New Oxford Street Ltd.

21 -31 New Oxford Street

Construction Management Plan

RP/230602/003

Planning | 5 September 2014

Job number 230602

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ARUP

Contents

Appendices

1 Introduction

Ove Arup and Partners (Arup) have been commissioned by New Oxford Street Ltd to provide a Construction Traffic Management Plan (CTMP) in connection with the proposed development at 21 -31 New Oxford Street, with regards to the currently anticipated methodology for constructing the works and the logistics requirement for implementation.

This document supports the Planning Application for the scheme.

When the Main Contractor is appointed for the project they will be required to take account of this document and submit their own CTMP for approval by the London Borough of Camden (LBC).

2 Building Location

The building is situated in London WC1 and is bounded on 3 sides by public highway:

- To the North by New Oxford Street which is a one way street East to West,
- The South by High Holborn which is a one way street from East to West and
- On the West side by Museum Street which is a one way street from South to North.

On the East side of the building is Commonwealth House a multi storey, multi tenanted building with two party wall connections to the site, one on the New Oxford Street elevation and one on High Holborn, both connected from level 1 to level 4. Between the two buildings is a private access road, which belongs to Commonwealth House. There is also a narrow pedestrian footway, Dunns Passage, which is presently closed at both ends, which is part owned by Commonwealth House and part by the applicant. Refer to **Appendix A** for a site location plan and photos.

3 Existing Building

The building was built in the 1960s and fitted out as a bespoke structure for use by Royal Mail.

The existing building is a 5 storey building over the full footprint of the site with a further 4 storey level of upper offices above inset from the perimeter of the main building.

There is a single deep basement over the full perimeter of the site accessed by a double width ramp from ground floor. The basement extends in places below the surrounding footpath. Below the single basement there is a cable tunnel that formerly provided access to the now redundant Royal Mail railway system. This will be partially maintained to allow for cable connections to the Royal Mail Group (RMG) system.

Vehicular access into the building is provided by 2 number full height roller shutter doors on the New Oxford Street elevation.

The structure of the suspended floors is a mixture of steel and concrete framing, supporting reinforced concrete slabs. In the interior of the lower floors primary steel beams support secondary concrete grillages. Around the perimeter are areas of slab supported by steel beams, and other areas of slab supported by concrete beams. The upper floors are concrete slabs and steel beams and steel columns throughout.

Concrete shafts form the cores and there are 2 number concrete drums that contained lifts and are the full height of the main building previously used for mail movement.

The cantilevered areas to the South side of the building (High Holborn elevation) are all concrete structure.

Appendix A includes sketches SK001, showing the site location map and SK002 showing photographs of the existing building.

4 The Proposal

The proposed development is for the remodelling, refurbishment and extension of the existing building in connection with the change of use to offices, retail and affordable housing along with associated highway, landscaping and public realm improvement works as described below.

The development includes the retention and recladding of the lower three floors of the building. The existing set back upper floors are proposed to be removed and reconstructed.

The majority of the building is proposed to be for flexible office use taking advantage of the existing double height internal spaces and inserting mezzanines around a new core.

The ground and lower ground floors will be animated with flexible retail use. The development will include the provision of active public uses at ground and lower ground floor levels to reactivate street frontages, with a mix of uses such as shops, cafés, galleries and restaurants

The proposed development includes up to 21 new affordable homes in the south east corner of the site fronting High Holborn.

The development includes public realm enhancement works including reopening Dunn's Passage, creating a new public open space on Museum Street and improving the surrounding public highway.

5 The Works

A brief outline of the works, which is not intended to be exhaustive but to assist in informing the construction methodology and logistical requirements for the project, will include:

- Asbestos removal and soft strip.
- Enabling works, surveys, utility diversions and new utility connections.

- Demolition of the existing upper office levels down to the level of the underside of the current level 4 slab.
- Remodel the ground floor slab at new levels.
- Demolish existing cores, the existing 2 mail drums and infill.
- Piling works to facilitate new structure to support the new core and strengthen the existing raft.
- Create new main core structure towards West side of the site.
- Create further additional cores in new locations.
- Build affordable housing element of the project.
- Remove existing cladding for replacement with panellised glazed cladding system.
- Reconstruct the upper section of the building to give a 9 storey building.
- Extend the building on the South side to match the adjoining building line.
- Create mezzanine levels at Ground, 1st 2nd and 8th generally using a steel frame, metal deck and concrete topping solution.
- New roof and roof systems.
- New Lifts
- Brick and Blockwork partitioning.
- Fit outs as required for retail areas and a cat A fit out to office areas including dry lining systems, full MEP replacement and installation, metalwork requirements and decoration.
- The vehicular access for deliveries for the new building will be via a new opening from High Holborn adjacent to the affordable housing.

6 Packaging the Works

The procurement route for the project has not yet been confirmed however the following are possible routes that could be adopted.

6.1 Option 1

Split the works into 2 packages:

1. Enabling package – to include investigation surveys, probing works, utility diversions, asbestos removal and demolition.
2. Main Contract – remainder of the works.

Benefits of this approach will enable an earlier start on site before completion of final design for Main Contract procurement.

6.2 Option 2

1. Single Main Contract package to include all of the works.

Benefits of this approach will enable greater overlap of early activities e.g. overlap demolition with piling.

A two stage approach to procurement could be considered and could fit into both the above solutions.

7 Programme

7.1 Introduction

We have set out earlier our understanding of the outline scope of works for the major elements that will impact both on the scale of the logistics to be considered and their effect on the construction programme.

In this section we set out our assessment of the main quantities that will inform the overall programme duration.

We enclose, in **Appendix B**, our outline Level 1 & Level 2 construction programmes for the works. We currently anticipate an overall build period in the order of 109 weeks including demolition and enabling works. Our programme assumes a single main contract to include all of the works, and breaks down into 36 weeks for demolition and enabling works, 88 weeks for the main works and a 15 week overlap of the 2 phases.

7.2 Programme Assumptions

We have identified the following with regards to the project.

- 12 bored piles of 1500mm diameter with a production rate of 1 per day.
- 55 piles of 600mm diameter for the extension area to the High Holborn elevation and strengthening of the existing structure at a production rate of 2 per day.
- 2 No. Reinforced concrete transfer beams in the basement that are about 35m long x 5m tall x 1.25m wide to span across the RM station, supporting the weight of the new core.
- External new cladding has an assumed circa 1500 panels to be installed by tower crane or on floor machines with an installation rate of circa 10 per day with an overall 32 week programme.
- New structure from level 4 to roof has an assumed 12 week period.
- The extension of the High Holborn elevation out to a new line has an assumed programme period of 1 week per floor.
- Mezzanine floors have an assumed installation rate of 2 weeks per floor.
- Cat A fit-out has been planned on 2.5 week floor cycles between commencing each floor.

8 Logistics Associated with Implementing the Works

8.1 Introduction

We will set out in this section our assessment of the logistical requirements to undertake the activities that are required to undertake the works.

This CTMP will be subject to review and amendments agreed with LBC by the Main Contractor when they are appointed for implementing the construction.

8.2 Considerations

In establishing a logistics strategy we are taking into account the following local conditions:

- Local occupants including offices, hotels, residential and other amenities.
- Requirements of London Borough of Camden.
- Other construction projects
- Local traffic conditions
- Noise and dust control
- Crossrail vehicle holding point

8.3 Macro Logistics – Road Access

Please refer to sketch numbers SK003 and SK004, included as **Appendix C**, which show the wider road network and the local road network.

To enter the site vehicles must come East to West along New Oxford Street, this can only be accessed from High Holborn coming up from Chancery Lane/Grays Inn Road and Holborn Circus.

Vehicles from the East, including North East will approach from this direction.

From the West including North West vehicles will approach from the Euston Road, along Gower Street and Bloomsbury, turning left into New Oxford Street heading Eastward. Vehicles will go around the one way system along Bloomsbury Way, turning right into Bury Place and right again into New Oxford Street and the entrance to the site being on the left.

From the South and South West we anticipate the use of the Embankment with vehicles entering the area along Kingsway and turning right into High Holborn and on into New Oxford Street.

We would encourage vehicles to avoid the West End areas.

At an appropriate time in the construction process the new permanent entrance on High Holborn will be opened and used for deliveries enabling the entrances on New Oxford Street to be closed for redevelopment. Minor adjustments will be required to the traffic flow which will be advised by the Main Contractor at the time of change.

8.4 Site Logistics

8.4.1 Site Access

As described above all vehicles gaining access to the site will do so via the roller shutter doors on New Oxford Street. Vehicles can be parked either on the ground floor or basement level for loading and unloading.

With 2 number roller shutters on the New Oxford Street elevation an “in” and “out” arrangement will be adopted.

Personnel will control vehicles entering the site and a communication system will be implemented to prevent the likelihood of vehicles backing up on New Oxford Street awaiting entry into the site.

We will investigate the local area in order to try and identify a possible vehicle holding point that can assist in controlling the flow of vehicles to the site.

This location will be discussed and agreed with the London Borough of Camden.

We shall investigate the opportunity to open up an exit gate on the South side of the building enabling vehicles to exit onto High Holborn. This will need to be agreed with the Highways Departments and the Crossrail project as it may affect their current vehicle holding point.

As the project develops to the fit-out stage we will bring into use the new permanent vehicle access into the building from High Holborn. This will allow the Contractor to close or reduce the openings on the New Oxford Street elevation to facilitate the permanent facade works.

See sketches SK005, SK006 and SK007, **Appendix D**, that indicate the anticipated site layout plan during demolition, construction and fit-out.

8.4.2 Vehicles and Equipment

In the early stages of the project there will be a variety of vehicles and plant and equipment requiring access to the site. Some of the vehicles will be coming through the site on a regular turnover basis and some on a “one off” or infrequent basis. In the early stages we anticipate the following vehicles accessing the site:

- Asbestos removal vehicles.
- Demolition removal vehicles – constant daily turnover.
- Skip lorries – regular replacement process.
- Steel delivery lorries.
- Concrete wagons
- General small vehicles

Equipment to be delivered will include:

- Demolition equipment including compressors
- Piling machines
- Mini cranes and fixed crane

- Specialist accommodation

It is likely that road closures will be required for certain of the major plant items e.g. tower crane. High Holborn may be the most appropriate elevation to undertake this exercise when considering the overall width of this carriageway and parking areas. It may be possible to carry this out with a “half road” closure. The appropriate notices will be submitted by the Contractor for these activities.

8.4.3 Storage

The site sits in a relatively confined location and the new structure will fill the site footprint. Opportunities for significant storage are therefore limited. As the building progresses the new floor plates become available and a level of storage, within the floor plate load capacity, becomes available for localised storage for immediate installation.

A system of “just in time” deliveries will be required which is likely to increase the flow of vehicles in and out of the site and will require good management by the contractor.

8.4.4 Plant and Equipment

Consideration has been given to the type of plant that is likely to be used during the construction works. The anticipated vehicle type and use, as well as the anticipated plant and equipment associated with the construction process are set out in the table below.

Vehicle Type	Use	Distribution
Rigid Heavy Goods Vehicle	Excavated material Removal	Strategic road network to motorway
Small Articulated Vehicle	Plant, steel bar, bricks and cladding panels	Strategic road network to motorway
Specialised Articulated HGV	Tower crane erection & dismantle, Mechanical & electrical Plant, Cladding panels. Roofing materials	Strategic road network to motorway
Specialised Equipment Low loader	Occasional Delivery of Plant	Strategic road network to motorway
Vans	Plant service, materials, other Suppliers.	Distributed to local and strategic network
Cars	Occasional deliveries, Couriers etc.	Distributed to local and strategic road network

Table 1 Summary of Vehicle Type, Use and Distribution

Plant	Demolition	Substructure	Superstructure	Fit out
Rotary Bored piling rigs		✓		
Excavators	✓	✓		
Compressors	✓	✓	✓	✓
Muck away lorries	✓	✓		
Goods hoist	✓	✓	✓	✓
Tower crane	✓	✓	✓	

Plant	Demolition	Substructure	Superstructure	Fit out
Mobile concrete pump		✓	✓	
General waste skips	✓	✓	✓	✓
Power tools	✓	✓	✓	✓
Delivery vehicles	✓	✓	✓	✓
Forklifts	✓	✓	✓	✓
Scaffold access platforms	✓	✓	✓	
Mobile towers	✓	✓	✓	✓

Table 2 Estimated Types of Plant and Equipment for Demolition & Construction

8.4.5 Potential Impacts during Construction

A review has been undertaken of the potential source of adverse impacts, which can be associated with carrying out demolition and construction works. The results of this are presented in the table below;

Issue	Potential Impacts	Mitigation
Noise	Increased road noise levels from vehicles. Increased noise levels from plant during excavation, piling and general construction works (e.g. from the use of air compressors and diamond cutters).	Defined working hours, baffles to certain plant, local acoustic screening. Vehicle routing. Beepers, radios etc. to be silenced. Engines turned off and all measures outlined in the considerate contractors scheme
Vibration	Increased vibration levels from vehicles. Increased vibration levels from plant during demolition, piling and general construction works. Defined working hours. Selection of appropriate plant and work procedures.	Phased deliveries to minimise numbers of vehicles attending site, Vehicle routing. Engines to be switched off when vehicles are idle or on site

Issue	Potential Impacts	Mitigation
Dust / Air Quality	Windblown dust from ground surfaces, stockpiles, vehicles, work faces and cutting and grinding of materials. Exhaust emissions from lorries and plant delivering and removing materials including dust and particulates.	Cover all open backed vehicles, 'water down' demolition activities; switch off vehicle engines when parked.
Waste	Waste generation and its disposal.	Instigate Site Waste Management Plan and re-cycling programme
Water	Increased sediment loadings to storm water system. Potentially contaminated storm-water runoff.	Do not allow direct discharge of water into sewerage collection system.
Traffic	Traffic congestion caused by site traffic. Local traffic diversions will be required for tower crane erection and dismantle and mobile crane lift Increased vehicle movements mainly consisting of Heavy Goods Vehicles (HGVs). Nominal levels of transfer of mud and material from vehicles onto the public highway. Disruption from abnormal or hazardous loads. Exhaust emissions.	Phased deliveries to minimise numbers of vehicles attending site, switch off vehicle engines when parked, minimise abnormal loads. Wheel washing Vehicle routing
Storage of fuels and construction materials	Accidental spills, discharges to drains/storm-water systems. Contamination to ground.	All fuel tanks etc. to be bunded, no discharge allowed into the sewerage collection system.
Pedestrian access	Restrictions on pedestrian access to walkways, footpaths and roads.	Erect protective gantries pedestrian tunnels over footways.

Issue	Potential Impacts	Mitigation
Hazardous and contaminated materials	Exposure of the workforce to deleterious / hazardous materials and contaminated land, mobilisation of any source contaminants and creation of pathway from source to groundwater receptor.	Site investigation reports to indicate if any contaminated fill is present. COSHH assessments and careful implementation of associated working method statements to ensure that no hazardous materials find a path to groundwater source.
Ecology	Water / mud run off into the drains.	Do not allow direct discharge of water into sewerage collection system, utilise interceptors where necessary.
Energy usage	Indirect impacts associated with energy consumption such as CO2 emissions, depletion of natural resources, air pollution etc.	Site environmental plan to implement.
Views	Views impacted and/ or impeded from construction equipment, particularly cranes.	Tower crane to be positioned to have minimal impact upon adjacent views

Table 3potential Impacts and Headline Mitigation Measures during Demolition and Construction

8.4.6 Mitigation Measures

Industry accepted practical means of preventing, reducing and minimising noise generation will be adopted in agreement with LBC.

Appropriate procedures need to be followed in order to mitigate noise, vibration and air pollution (e.g. through dust and fume generation) impacts.

Measures currently planned include:

- No works will be undertaken outside the specified working hours; except in cases of emergency, where safety is an issue, or where conditions of dispensation apply
- The contractor will comply with the requirements of the COPA 1974, with particular reference to Part III of the Environmental Protection Act 1990, The Control of Noise at Work Regulations 2005 and the Health and Safety at Work Act 1974
- All plant and equipment to be used for the works will be properly maintained, silenced where appropriate to prevent excessive noise and switched off when not in use and where practical
- Hydraulic machinery and plant will be used in preference to percussive techniques where practical

- The contractor will erect and maintain throughout the construction period temporary hoarding around all working areas to assist in the screening of noise and dust generation from low-level sources
- Plant will be certified to meet relevant current legislation and Noise and Vibration Control on Construction and Open Sites (BS 5228). All subcontractors will be made familiar with current noise legislation and the guidance in BS 5228 (Parts 1 and 2), and this CTMP which will form a prerequisite of their appointment
- Loading and unloading of vehicles, dismantling of equipment such as scaffolding or moving equipment or materials around the site will be conducted in such a manner as to minimise noise generation
- Noise complaints, or exceeding of agreed levels will be reported to the contractor and immediately investigated
- Vehicles transporting materials capable of generating dust to and from site will be suitably sheeted on each journey to prevent the release of materials and particular matter

8.4.7 Scaffolding

We anticipate the need for a full scaffold to the 3 elevations fronting onto the highways during the early phases of the works. This provides, in addition to the necessary access, a level of both noise and dust control to the surrounding areas.

On the New Oxford Street elevation we propose closing the footpath for safety reasons and diverting pedestrians onto the North side footpath opposite. We would then erect a full height scaffold to this elevation and cover the outside with a monoflex type screen.

Openings would be created at ground floor to maintain the access and egress into and out of the building via the 2 roller shutters.

On both the High Holborn elevation and Museum Street elevation we will partially close the pavement extending approximately 2.2m from the face of the existing building. The scaffold will be full height and again the outside face will be enclosed with a monoflex type screen.

A protective gantry will be provided along the line of the scaffold to provide protection to personnel walking in this area.

Limited road closures will be required to facilitate the delivery and off loading of the scaffold systems.

The extent of the duration of the scaffold will be dictated by the types of new cladding systems to be installed and the techniques that are required to install them. See sketches SK005, SK006 and SK007 (Appendix D) for scaffold proposals during demolition, construction and fit-out.

8.4.8 Party Wall

With the close proximity of the adjacent office building, Commonwealth House, it will be necessary to provide a dust screen to the full height of the building with a protective fan at the lower level.

The screen will extend from the ground level and be full height of the buildings and extend between the 2 party wall connections that are on the New Oxford Street elevation and High Holborn elevation.

Agreement will be required with the adjacent building owner to occupy a narrow strip of their access yard on which to erect a scaffold that will carry the dust screen.

See sketches SK005, SK006 and SK007 (Appendix D) for proposals.

8.4.9 Tower Cranes

For the purpose of early activities and other parallel operations we anticipate a single tower crane being adopted.

This will be located either within an existing building penetration towards the western end of the site or mounted centrally on a higher level slab, please see sketch SK005 for the proposals.

The crane is likely to have a jib radius of approximately 55m. It will be necessary to electronically limit the rotation of the jib to prevent it oversailing the adjacent buildings.

As the project moves from partial demolition to new construction including the new central core, outer cores and southern elevation extension and for ongoing general deliveries 2 tower cranes will be provided. These will be suitably located to minimise impact on the construction process and to give adequate coverage of the building. Again they will electronically limited to prevent oversailing.

Please see sketch SK006 for indicative locations.

The “pick” point for the tower cranes is indicated on the above sketches in New Oxford Street. Alternative/additional “pick” points need to be considered and locations in High Holborn and Museum street need to be developed.

The duration of the tower cranes will be dependent on the construction techniques to be adopted.

There will also need to be occasions when mobile cranes will be needed to support the use of the tower cranes for specific operations. Their use and impact on the surrounding road network will be discussed and agreed with LBC.

8.4.10 Site Security

The site security for the project will be in operation from the outset. Initially it will be manned during the working hours and extend either side of the working day by approximately 1 hour. As the project develops and the work extends the security will increase to a 24 hour/7 day operation.

The security organisation will be required to undertake the following functions:

- Security control on the site for all operatives accessing and egressing the works.
- Control of vehicles accessing and egressing the site.

- Implement and operate an electronic system of booking in vehicle deliveries to the site and refusing access to the site those vehicles not booked in.
- Site induction courses, under the control of the Main Contractor, and issuing of security passes.
- Controlling visitor access to the site.
- Site patrols including inspection of hot works permit areas.
- Issuing permits, as directed by the Main Contractor.
- Monitoring CCTV installations as progressively installed.
- Manage the temporary fire alarm system when installed and assist the Main Contractor in keeping the system up to date and undertaking fire drills.
- First line of communication for the general public.

Security will also be responsible, within the site, for the security associated with the Mail Rail as works are required to modify the access to these areas.

The site security points will initially be New Oxford Street to control entry to the offices and welfare facilities and then be relocated to High Holborn when the accommodation and welfare relocates.

Please refer to sketches SK005, SK006 and SK007 (Appendix D) for indicative proposals during demolition, construction and fit-out.

8.4.11 Hoisting

During the early partial demolition periods we would anticipate a single hoist being provided to transport operatives and materials to the roof podium level.

We have indicated this hoist to be integrated within the external scaffold on the New Oxford Street elevation and will link the ground floor, offices and welfare at 1st floor level and the podium level.

Please see sketches SK005, SK006and SK007 (Appendix D) for indicative positions.

As the works progress and the internal operations develop both internal and external hoists will be provided that serve all levels and be used for both operative and material movement. These will be sited in locations that minimise the effect on the construction activities.

Consideration will be given to early beneficial use of the new goods lifts enabling timely removal of temporary hoists. The beneficial use lifts will be fully refurbished prior to handover to the Client.

8.4.12 Accommodation

The accommodation will initially be provided in 2 entities. The Main Contractor accommodation will be positioned within the scaffold on the New Oxford Street elevation.

It will be located in line with the 1st floor of the existing building and a walkway for the accommodation will cantilever over the road and above the minimum height for buses passing.

Facilities will include:

- Management offices
- Client and Design Team spaces
- Meeting Rooms
- Tea/coffee stations
- Toilets

An early opening will be created within the cladding adjacent to these offices and will give access onto the existing 1st floor slab.

On this slab area will be provided the welfare facilities including:

- Canteen and cooking facilities.
- Drying rooms and changing facilities.
- Sub-Contractor accommodation.
- Toilets
- Induction Room
- Ancillary spaces

These facilities will all be constructed in line with the current codes for constructing temporary accommodation within buildings.

As the project develops it will be necessary to relocate both the Management Offices and Welfare accommodation. Office accommodation will be relocated to areas of finished spaces that have low fit-out requirements. We have indicated this to be on the south side of the ground floor area.

Frequency of moves will be limited due to their disruptive nature on the progress of the works.

See sketches SK005, SK006 and SK007 (Appendix D) for proposals.

8.4.13 Waste Management

The early works contractors e.g. asbestos removal, soft strip and partial demolition will be required to manage their own waste management disposal.

They will provide their own vehicles on a regular rotation basis to remove waste from site. There will be a limited skip provision for ad hoc material disposal.

As the project develops and a more sub-contractors are utilised on the site a central waste disposal system will be implemented and managed by the logistics company.

This will consist of centrally located skips with “wheelie bins” positioned at the work faces. Waste materials will be deposited in the “wheelie bins” by the sub-contractors and they will be emptied into the skips by the logistics operators leaving empty bins behind on the floors.

Larger items of waste will deposited directly into the skips.

The skips will be regularly changed over to ensure space is always available for waste material.

Segregation of waste will be undertaken off site where it is most appropriately undertaken.

8.4.14 Working Hours

The working hours for the project will be in line with London Borough of Camden planning approval documents and is anticipated to be:

- Monday to Friday - 08.00 to 18.00
- Saturday - 08.00 to 13.00
- Sundays and Bank Holidays – No working

Any further restrictions applied to vehicle movements in the City and/or West End will be incorporated in tender documentation for all Contractors and Sub-Contractors.

8.4.15 Good Neighbour Policy

A key aspect of the successful management of the project will be to establish and maintain good relationships with all site neighbours. Once a contractor has been appointed, a construction liaison group will need to be established with the closest neighbours and interested parties who would be affected by the demolition and construction works.

Regular news letters will be distributed to all relevant parties advising of construction progress and future activities that may impact on the surrounding areas and neighbours.

Formal and informal meetings may be arranged to communicate to all relevant parties when specific high intensity or high risk activities are to be undertaken.

Prior to commencement of works a single point of contact (usually the contractor's Construction or Logistics Manager) will be established as the neighbours point of liaison. This person will be named at the site entrance with a telephone number for queries/complaints. Outside normal working hours, site security will act as the main point of contact via a dedicated phone number.

Security will alert the Construction or Logistics Manager if necessary (available 24 hours).

The Construction or Logistics Manager will keep accurate records of complaints received, which will be made available to LBC for inspection.

The Contractor's Construction or Logistics Manager will inform local residents likely to be affected by the impact of construction activities, such as erecting scaffolding/hoarding, operating mobile cranes, aerial platform operations, or any such equipment and shall advise of these planned events with suitable notice either via dedicated mail drops, the newsletter or meetings as identified earlier. In the event of unusual activities or events that cannot be anticipated, these will be

notified to LBC and to relevant property owners or occupiers wherever possible, in advance of the activity.

The contractor will inform LBC as soon as reasonably practicable, should any emergency works arise at short notice, confirmed as essential for reasons of safety, which could cause environmental disturbance and/or require working outside the agreed working hours.

8.4.16 Considerate Contractors Scheme

The contractor will be required to register and to comply with the requirements of the Considerate Constructors Scheme throughout the duration of the works (all phases).

This scheme encourages contractors to carry out their operations in safe and considerate manner, with due regard to residents, passing pedestrians and road users.

The scheme is monitored against identified criteria and awards given annually to those projects that have achieved the highest standards.

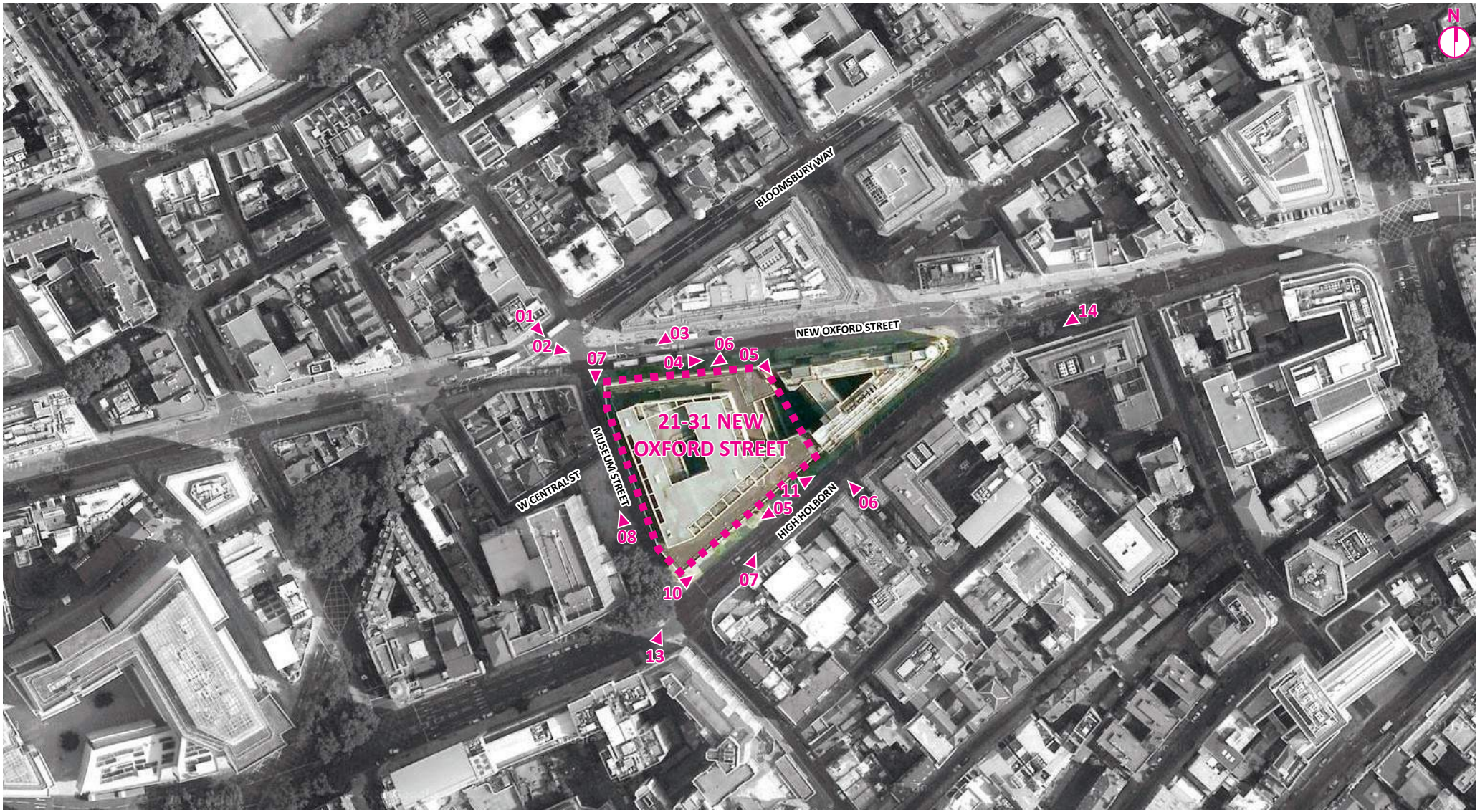
8.4.17 Operative Parking

There will be no provision for the parking of operative's vehicles on the site.

All operatives attending the site will be encouraged to use public transport, to which the site is well connected.

Appendix A

Site Location Plan and Photographs

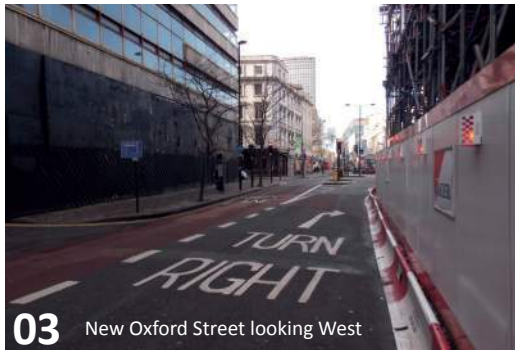


Project LT: 21-31 New Oxford Street	
Drawing Title:	Site Location
Drawn by:	YK
Checked by:	AB
Date:	02/05/2014
Scale:	NTS
Drawing No:	ARUP/PL/SK001 Rev: -

ARUP


01 Junction of Museum St and New Oxford St


02 New Oxford Street looking East



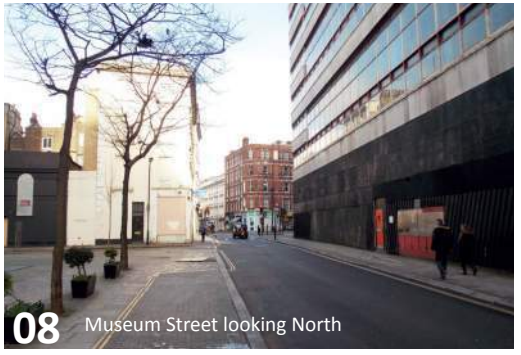
03 New Oxford Street looking West

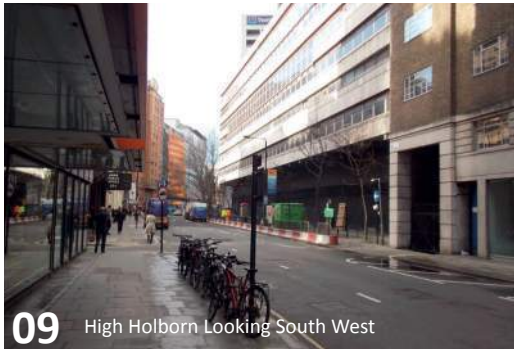

04 New Oxford Street looking East

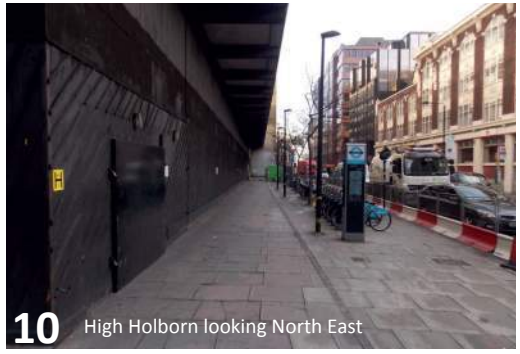

05 Vehicle Access between development and Neighbouring building

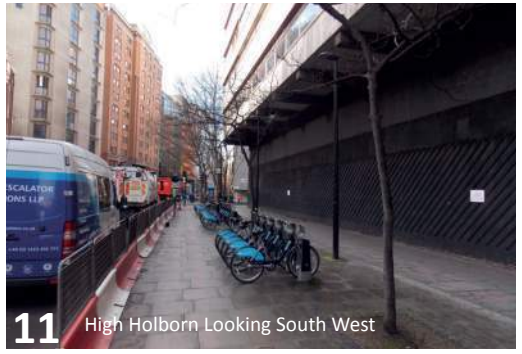

06 Access to Basement from New Oxford St

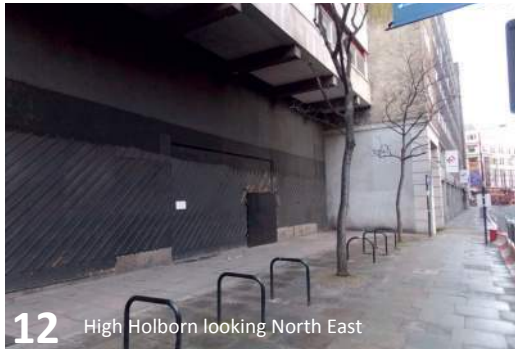

07 Museum Street looking South


08 Museum Street looking North


09 High Holborn Looking South West


10 High Holborn looking North East


11 High Holborn Looking South West


12 High Holborn looking North East


13 Junction of Museum Street and High Holborn


14 High Holborn looking West

Project LT: 21-31 New Oxford Street			
Drawing Title:	Site Photography		
Drawn by:	YK		
Checked by:	AB		
Date:	02/05/2014		
Scale:	NTS		
Drawing No:	ARUP/PL/SK002	Rev:	-

ARUP

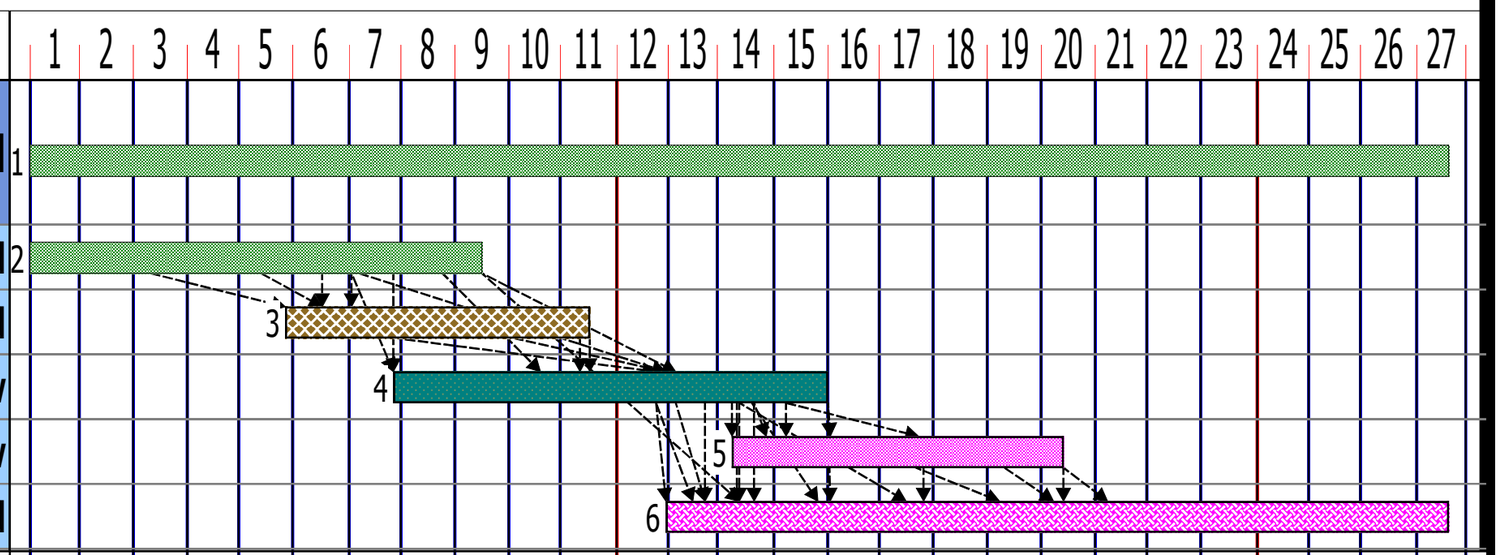
Appendix B

Programme

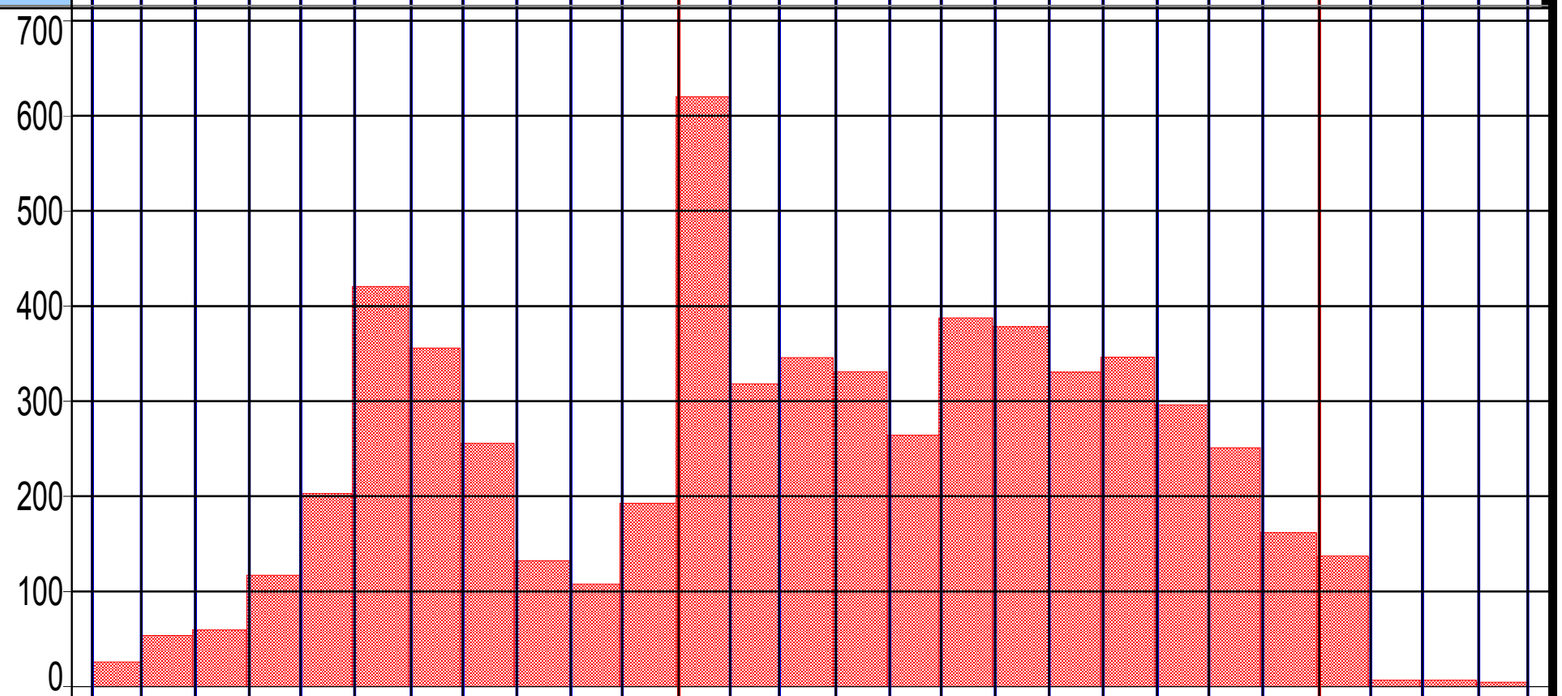
21-31, New Oxford Street, London WC1
Level 1 Outline Construction Programme

ARUP

Line	Name	Duration
1	**Construction Programme**	**109w 1d**
2	Enabling Works, Soft Strip & Demolition	35w 4d
3	Sub-structure	24w 3d
4	Superstructure	33w
5	Façades & Roofs	26w
6	MEP services & Finishes	60w 2d



1 Monthly Costs - vehicles



No Vehicles / Month	26	54	60	117	203	421	356	256	132	108	193	620	318	346	331	264	388	378	331	346	296	251	162	137	7	7	5
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27

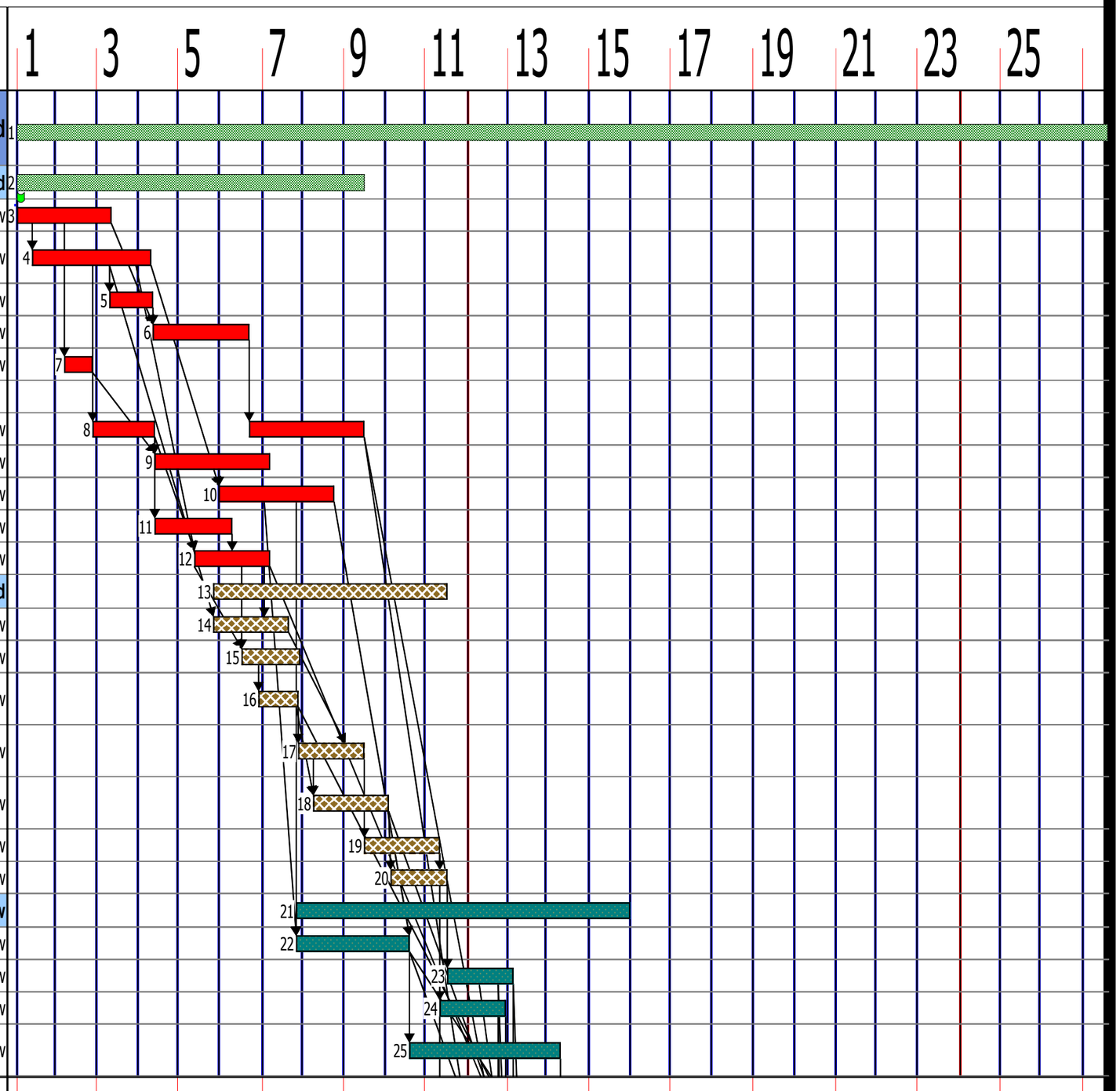
Histogram Legend

No Vehicles / Month - vehicles

21-31, New Oxford Street, London WC1
Level 2 Outline Construction Programme

ARUP

Line	Name	Duration
1	**Construction Programme**	**109w 1d**
2	**Enabling Works, Soft Strip & Demolition**	**35w 4d**
3	Site set up & establishment	10w
4	Soft Strip (Inc. Make safe/ decommission services, plantroom areas & risers) & remaining asbestos removal	12w
5	Tower crane base & erect	4w
6	Demolition Scaffolds	10w
7	Plant removal	3w
	Remove external cladding & Modify slab edge detail	
8	Weatherproof Crash deck at level 4	18w
9	Demolish Roof to level 4	12w
10	Demolition - Core openings on floor plates 4th- Ground	12w
11	Raking props & support to retaining walls Basement - Ground	8w
12	Demolish Ground floor slab	8w
13	**Sub-structure**	**24w 3d**
14	Pile probe & clear obstructions	8w
15	Locally break out raft cores	6w
16	Bored Piling Reduced headroom rig (Central core) (12 No 1500m d* 15 Deep) @ 1/rig/day	4w
17	Bored Piling Reduced headroom rig (Outer cores & High Holborn façade line core) (55 No 600 d* 15 Deep) @ 2/rig/day	7w
18	Pile caps - Transfer structure (Approx 11m*2m*2m + 16m*2m*2m)	8w
19	Pile caps - Cores (3 No @ approx 20m3) & High Holborn	8w
20	Transfer structure beams (Approx 462m3)	6w
21	**Superstructure**	**33w**
22	On floor column strengthening	12w
23	Central core (Steel)	5w
24	Outer cores (Steel)	5w
25	Structural steelwork, decking & Conc slabs to infill between new / existing structures	14w

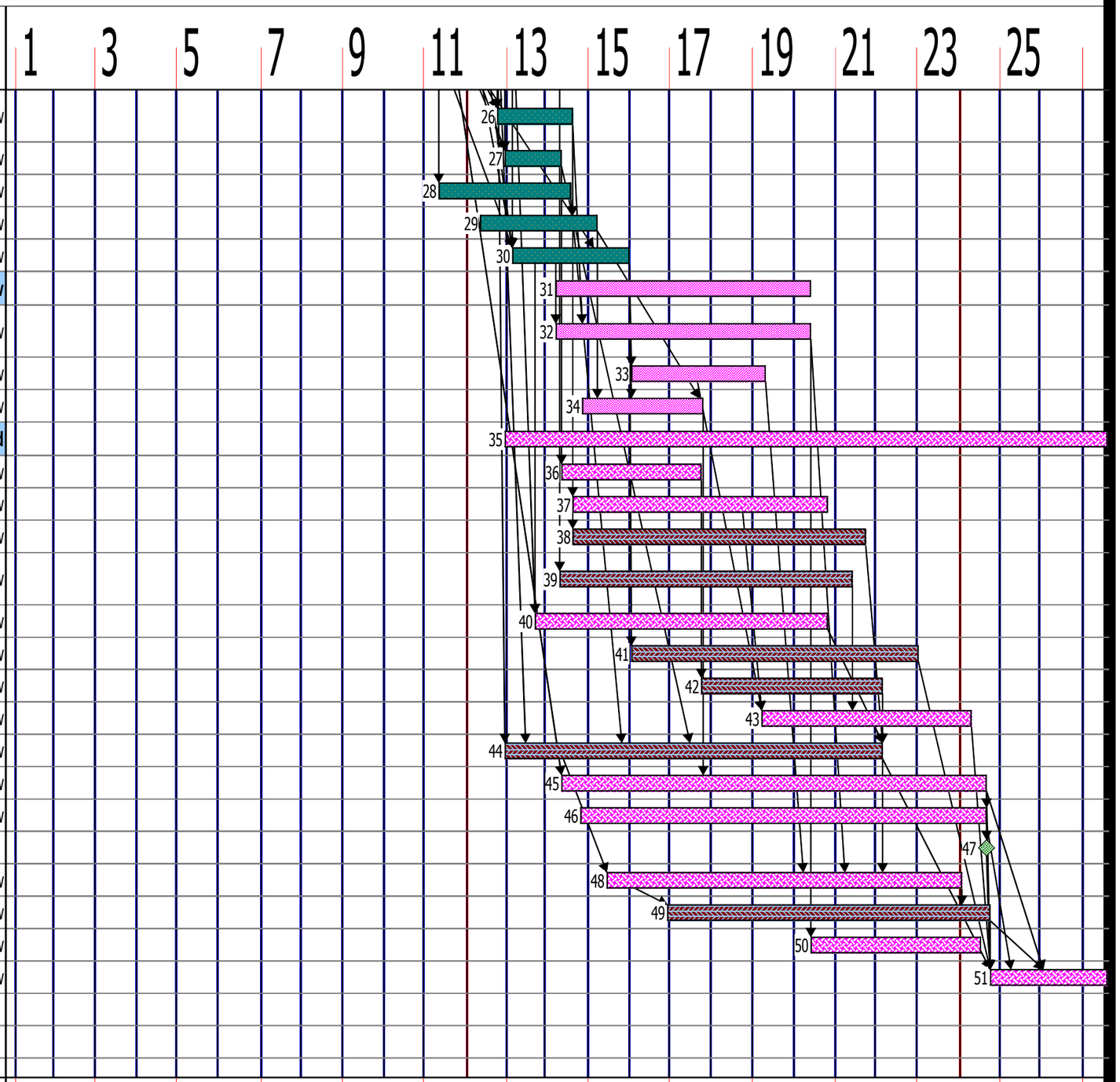


Line Name Duration

21-31, New Oxford Street, London WC1
Level 2 Outline Construction Programme

ARUP

Line	Name	Duration
26	Steel structure, Steel decking & Concrete slabs to High Holborn Elvtn	8w
27	Steel beams & Concrete slabs to Ground floor level	6w
28	Mezzanine structures & Concrete	12w
29	Lightwell (adjacent to Commonwealth House) Steelwork	12w
30	Steel structure, Steel decking concrete slabs 4th fl - Roof	12w
31	**Façades & Roofs**	**26w**
32	Elevation cladding (Approx 180No Panels / floor: Approx 1500 No)	26w
33	Flat roof waterproofing & Finishes	14w
34	Lightwell & Glazing	12w
35	**MEP services & Finishes**	**60w 2d**
36	Basement & ground floor blockwork	14w
37	Blockwork walls grd- Roof	26w
38	Vertical services - Pipework, ductwork, 1st fix electrical	30w
39	Vertical services - Test & Lag pipe / duct, electrical bus bars & taps off	30w
40	Vertical services - Pipework, ductwork, 1st fix electrical	30w
41	Lifts installation	30w
42	Basement & Ground floor plant & plantroom installation	19w
43	Roof plant & plantroom installation	20w
44	MEP Services - 1st fix	39w
45	Core Fit out & finishes	42w
46	Special areas fit out & finishes	40w
47	Shop Units Available for fit out	
48	Internal finishes	35w
49	MEP services - 2nd fix	32w
50	External works	16w
51	MEP services Test & Commission	12w

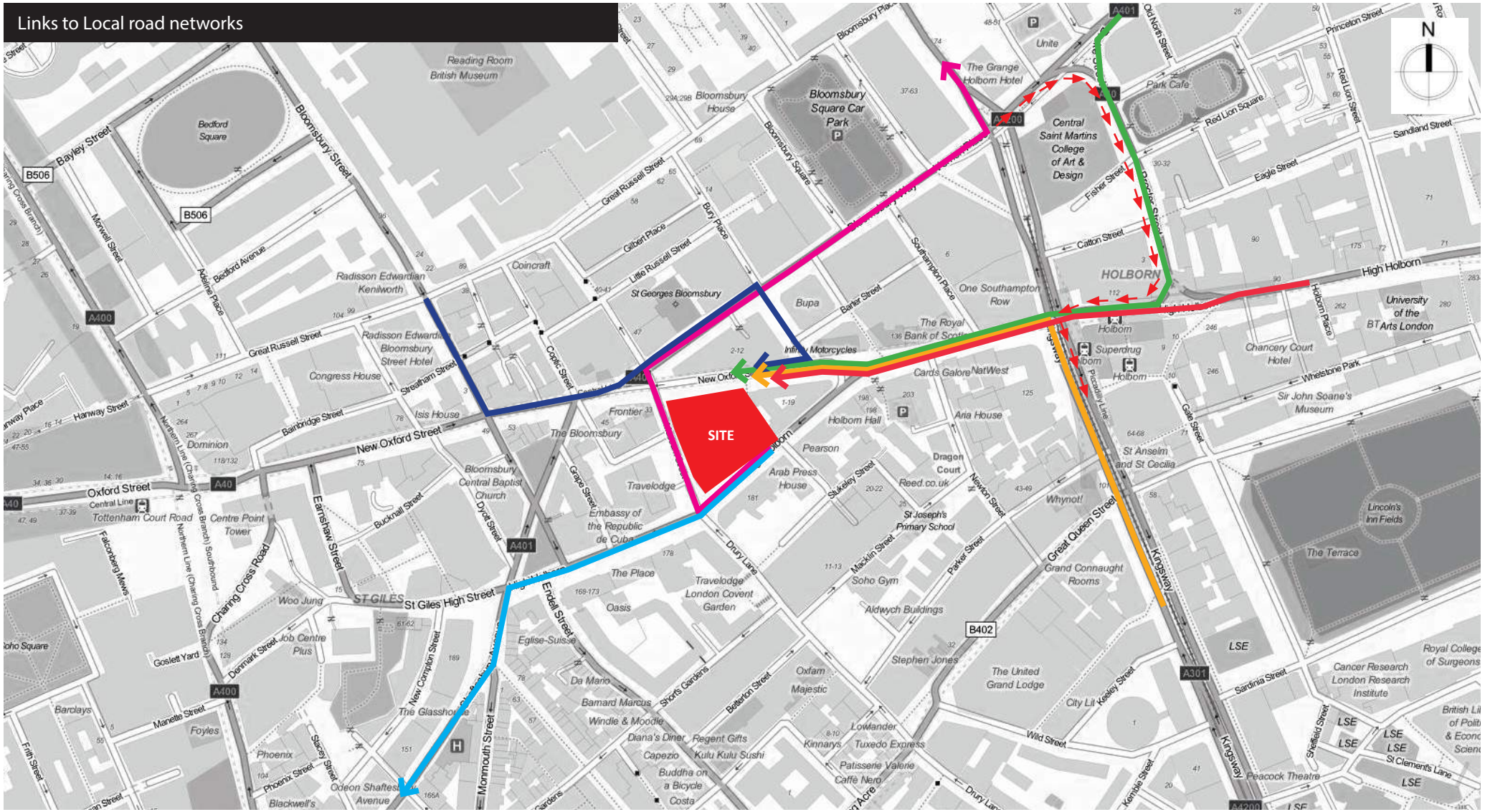


Line | Name | Duration

Appendix C

Site Access Routes

Links to Local road networks



LEGEND

- Route to site from High Holborn
- Route from site from Bloomsbury Way
- Route from Site to South West
- Route to site from South West/West Via Embankment
- Route to site from the East
- Route to site from North & North West
- Exit back out to South West

NOTES

1. Site construction traffic through adjacent residential & commercial streets to be kept to a strict minimum,

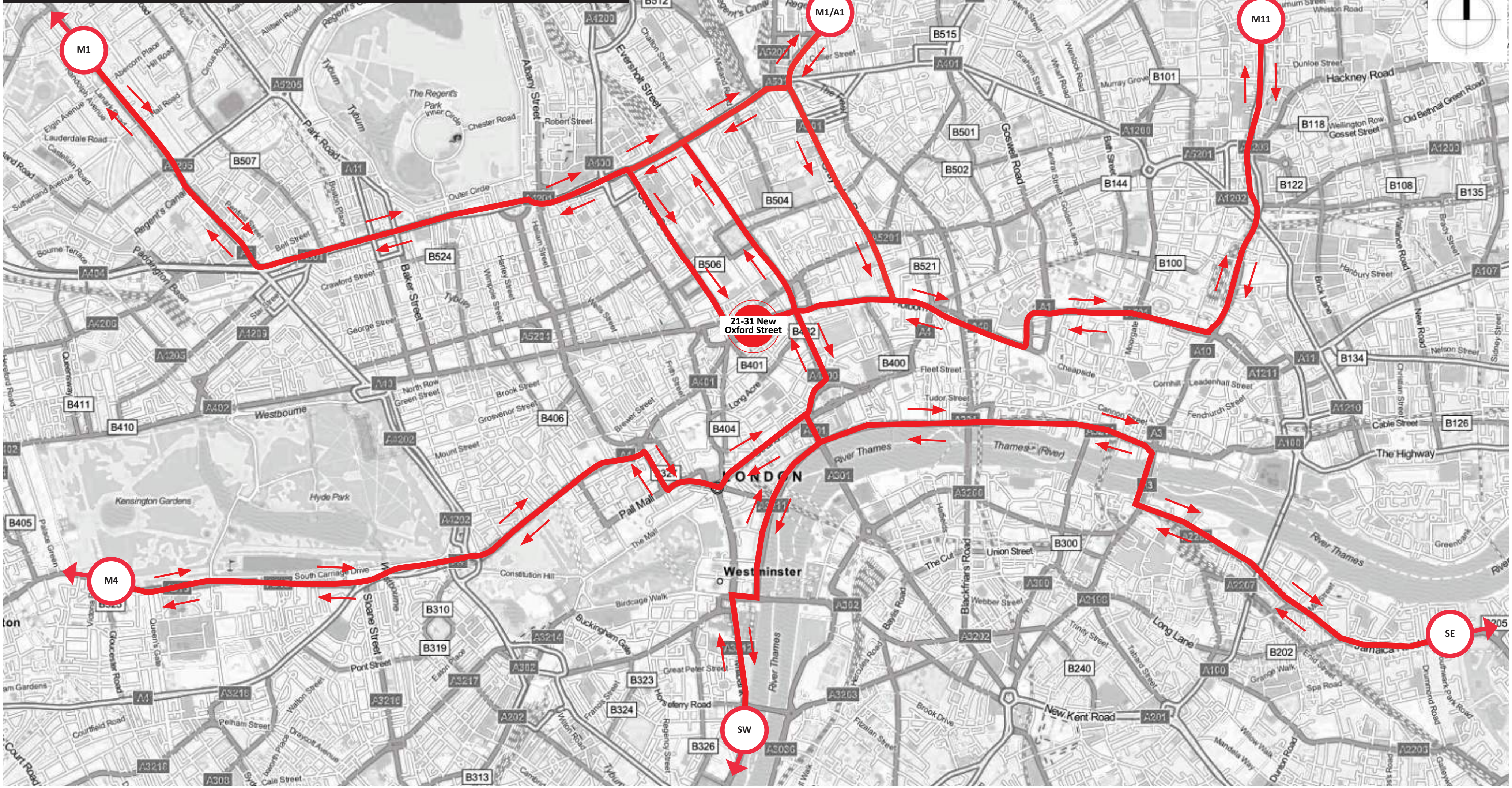
2. Parking bays will need to be temporarily suspended during construction works.

Project LT: 21-31 New Oxford Street

Drawing Title:	Links to local road networks
Drawn by:	YK
Checked by:	AB
Date:	02/05/2014
Scale:	NTS
Drawing No:	ARUP/PL/SK003 Rev: -

ARUP

Links to Strategic road networks



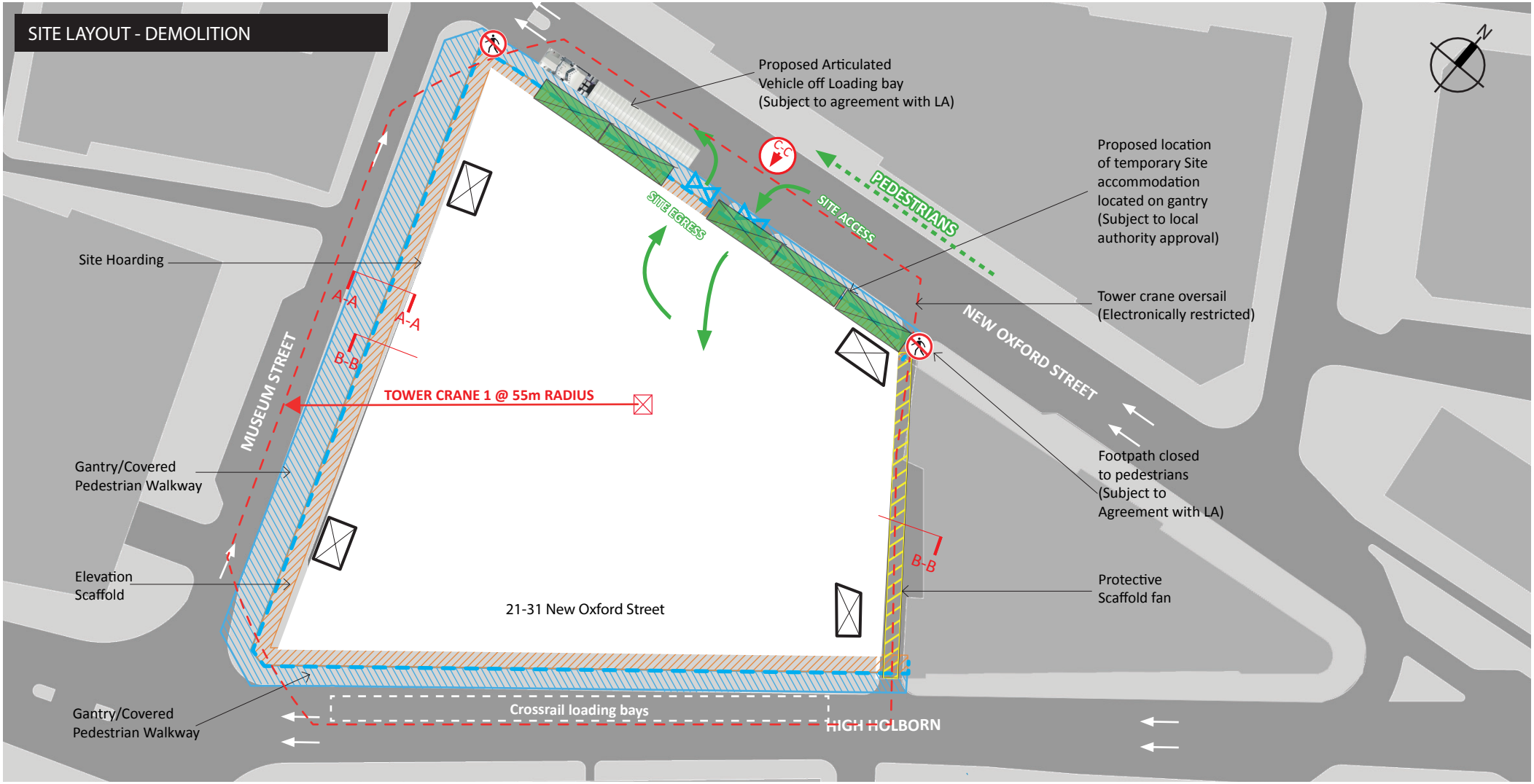
Project LT: 21-31 New Oxford Street	
Drawing Title:	Links to Strategic road networks
Drawn by:	YK
Checked by:	AB
Date:	02/05/2014
Scale:	NTS
Drawing No:	ARUP/PL/SK004 Rev: -

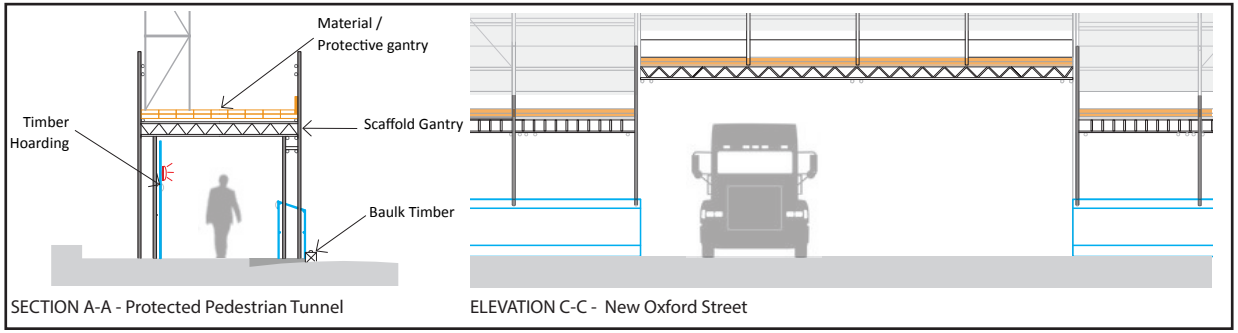
ARUP

Appendix D

Construction Sequence Sketches

SITE LAYOUT - DEMOLITION





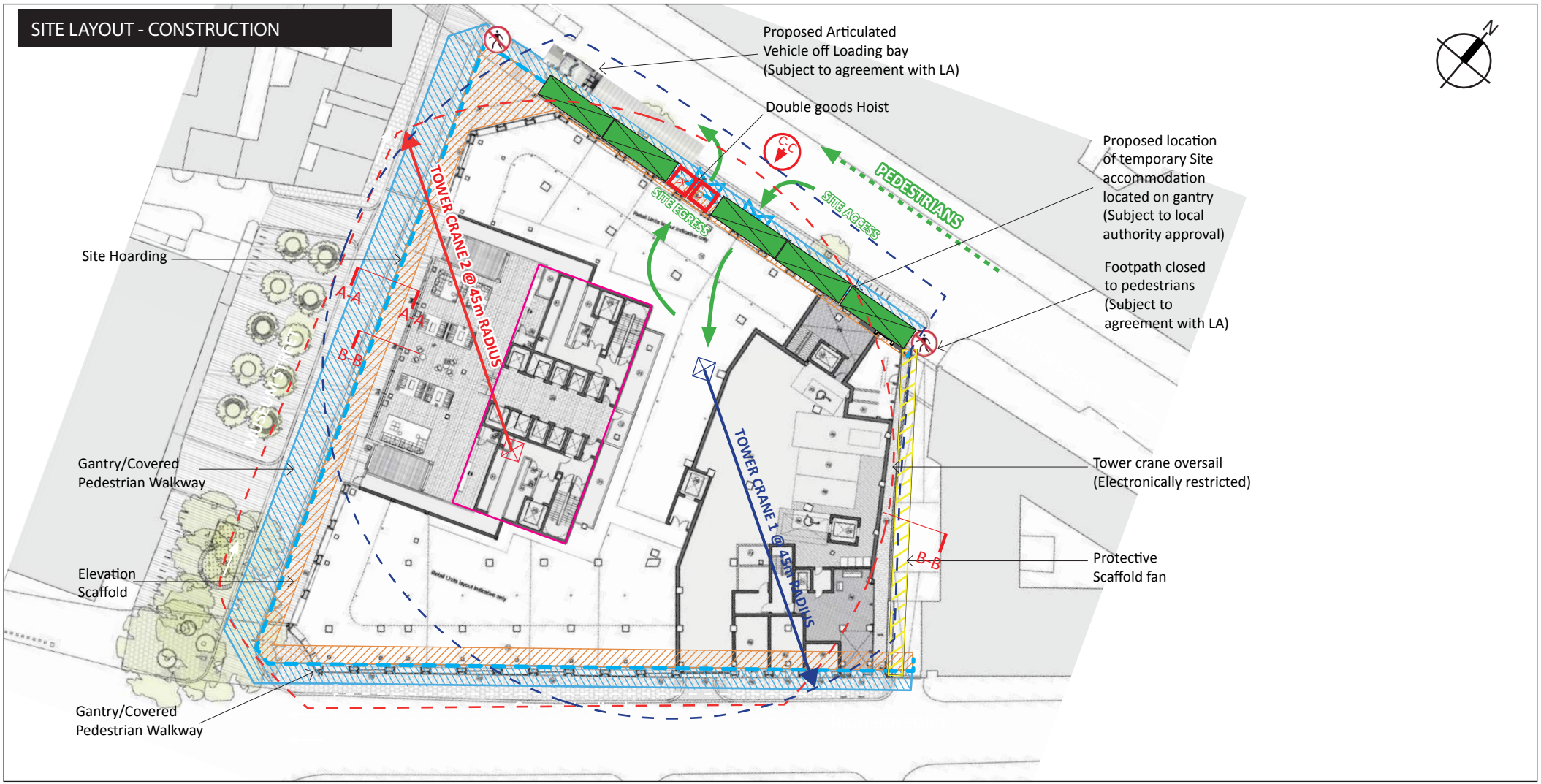
SECTION A-A - Protected Pedestrian Tunnel

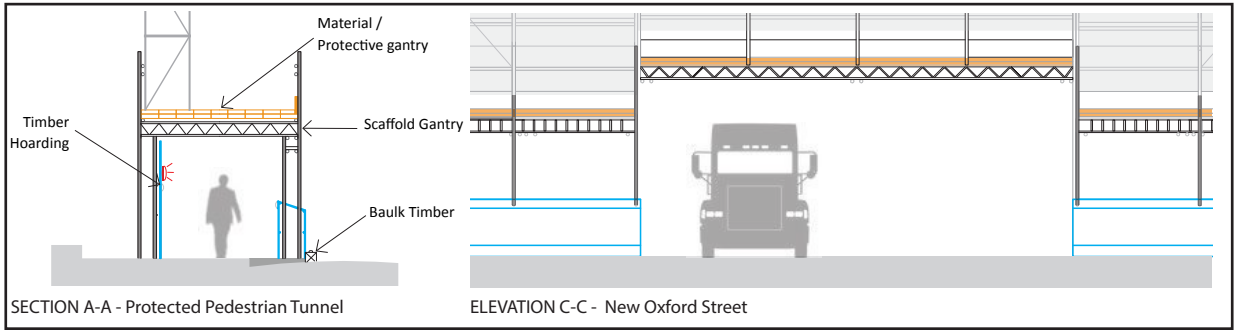
ELEVATION C-C - New Oxford Street

Project LT: 21-31 New Oxford Street	
Drawing Title:	Assumed Site Layout Plan during Demolition Phase
Drawn by:	YK
Checked by:	AB
Date:	02/05/2014
Scale:	NTS
Drawing No:	ARUP/PL/SK005 Rev: -

ARUP

SITE LAYOUT - CONSTRUCTION





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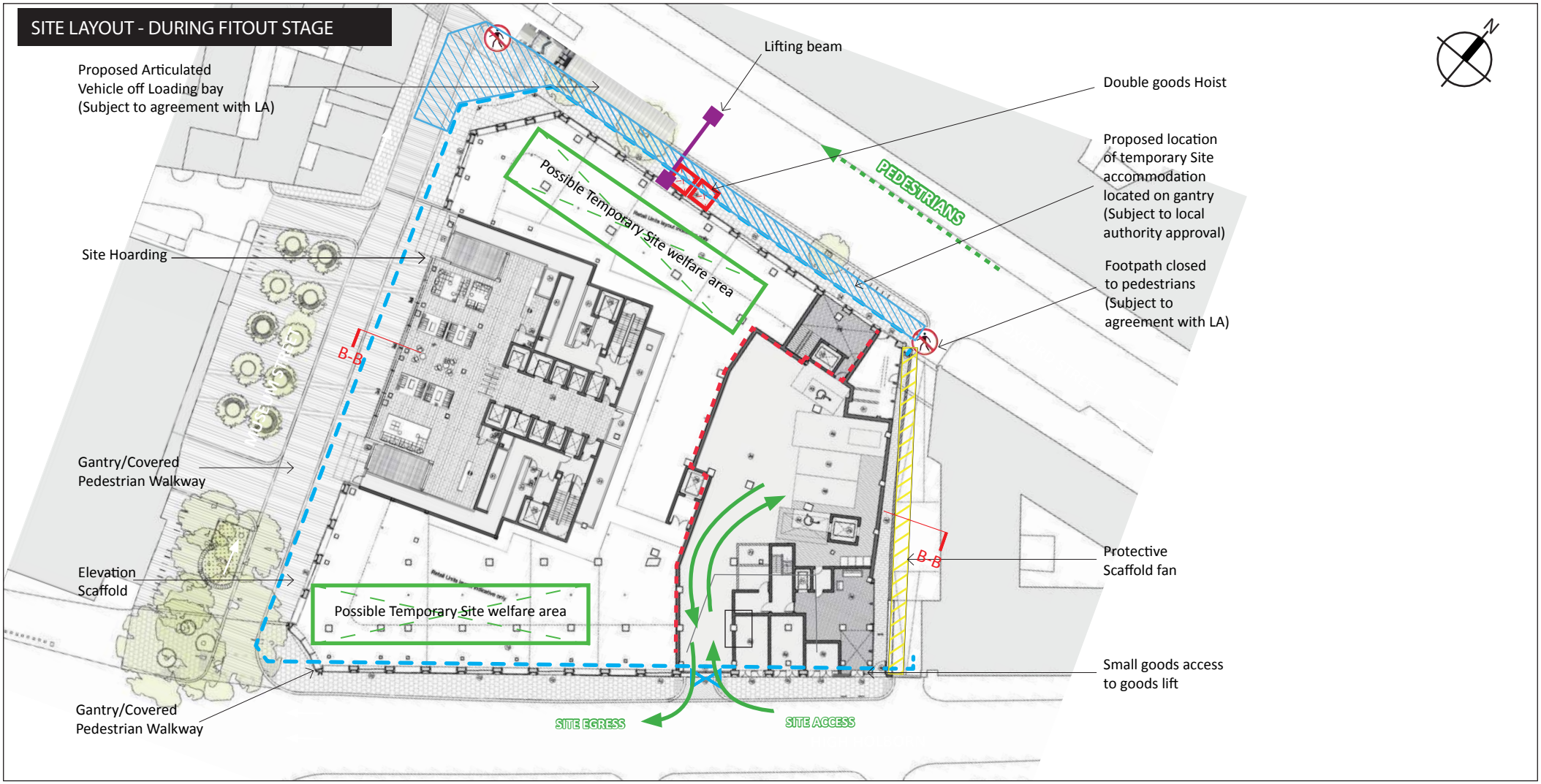
Drawing Title:	Assumed Site Layout Plan during Construction Phase
Drawn by:	YK
Checked by:	AB
Date:	02/05/2014
Scale:	NTS
Drawing No:	ARUP/PL/SK006 Rev: -

ARUP

SITE LAYOUT - DURING FITOUT STAGE



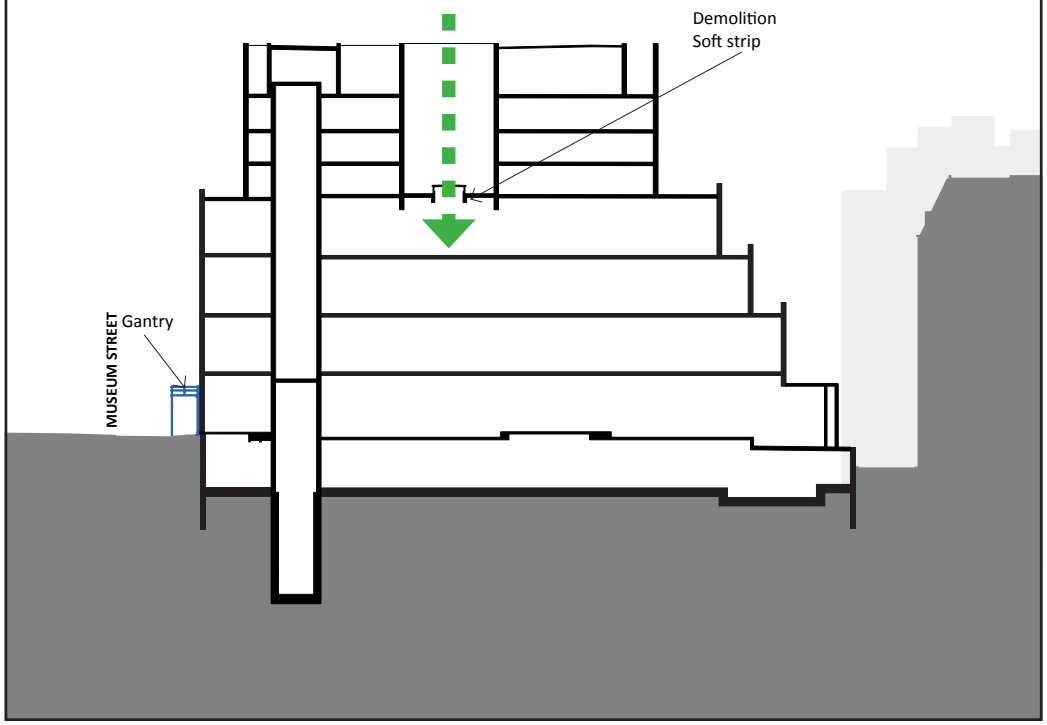
21-31 New Oxford Street

Project LT: 21-31 New Oxford Street	
Drawing Title:	Assumed Site Layout Plan during During fitout
Drawn by:	YK
Checked by:	AB
Date:	02/05/2014
Scale:	NTS
Drawing No:	ARUP/PL/SK007 Rev: -

ARUP

Sequence 1: Softstrip & Prep Site

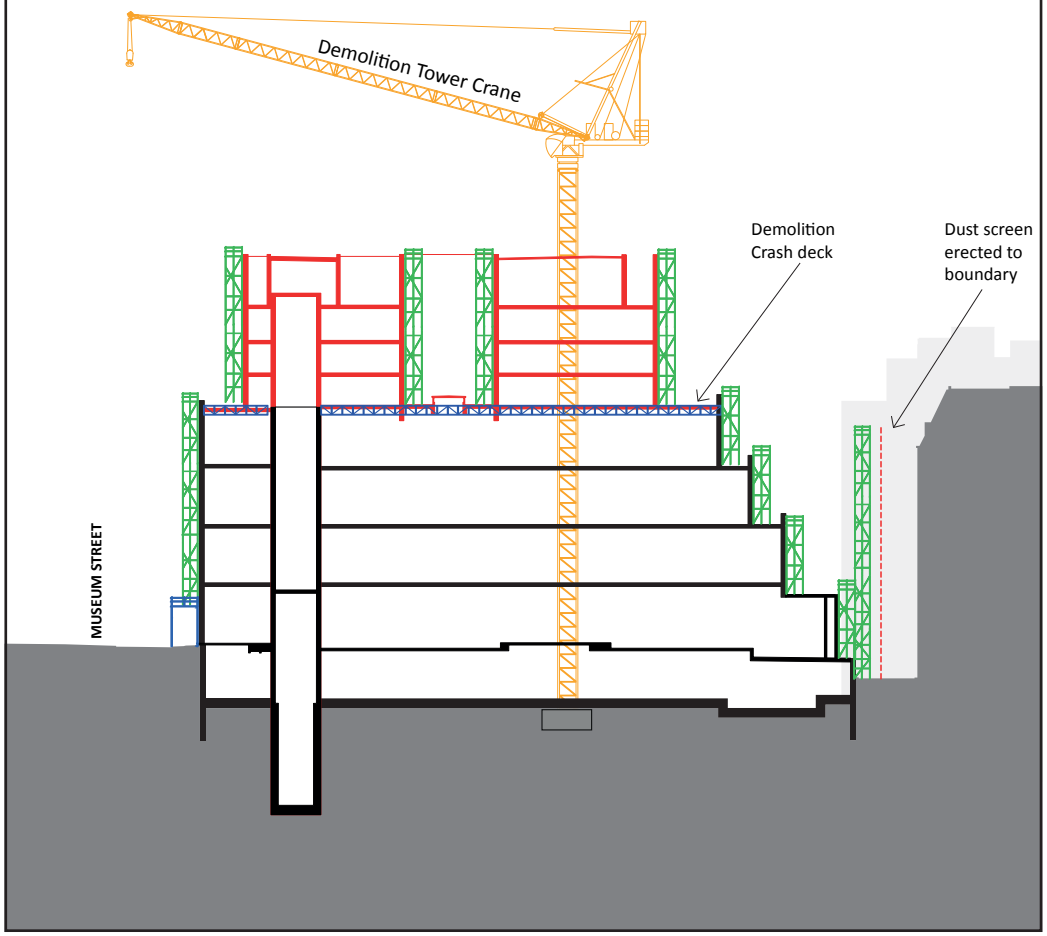
- Erect goods hoist internally
- Softstrip & Clear top to bottom of the building



SECTION C-C

Sequence 2: Erect Tower crane and Crash deck

- Erect Tower crane to enable demolition.
- Scaffold erection
- Construct demolition crash deck at podium roof level



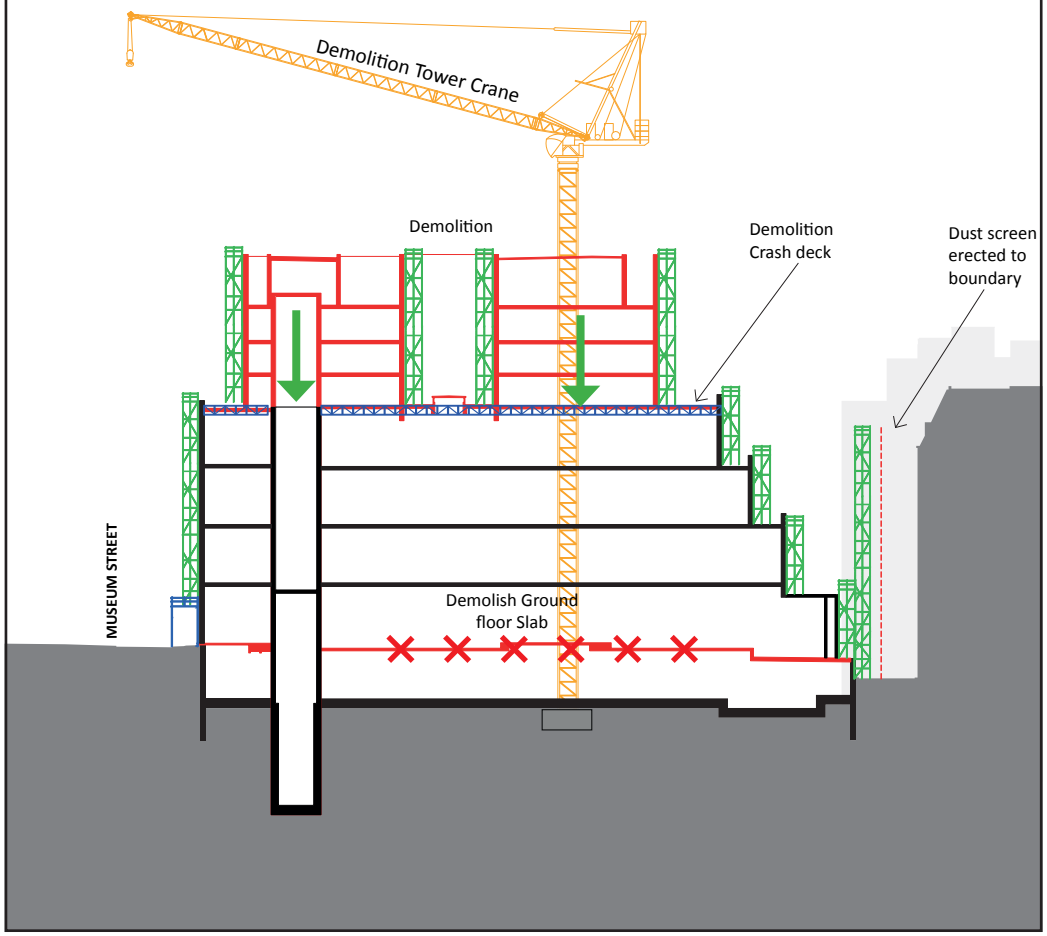
SECTION C-C

Project LT: 21-31 New Oxford Street	
Drawing Title:	Construction Sequence sketches
Drawn by:	YK
Checked by:	AB
Date:	02/05/2014
Scale:	NTS
Drawing No:	ARUP/PL/SK008 Rev: -

ARUP

Sequence 3: Demolish Sky deck & Ground floor Slab

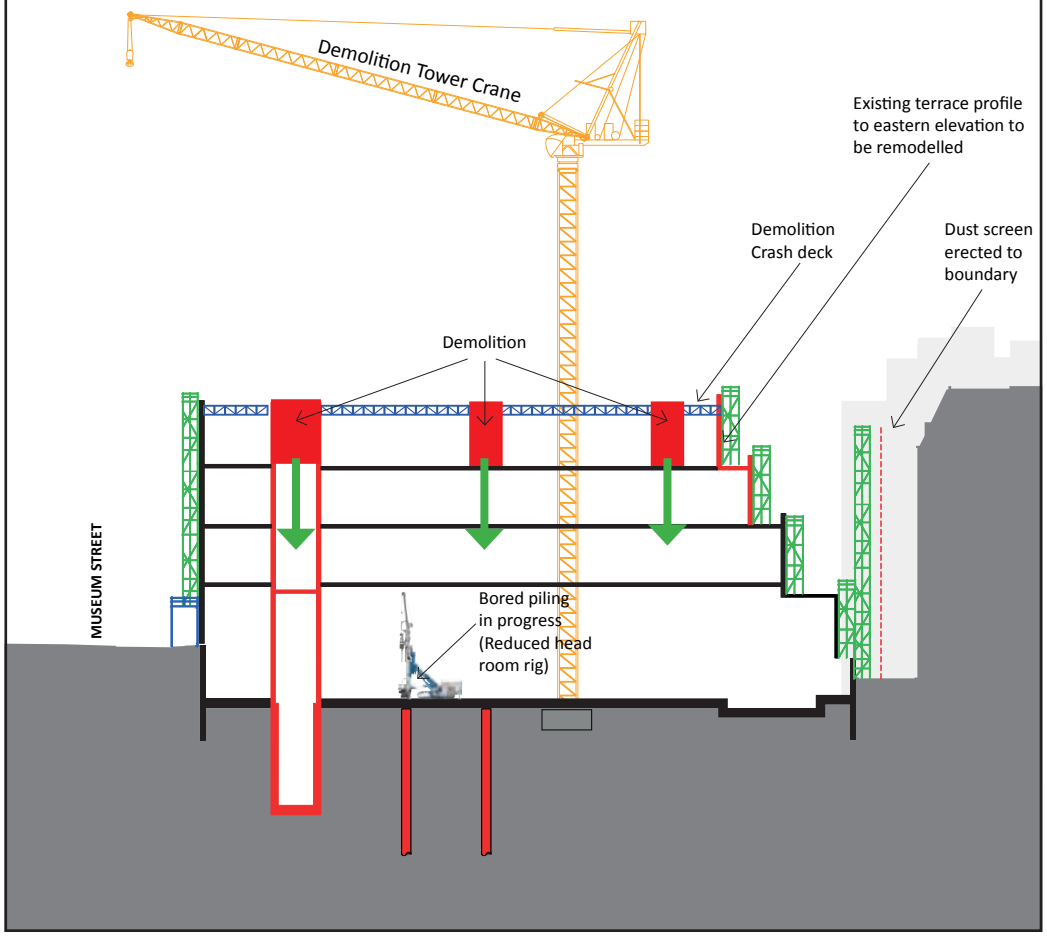
- Demolish ground floor slab to enable piling rig access
- Demolish sky deck levels



SECTION C-C

Sequence 4: Bored piling & on floor demolition

- Demolish cores
- Piling

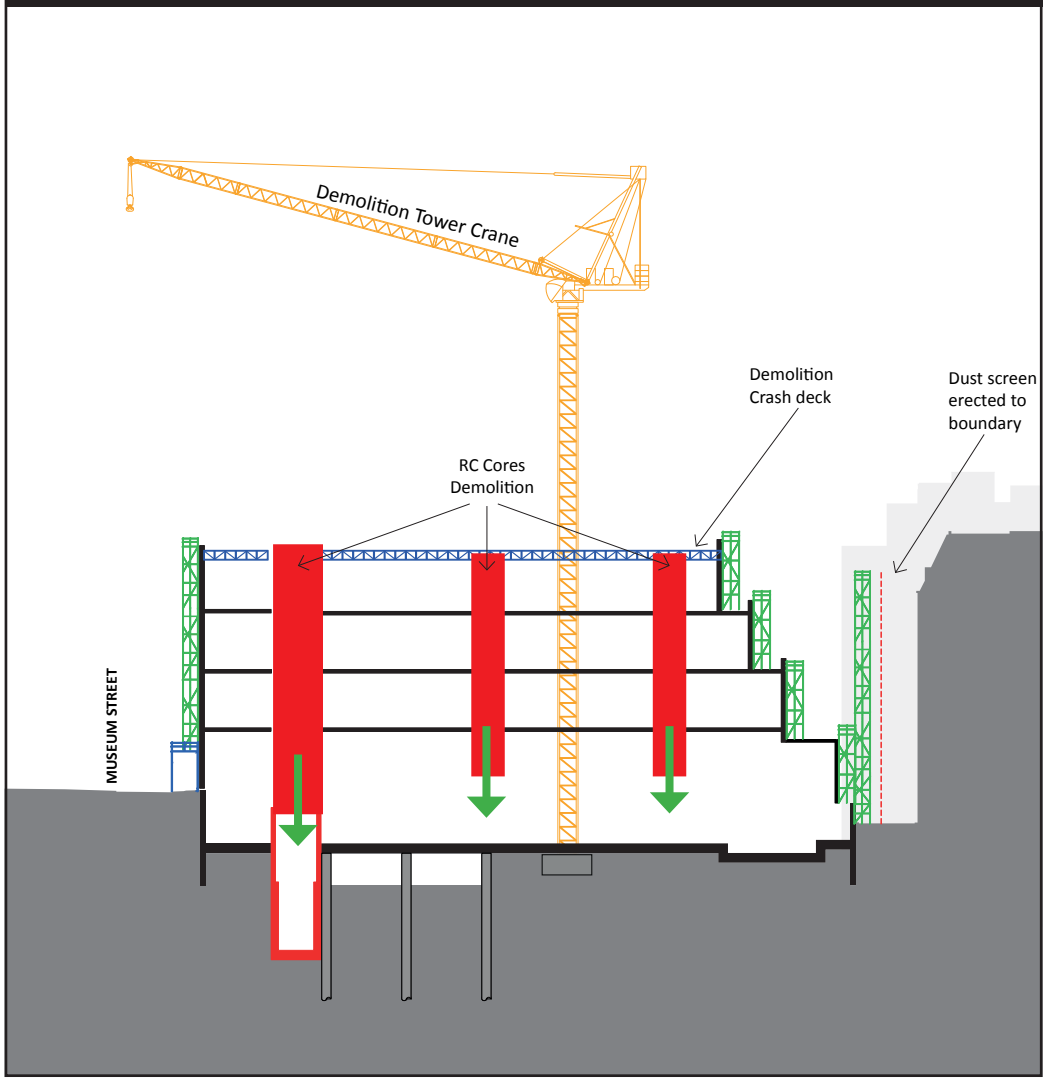


SECTION C-C

Project LT: 21-31 New Oxford Street	
Drawing Title:	Construction Sequence sketches
Drawn by:	YK
Checked by:	AB
Date:	02/05/2014
Scale:	NTS
Drawing No:	ARUP/PL/SK009 Rev: -

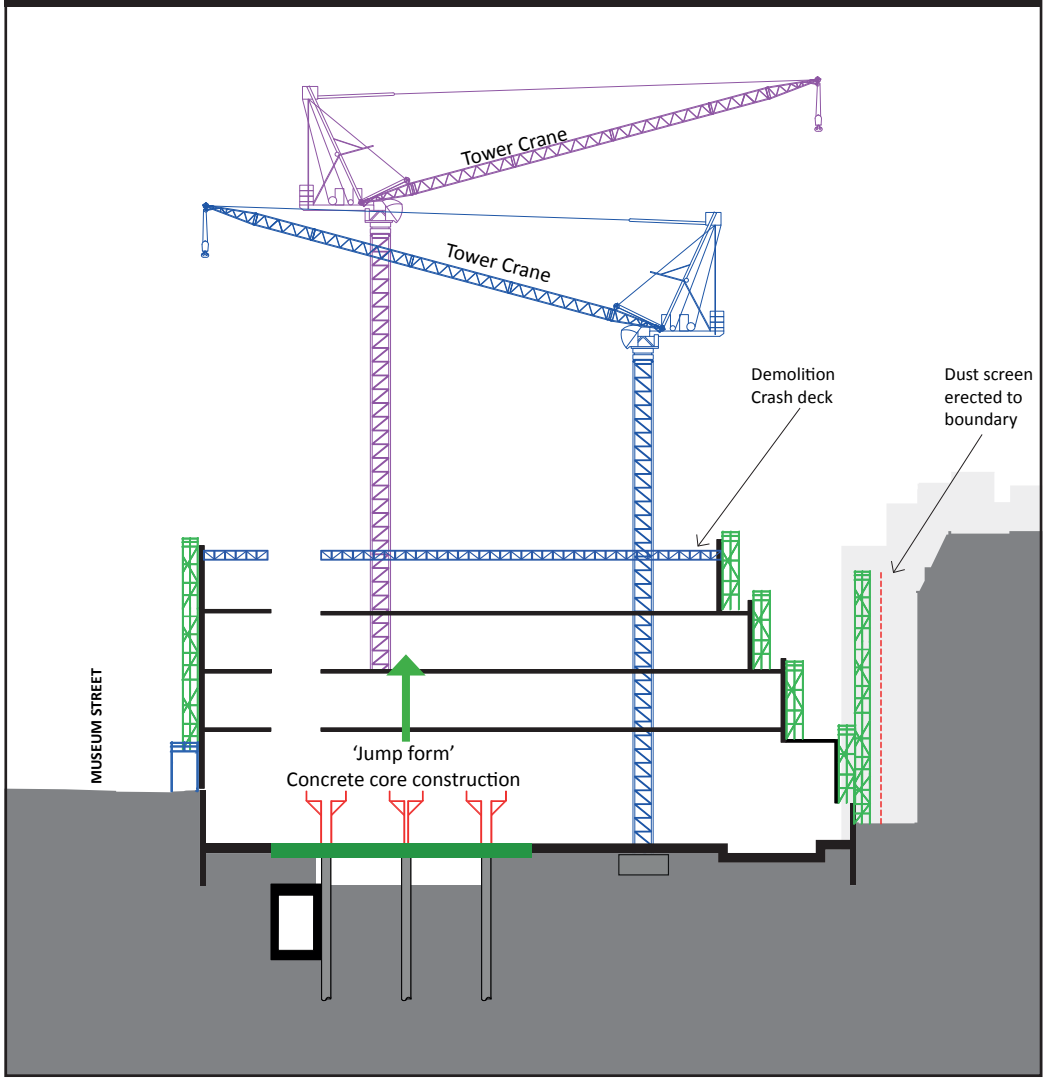
ARUP

Sequence 5: Completion of on floor demolition



SECTION C-C

Sequence 6: Construct Superstructure

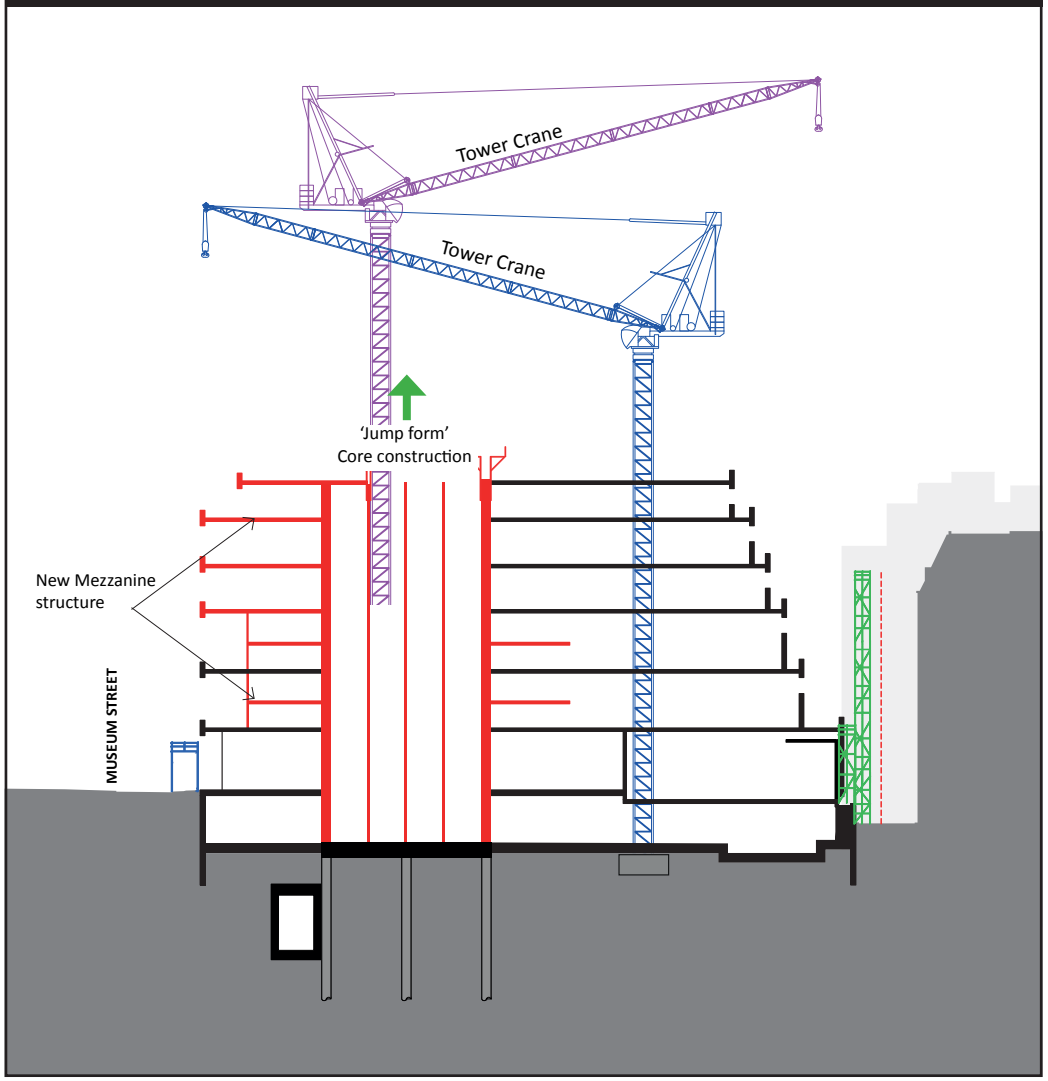


SECTION C-C

Project LT: 21-31 New Oxford Street	
Drawing Title:	Construction Sequence sketches
Drawn by:	YK
Checked by:	AB
Date:	02/05/2014
Scale:	NTS
Drawing No:	ARUP/PL/SK010 Rev: -

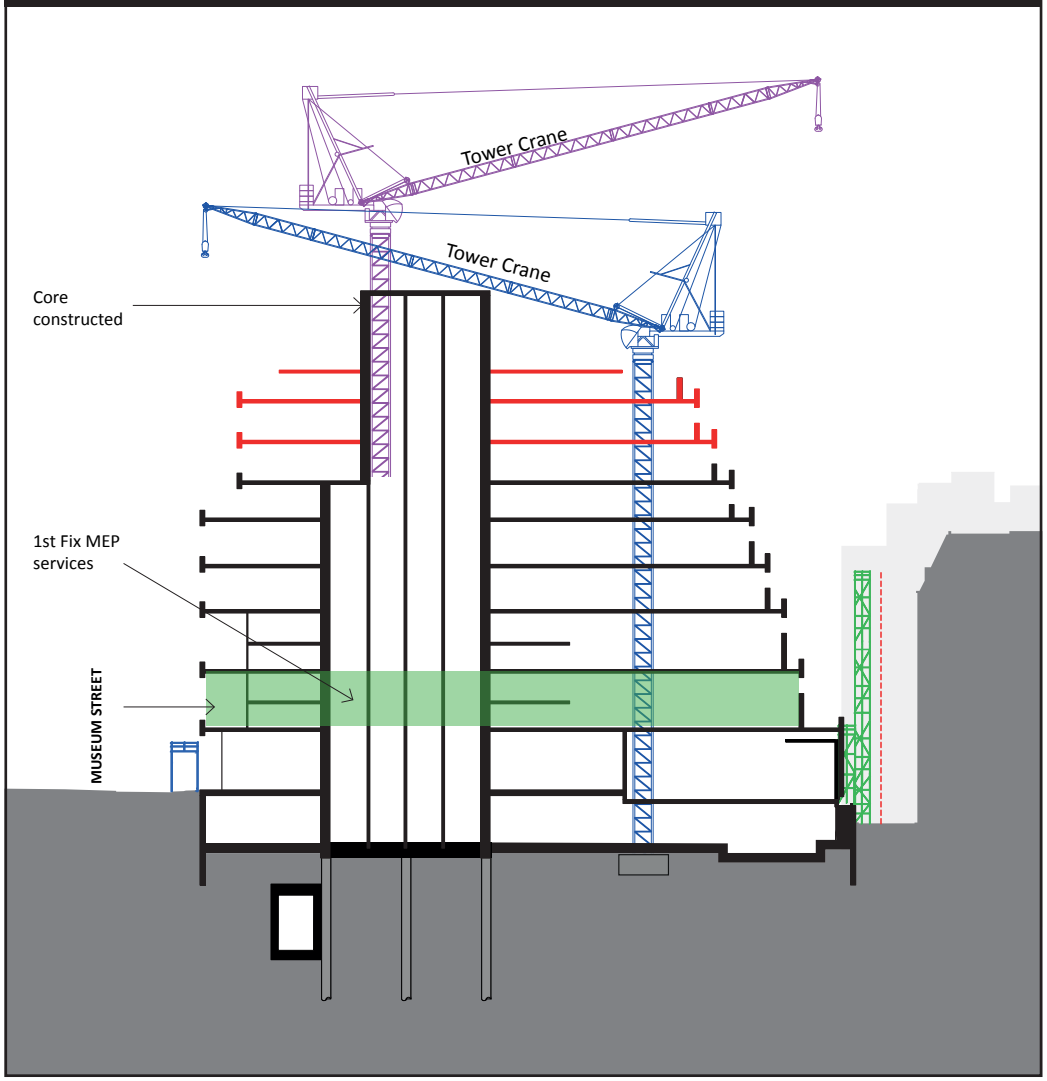
ARUP

Sequence 7: Construct RC cores & Superstructure



SECTION C-C

Sequence 8: RC Cores complete, Progress Superstructure, on floor MEP Services

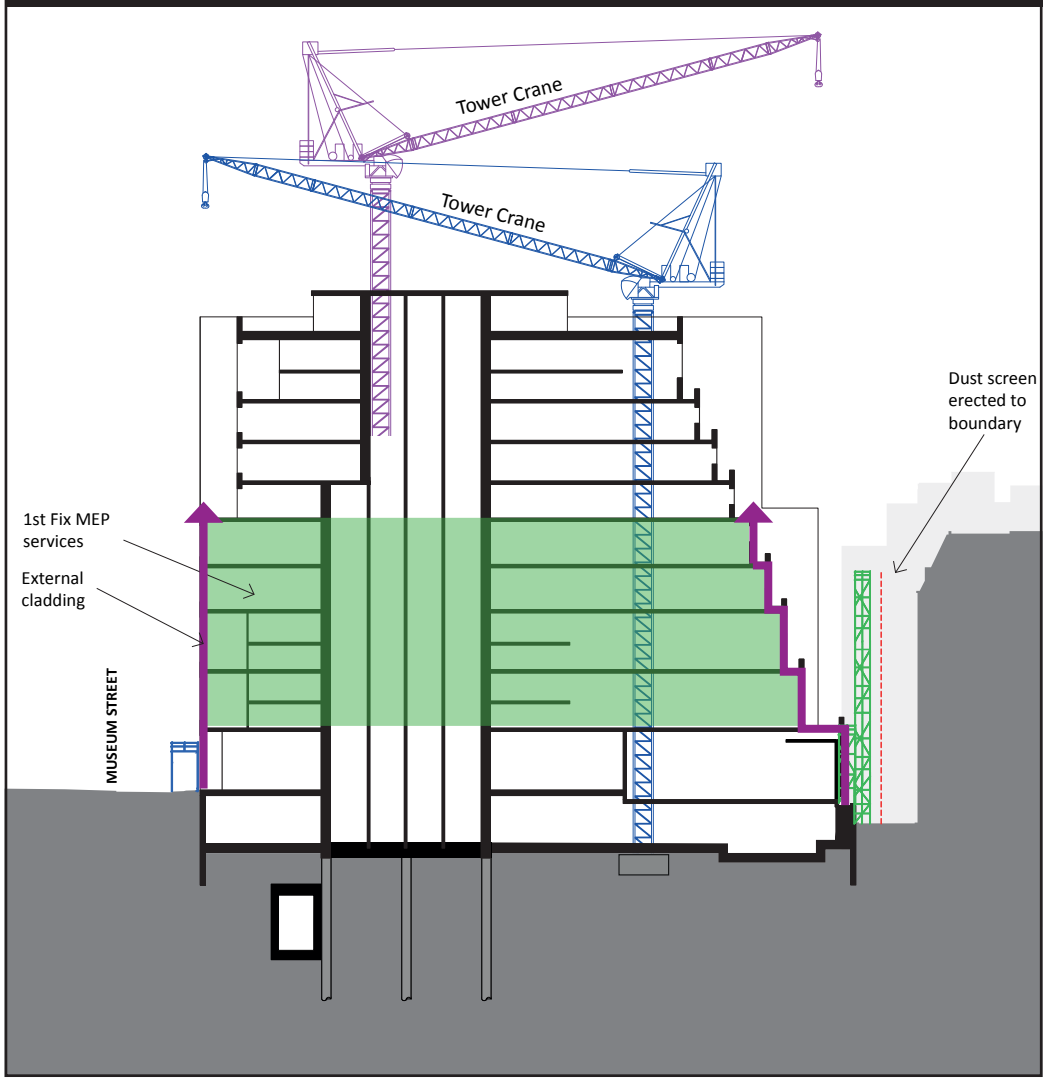


SECTION C-C

Project LT: 21-31 New Oxford Street	
Drawing Title:	Construction Sequence sketches
Drawn by:	YK
Checked by:	AB
Date:	02/05/2014
Scale:	NTS
Drawing No:	ARUP/PL/SK011 Rev: -

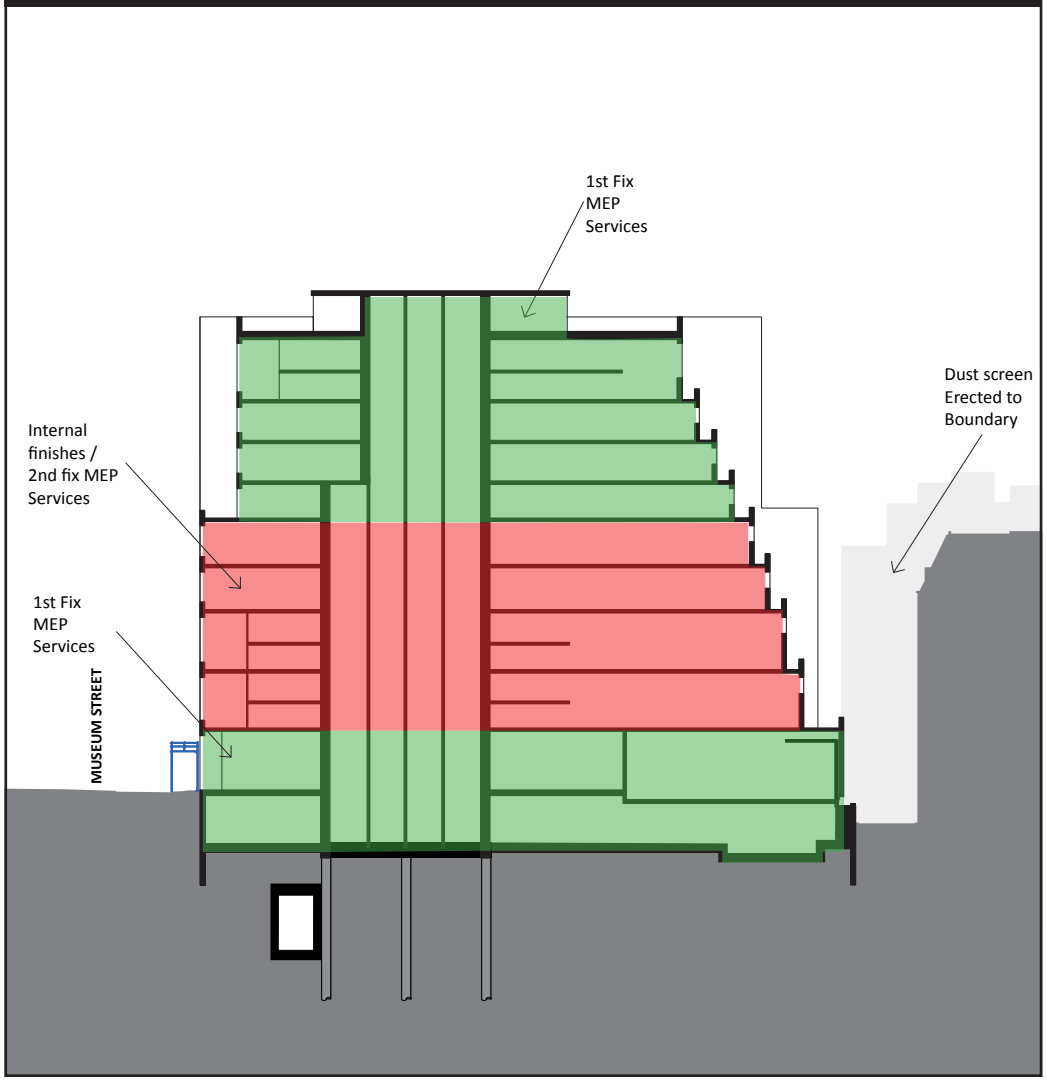
ARUP

Sequence 9: Superstructure complete, External cladding in progress



SECTION C-C

Sequence 10: External envelope complete, Internal fitout in progress



SECTION C-C

Project LT: 21-31 New Oxford Street	
Drawing Title:	Construction Sequence sketches
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Checked by:	AB
Date:	02/05/2014
Scale:	NTS
Drawing No:	ARUP/PL/SK012 Rev: -

ARUP