ASBP Reuse of Concrete Webinar: Can we reuse concrete – efficiently?

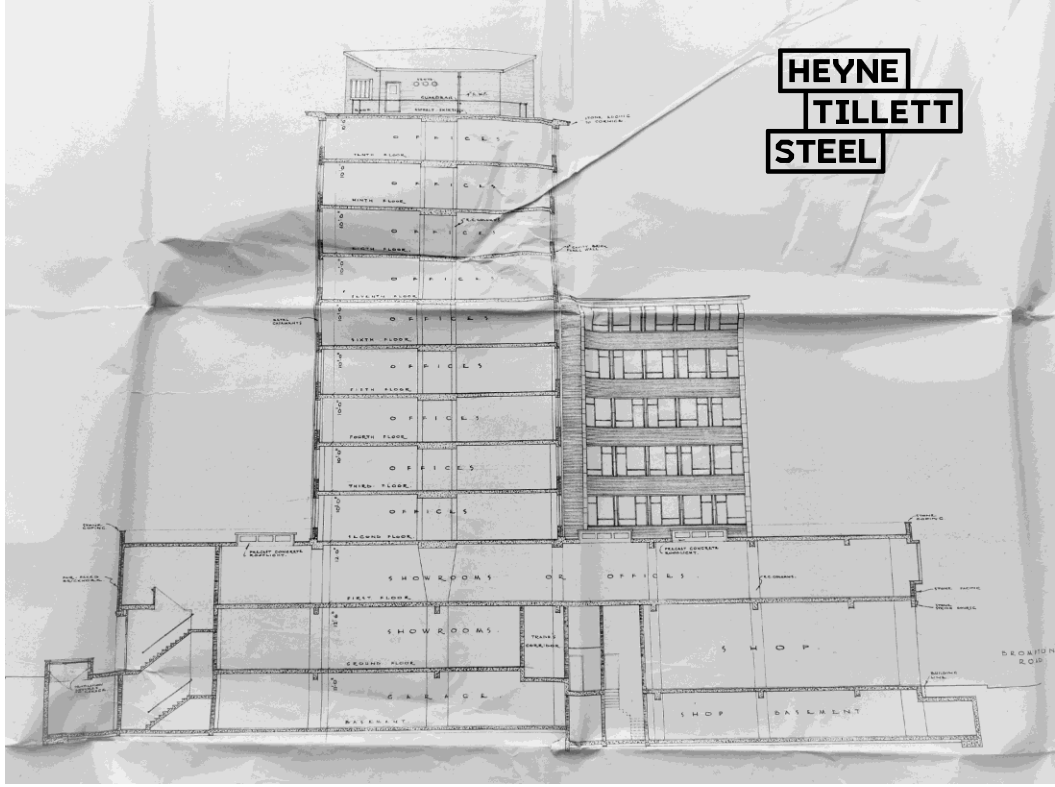
07 October 2025

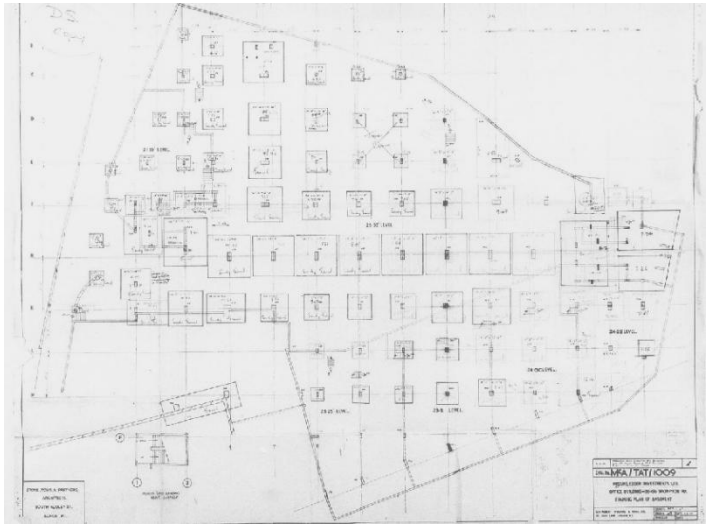
1 Knightsbridge Green, City of Westminster

- Client: BEAM
- Architect: Allford Hall Monaghan Morris
- Size: 35,400m² GIA

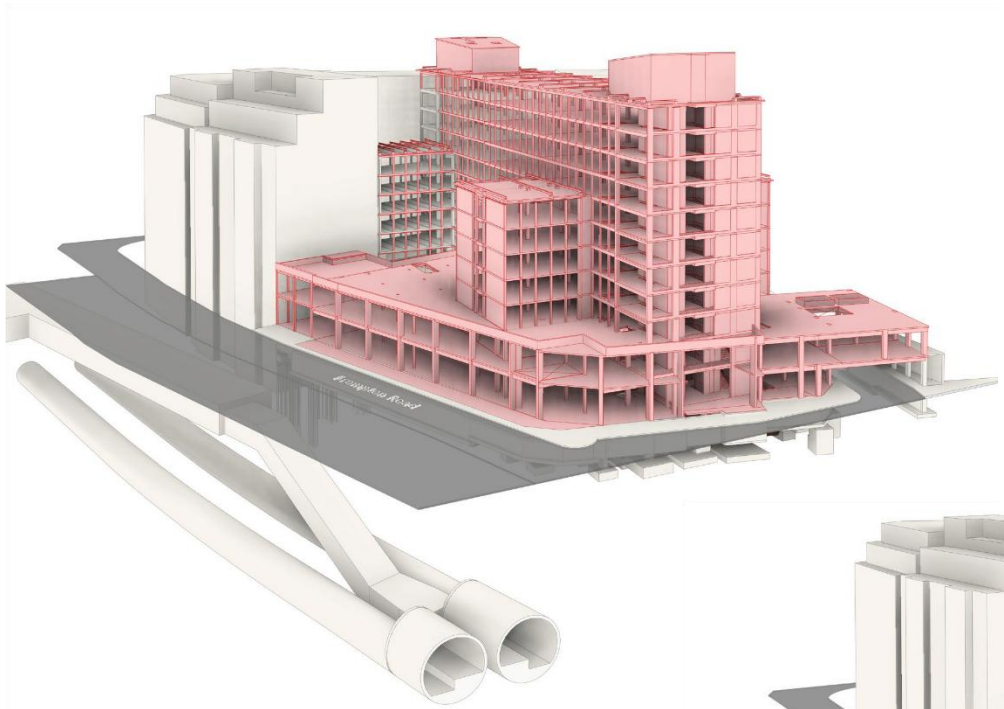
The Site

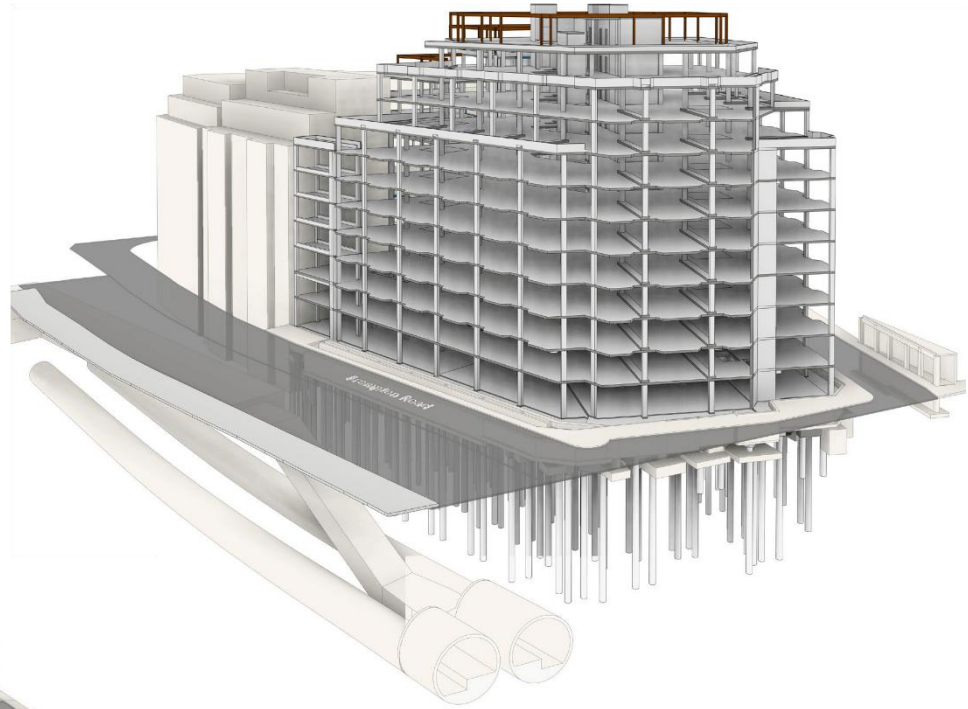

M°ALPINE
OFFICE BUILDING
TO·LET
ERNEST OWERS & WILLIAMS
107 PARK ST MAYFAIR W.1
Tel: MAYfair 8386
AND BRANCHES
CANADA DRY
Ambassador's Daughter
PXM 807

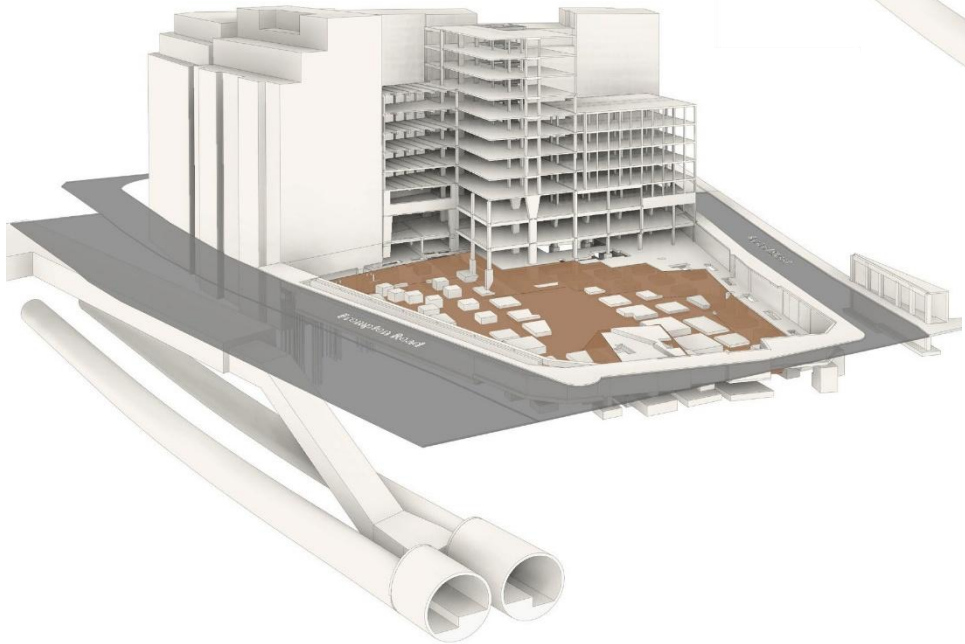

HEYNE
TILLETT
STEEL
OFFICES
SHOWROOMS
SHOP
SHOP BASEMENT



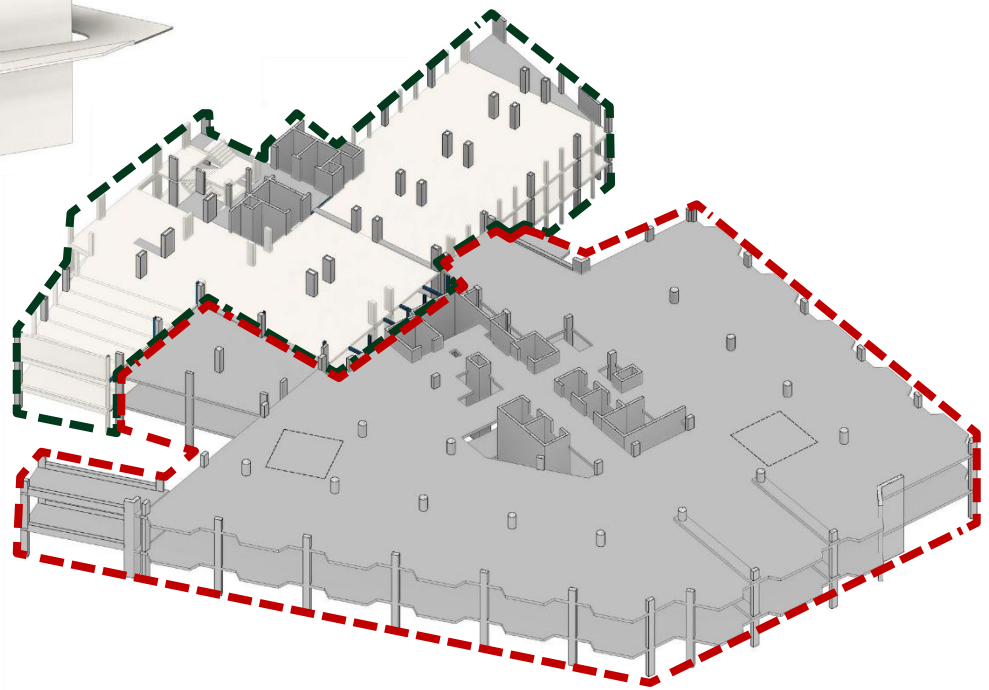
The scheme





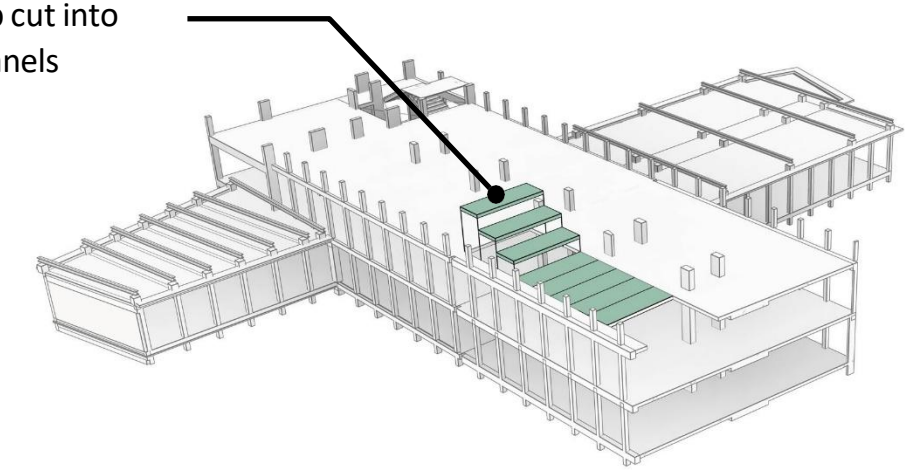


Proposed structure



Slab reuse

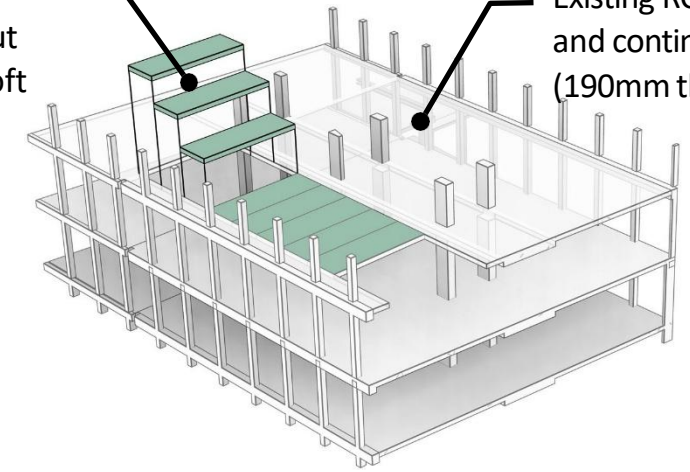
Existing slab cut into 4.5x15m panels



Existing Building Extraction

Reused existing concrete slabs cut into planks for soft spots (4.5 x 1.5m size)

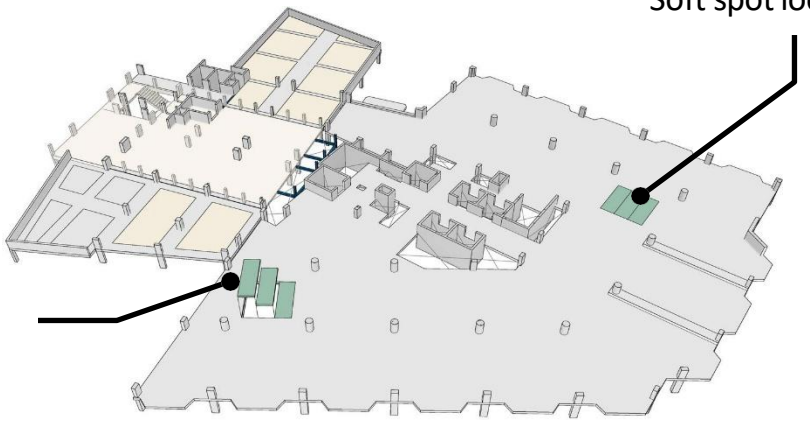
Existing RC band beams and continuous slabs (190mm thick)



Extraction: detail

Soft spot location

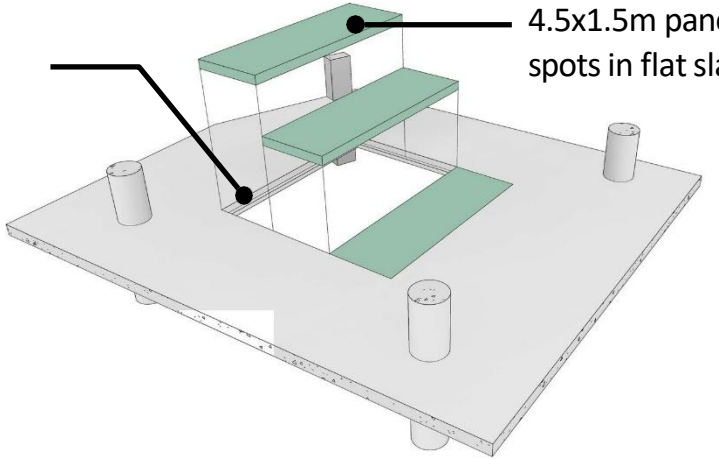
Soft spot location



Typical Proposed Floor

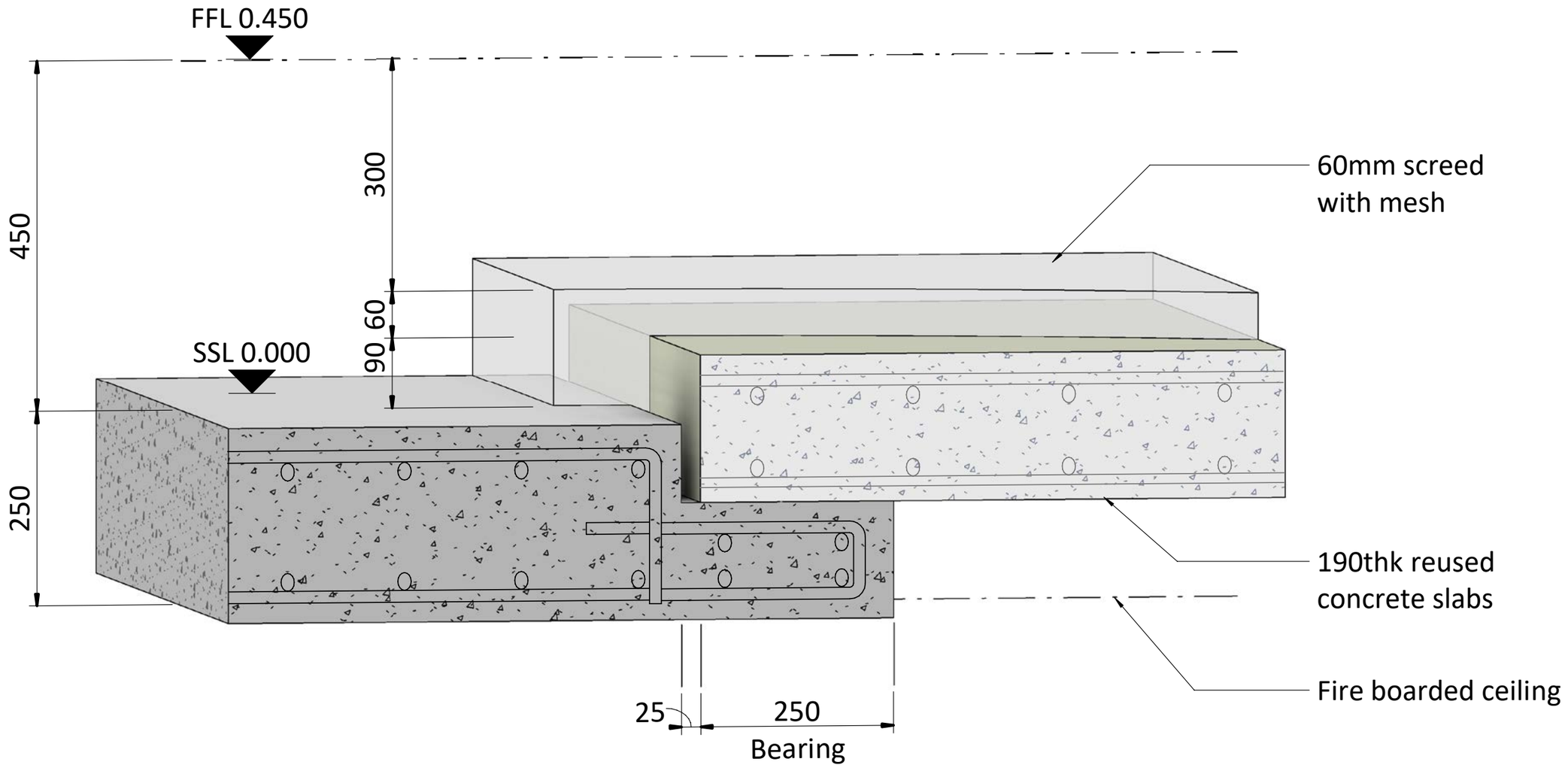
Corbel support to concrete planks

4.5x1.5m panels in soft spots in flat slab

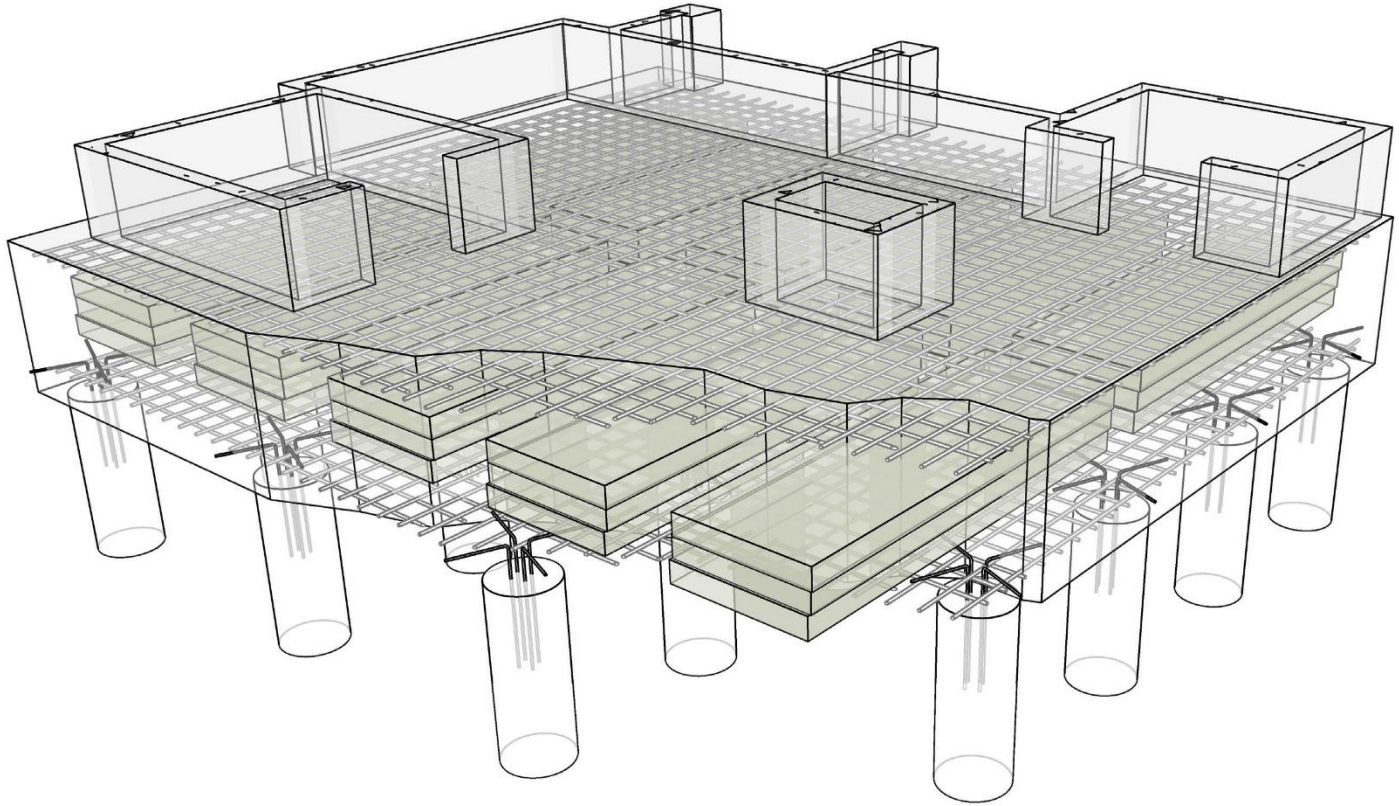


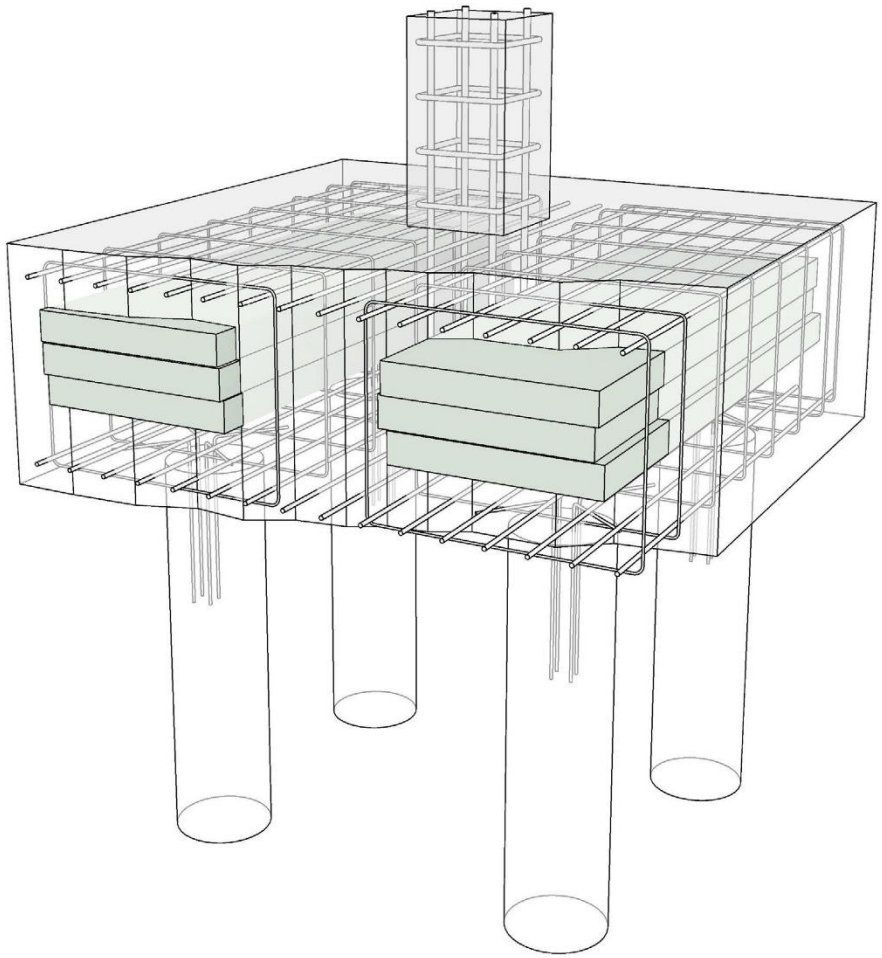
Soft Spot Infill Detail

Panel Detail



Slab reuse in foundations





Practicality

McGEE

A Specialist Engineering Contractor.

MOBILISATION PHASE

DELIVERY PHASE

PREP.

- Liaise with insurers
- Acceptability criteria; damage criteria, condition, process and key milestones
- Design & approve Temporary Works
- Testing requirements/ specification to be agreed specification with Engineer's HTS Prov Sum.

SURVEY.

- Mark each 'slab' for reuse
- Create exclusion zone
- Visual survey
- Ferrous/GPR Survey of each slab location
- Take a core sample from each slab for carbonation cylinder strength and chemical test.

PAINT & PROP.

- Apply carbonation sealant/inhibitor
- Backprop slabs

CUT.

- Cut slab edges with inclined saw
- Spray cut edges with zinc rich spray to protect reinforcement

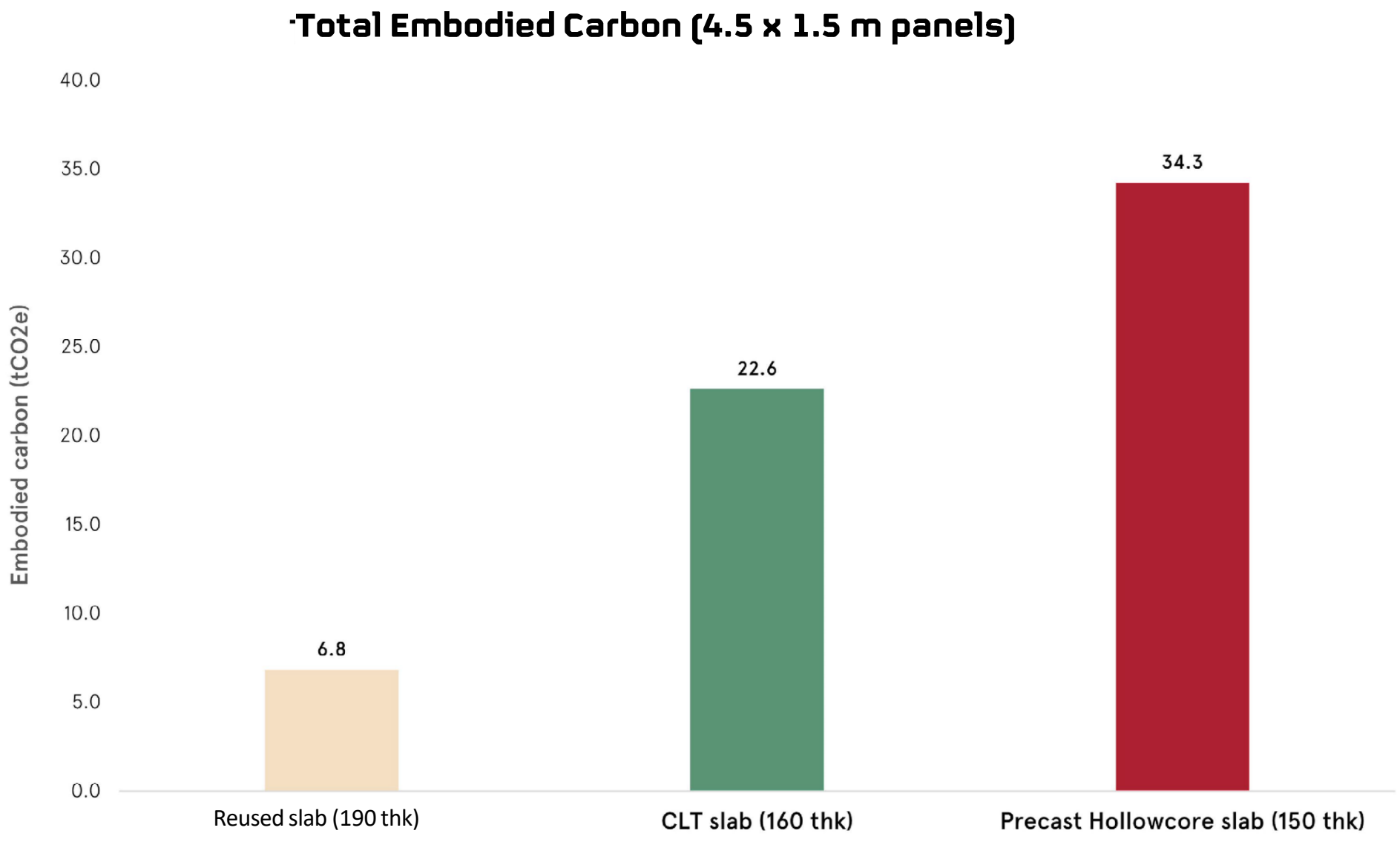
LIFT.

- Set up lifting rigging and any lifting holes required through slab
- Lift onto transport

STORE.

- Storage outside is likely to be acceptable, with protection from direct rainfall such as a tarpaulin
- Stacking with timber spacers is recommended to allow periodic inspection and avoid moisture pooling on the slabs
- We do not believe full scale load testing of the planks will be required
- Any cosmetic repairs can be done offsite

Infill embodied carbon



Brunswick Centre Hub, Camden

Unlocking the Brunswick carpark

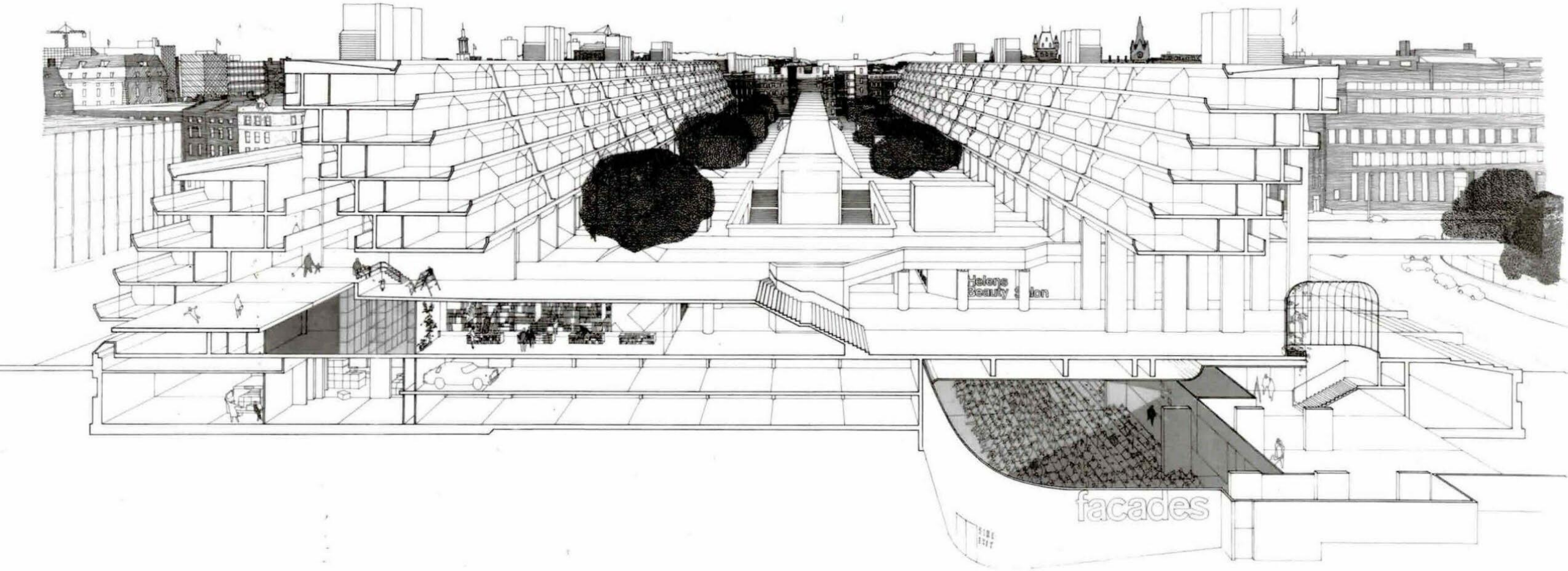
HEYNE TILLETT STEEL

Design team

+ Client: Lazari
+ Hotel Operator: Whitbread Hub
+ Architects: Axiom

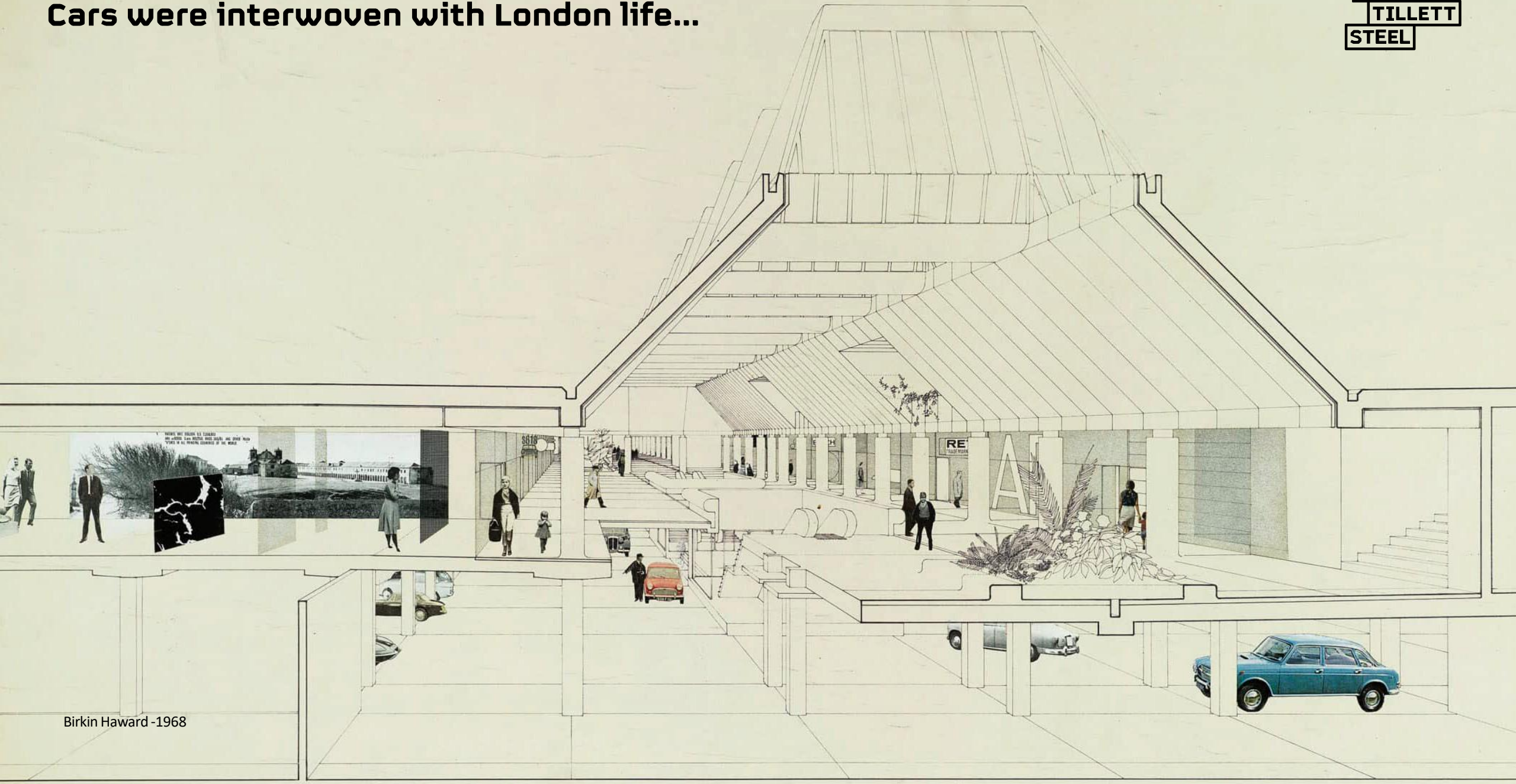
Looking east along Bernard Street,
Richard Einzig

Iconic human-scale brutalism in the heart of Bloomsbury



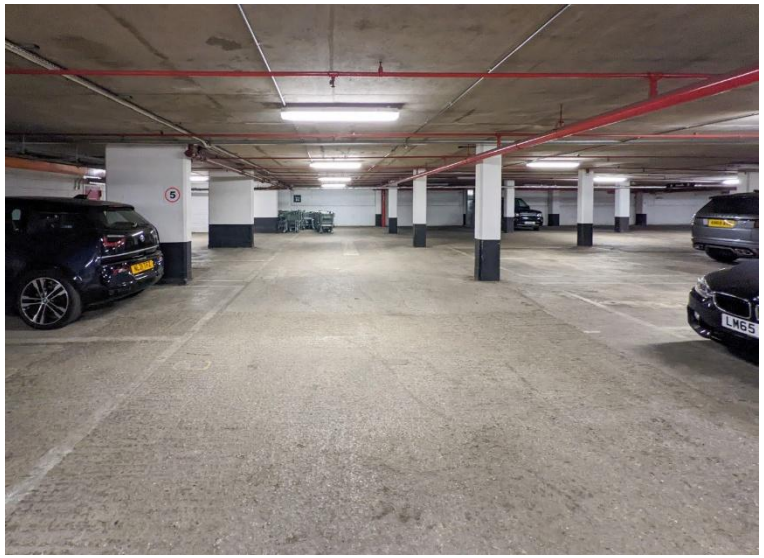
Birkin Haward -1968

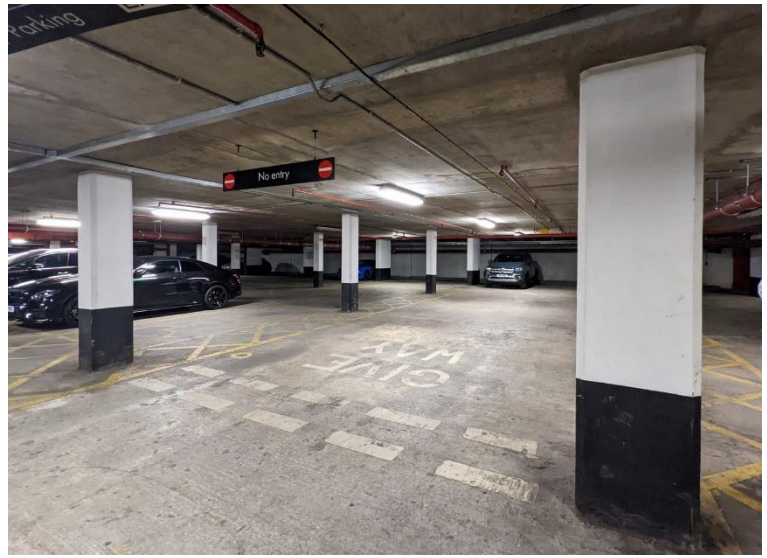
Cars were interwoven with London life...

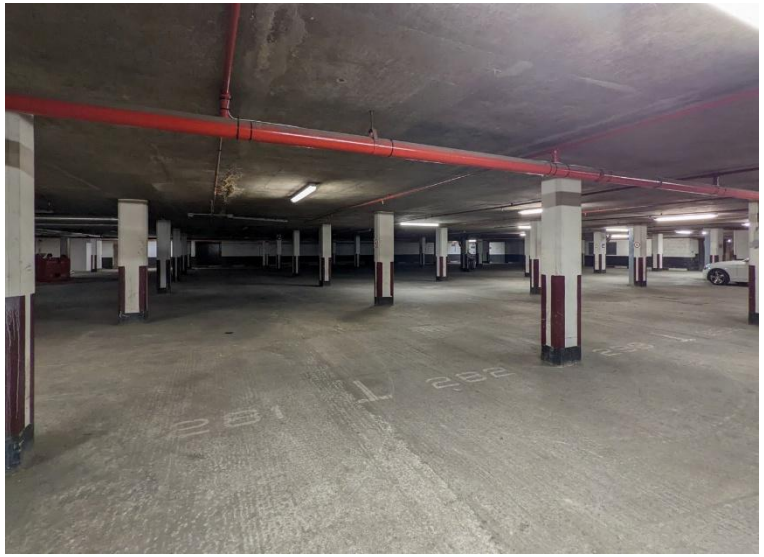


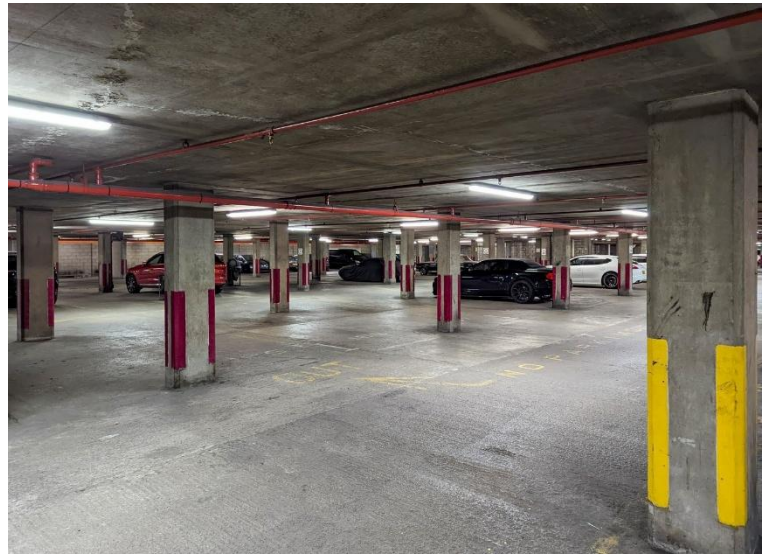
Birkin Haward -1968

Existing basement

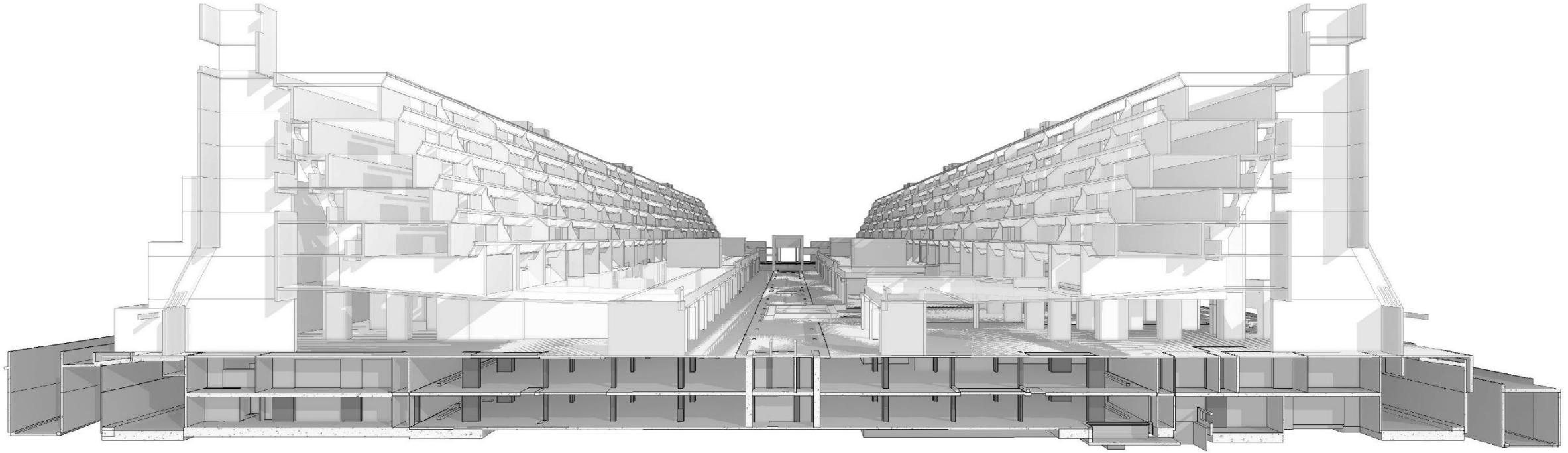






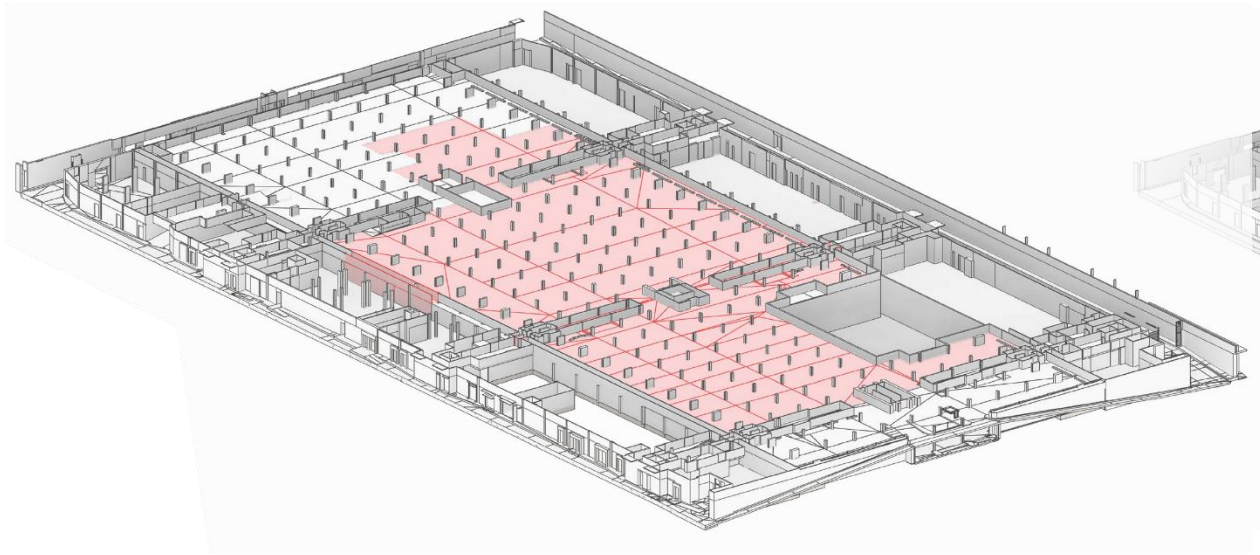


The project

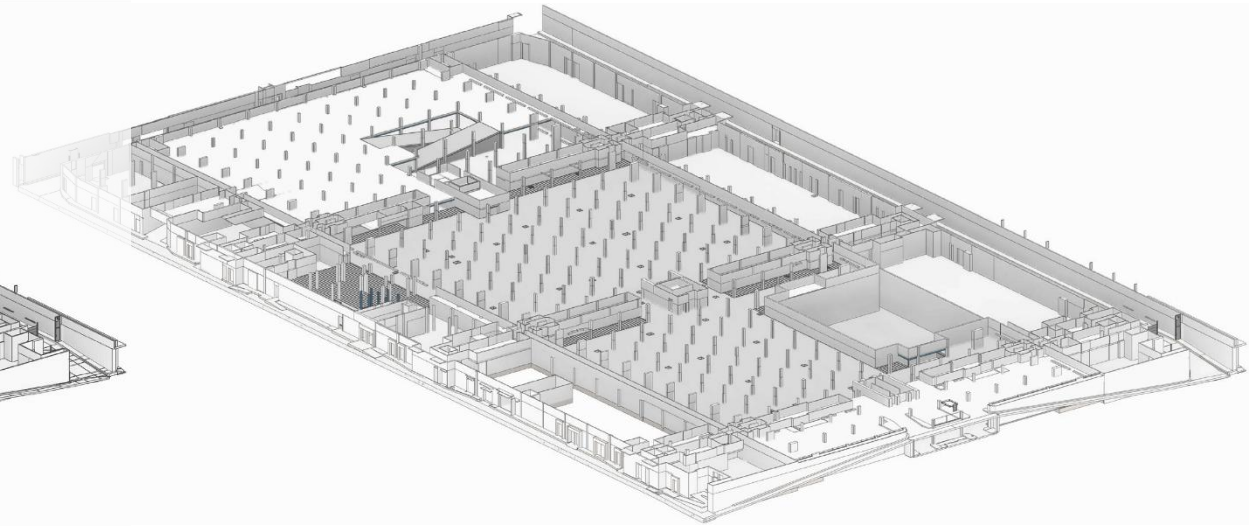


- Creation of 207 room hotel
- Existing slab to soffit 2.5m
- New slab to soffit 4.0m

The project

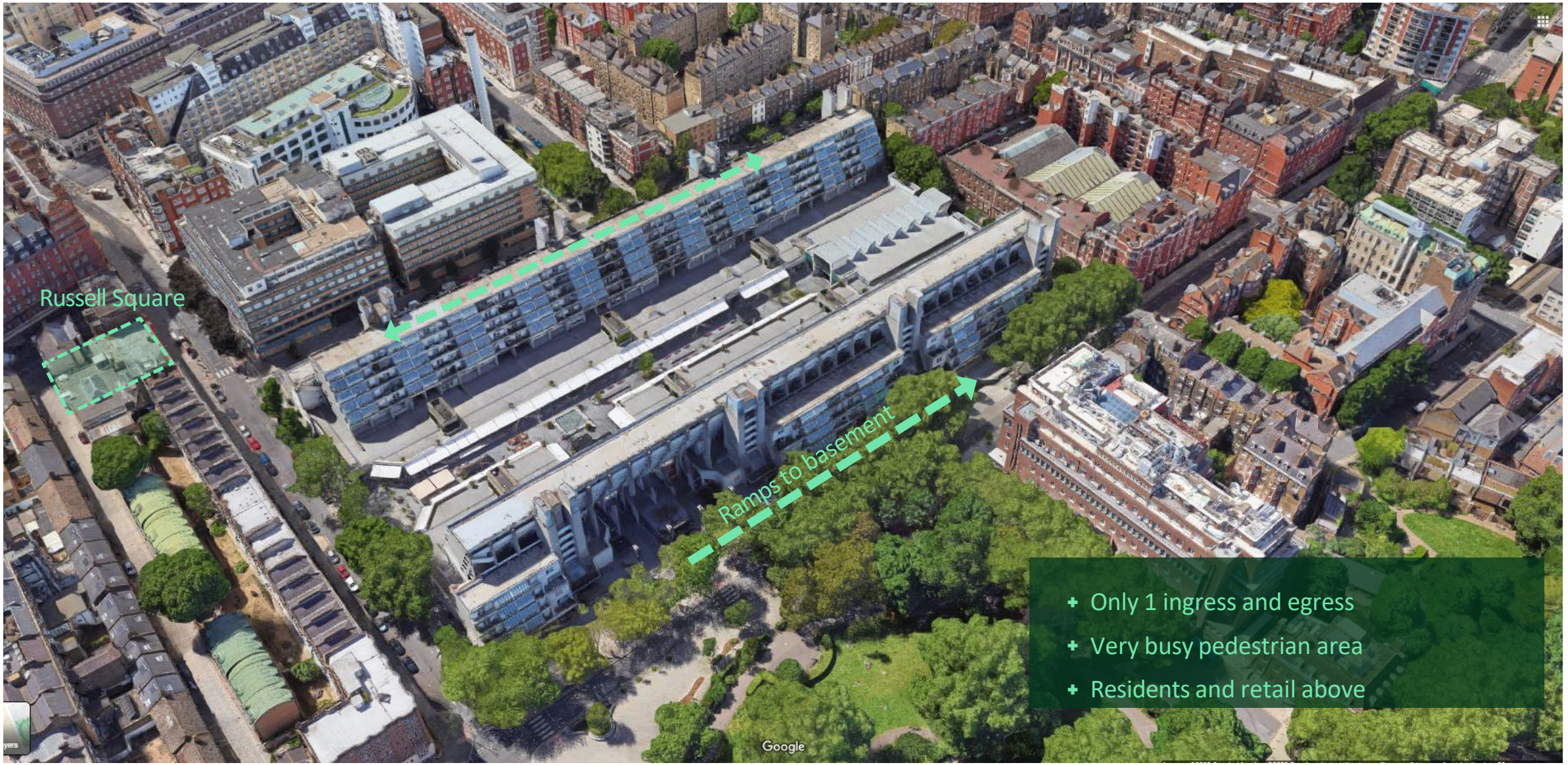


Demolished



Proposed

Constraints

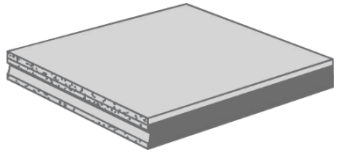


The normal route would be to demolish the B1 slab:

Slab to be removed:

- Area: 4725m²
- Thickness: 275mm
- Volume: 1300m³
- Weight: 3,250t

1m³ of solid concrete



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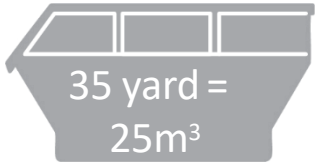
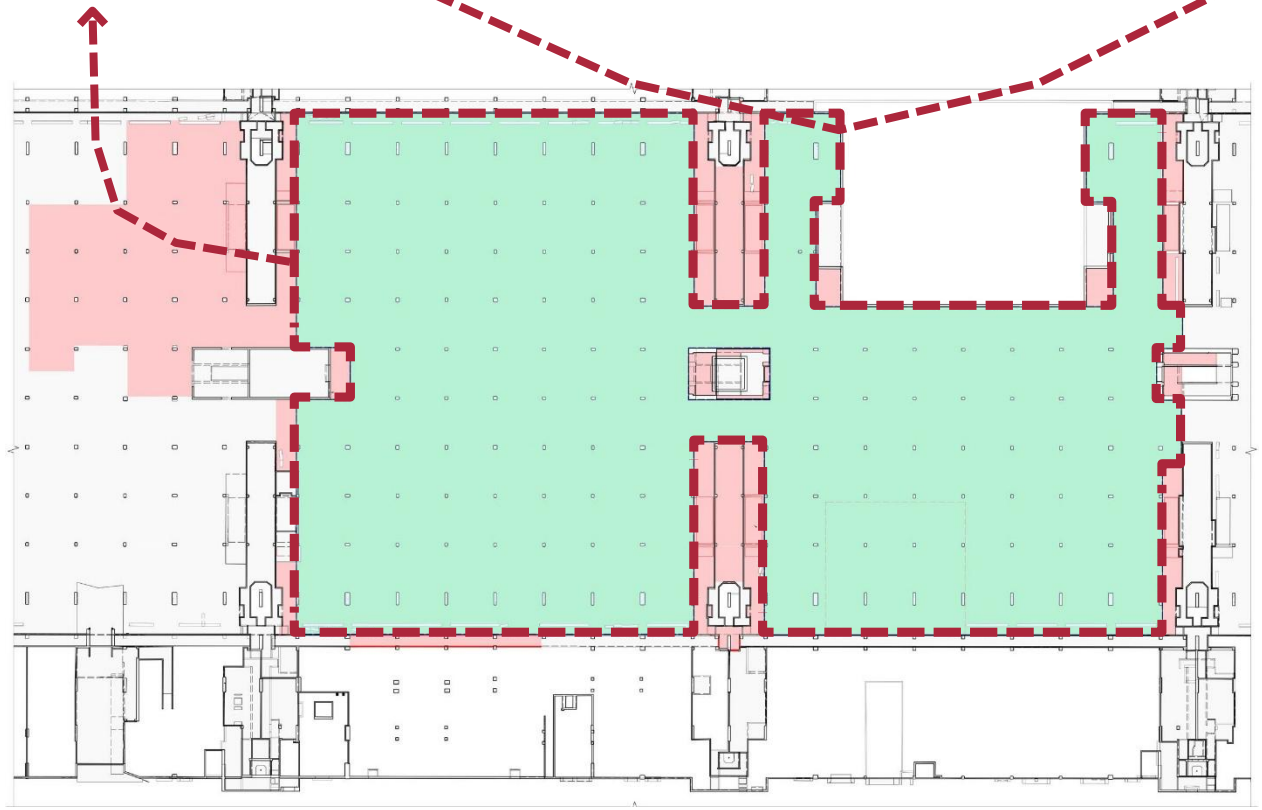
1.4m³ of concrete rubble

1820m³ of rubble = **730** tCO2e

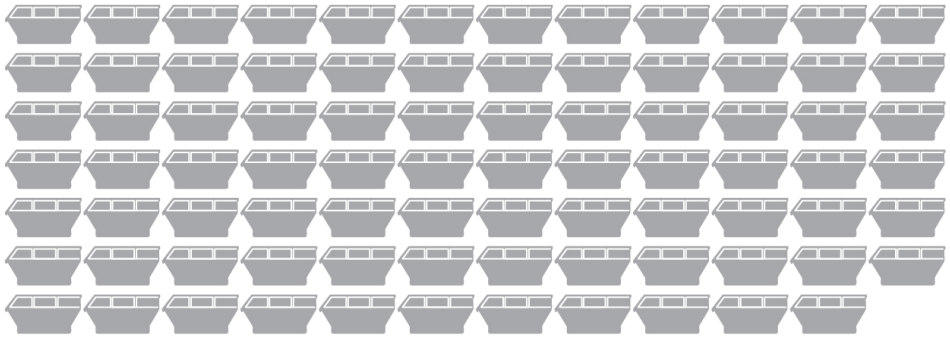
Largest commercial skip:





1820m³ ÷ 25m³ = 73 skips

1 skip per day = 73 days to remove slab

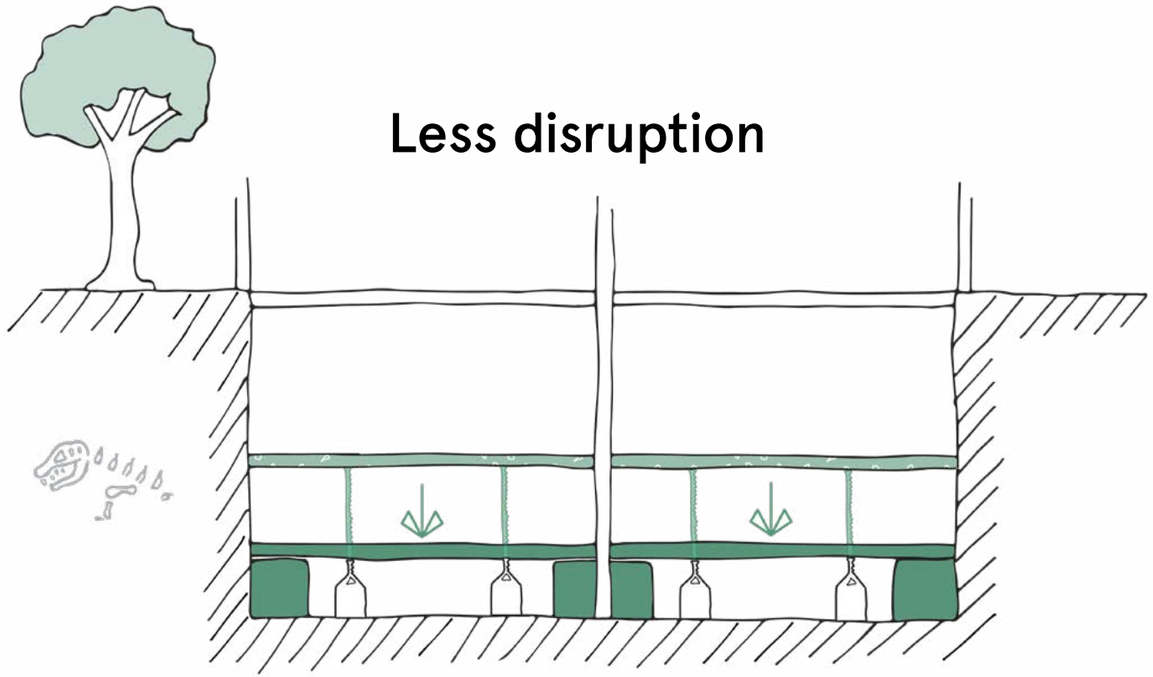


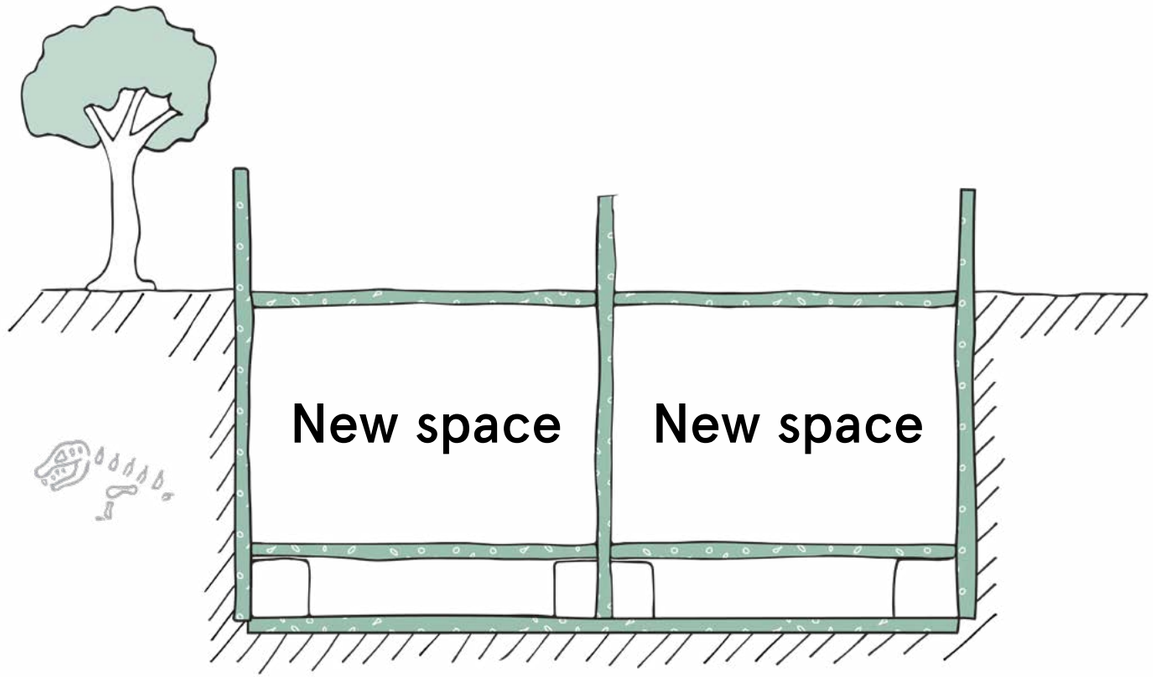
Slow

Disruptive

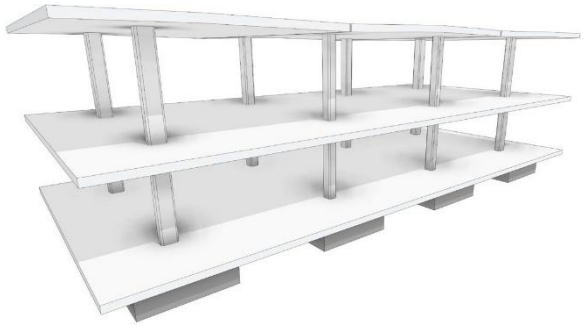
Wasteful

Or could we just move the floors

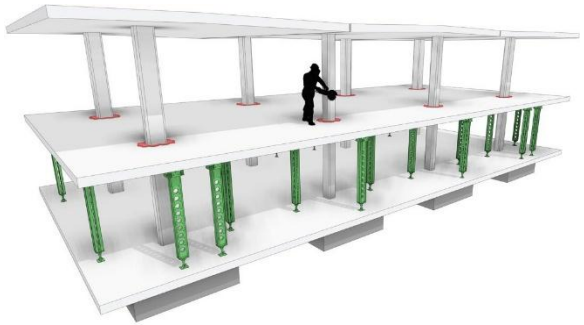




Floor jacking - Brunswick Centre Hub

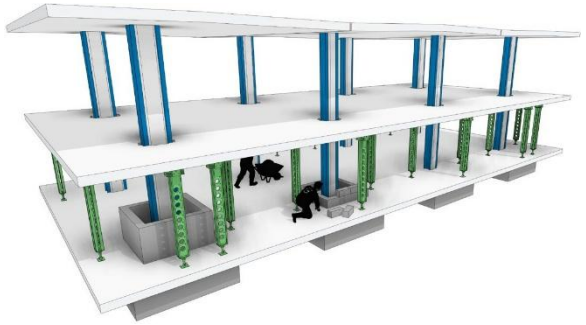


1. Existing arrangement

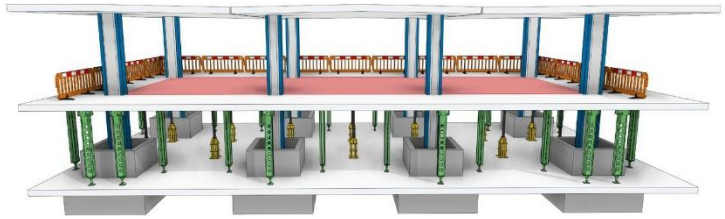


2. B1 slab propped & locally broken out at column locations

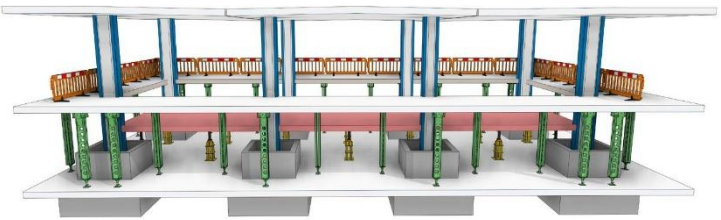
3. Column strengthening installed where required



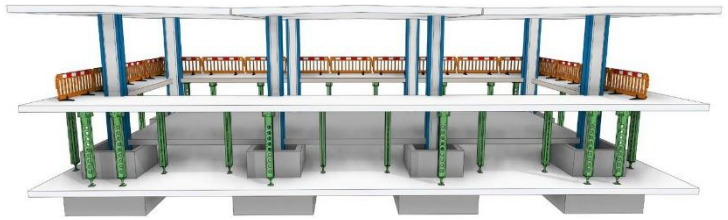
4. Block sleeper walls constructed at level B2



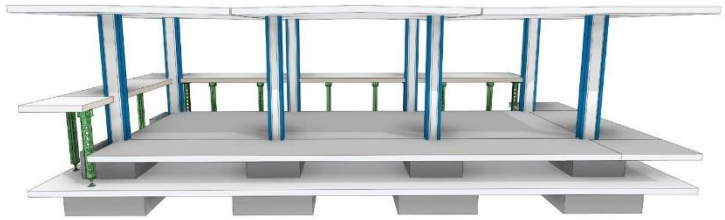
5. Jacks installed & level B1 slab cut



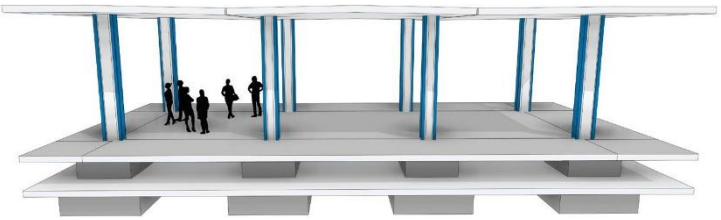
6. Slab lowered sequentially



7. Slab supported off new walls with acoustic isolation

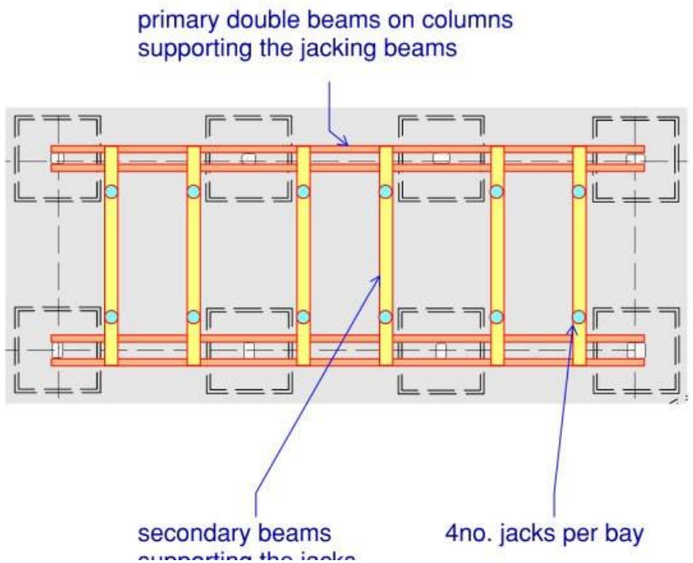


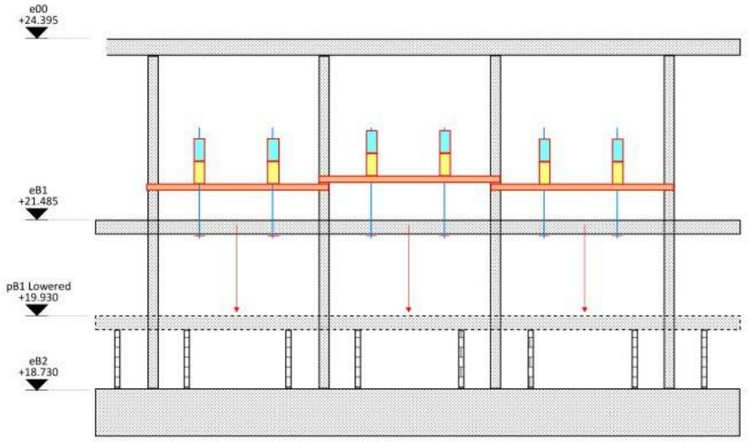
8. Slabs continually lowered in sequence

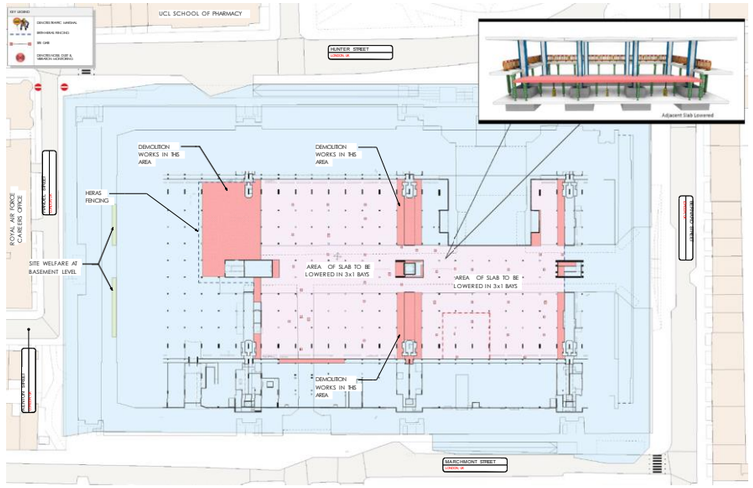


9. Lowering of slabs completed

Contractor input







Erith proposal

+ Change to a top hung support system
+ Options for 52 panel jack (3 x 1 bay)
+ Option for 8 panel jack (max 8 x 3 bay)

Impact programme / costs / carbon

	Traditional Construction	Jacking Scheme	Improvement
Programme	64 weeks	42 weeks	22 weeks
Costs	£5,750,000	£5,000,000	15%
Carbon	475 tonnes	60 tonnes	415 tonnes

HEYNE TILLETT STEEL

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