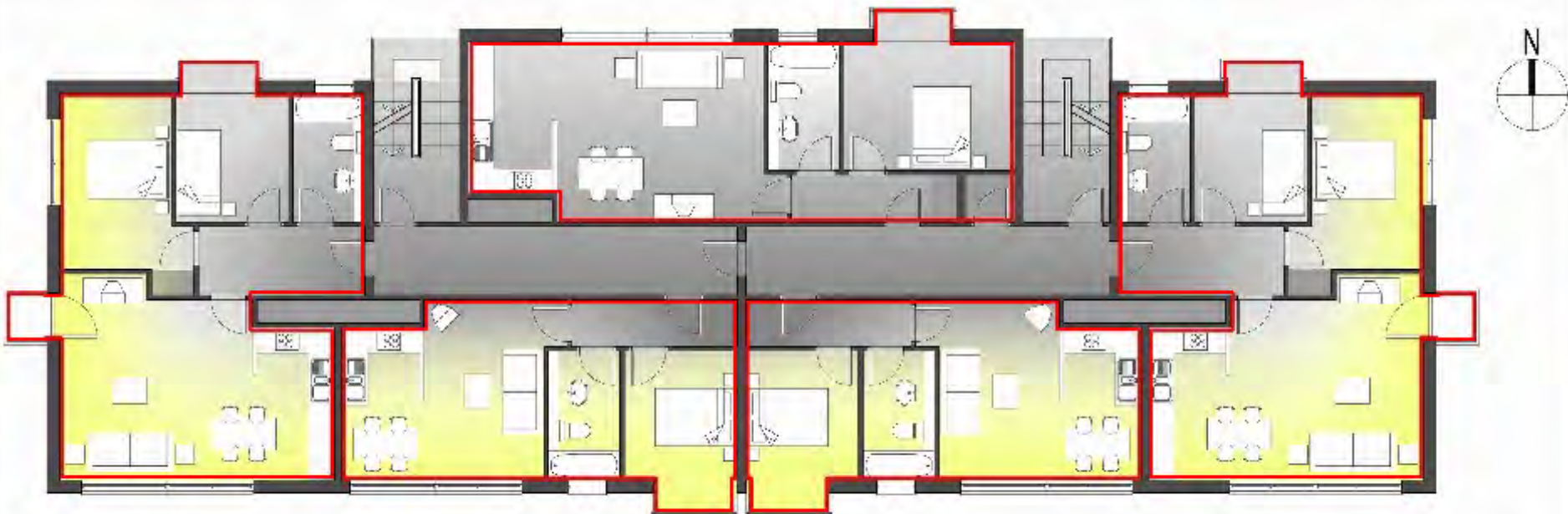
Scoping: sunlight provision for new development and open spaces nearby

- Do a majority of living rooms face northerly, or have big obstructions (refer to assessment of daylight in new development)?
- Are there open spaces in the new development which may require sunlight?
- Are there parks, gardens or sitting out areas nearby which may require sunlight?



Sunlight in new developments

- Ideally new flats should have living room facing within 90 degrees of due south
- For a large residential development, can count how many dwellings have window to a main living room facing south, east or west.



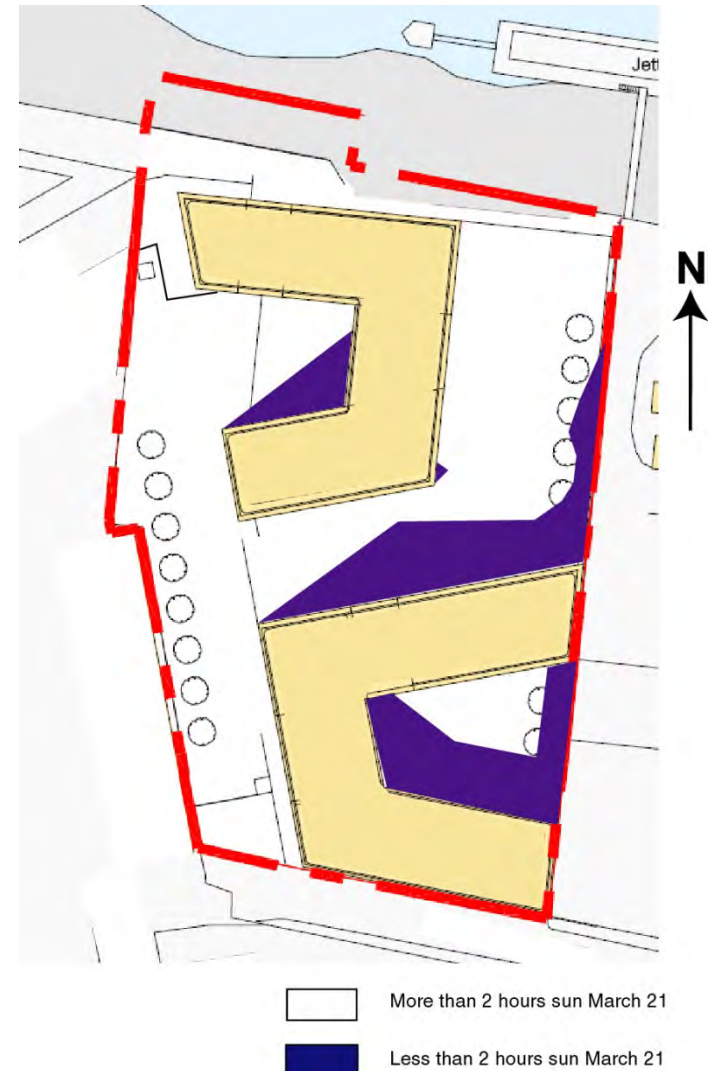
Gardens and open spaces

- the main back garden of a house
- parks and playing fields
- children's playgrounds
- outdoor swimming pools and paddling pools
- sitting out areas such as those between non-domestic buildings and in public squares
- focal points for views such as a group of monuments or fountains



Sunlight in gardens and open spaces

- Recommendation: at least half the garden should receive at least two hours of sunlight on 21 March.
- In an existing garden, if the above is not met, loss of sunlight is significant if the area with two hours sun on 21 March is less than 0.8 times its former size.
- If only shadow plots at different times are provided, can sometimes guess if most of garden receives two hours sun.



Scoping: solar dazzle

- Does new building have extensive glazing, reflective glazing or cladding?

AND

- Is it near areas where dazzle could be an issue (road junctions, pedestrian crossings, railways)

AND

- Would drivers have a view of the building as they approach it?



Environmental impact assessment

Where loss of light does not meet the guidelines, impact is minor, moderate or major adverse.

Factors tending towards a minor adverse impact include:

- only a small number of windows or limited area of open space are affected
- the loss of light is only marginally outside the guidelines
- an affected room has other sources of skylight or sunlight
- the affected building or open space only has a low level requirement for skylight or sunlight
- there are particular reasons why an alternative, less stringent, guideline should be applied

Environmental impact assessment

Factors tending towards a major adverse impact include:

- a large number of windows or large area of open space are affected
- the loss of light is substantially outside the guidelines
- all the windows in a particular property are affected
- the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight, eg living rooms in dwellings, or a children's playground.

Questions?

- BRE Report ‘Site layout planning for daylight and sunlight: a guide to good practice’

SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT

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SECOND EDITION

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