

Highgate School

OUTLINE METHODOLOGY AND CONSTRUCTION LOGISTICS MASTERPLAN FOR THE SCHOOL'S CAMPUS

Authorisation Record

This Outline Methodology and Construction Logistic Plan has received the following sign off:

Authorisation	Authorisation Signature	Date
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This report has been prepared taking into account the agreed scope of works and referenced to: The Sustainable Design and Construction SPD.

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1 Introduction

1.1 Objectives

The overall objectives of this Outline Methodology and Construction Logistics Plan (OM&CLP) is to draw together and show the dependences of all the proposed projects as part of the Estate Wide Construction Management and Phasing Strategy.

It should be noted that a detailed outline construction management plan shall also be submitted as part of the individual planning application process. These specific reports shall address the programme and logistics impact of each project in detail and cover topics such as: Lower emissions, Improved vehicle and road user safety, and reduced congestion.

This OM&CLP has been prepared in connection with proposals to redevelop the School's Campus Masterplan.

Since 2004 the School has been carrying out the regeneration of its Bishopswood Road and Senior School Sites. This has comprised multiple projects, most notably:

- Restoration of historic buildings: Big School, Chapel, Mills Centre, Central Hall
- Extension to existing buildings: Science Block, Garner Building, Pre-Prep School, Pre-Prep Dining Hall
- New buildings and facilities: Charter Building, Junior School, Junior Field Synthetic Pitch, as well as many minor projects

The School understands the need to minimise disruption to the local community during the delivery of our construction projects; our previous experience of managing complex projects, such as the above, has allowed us to learn from and develop techniques to mitigate impacts upon the local community generated from our building work.

There is a need for the school to continue their modernisation work to both replace and repair life expired buildings and to ensure that we have appropriate facilities to fulfil current and future projected curriculum needs.

1.2 Site Location

The School is in the London Borough of Haringey in North London, only a short journey from Central London and very close to Hampstead Heath. The hilltop site in Highgate Village is the historic location of the Senior School. A few hundred yards along Hampstead Lane, in Bishopswood Road, lie the Junior and Pre-Preparatory Schools and the extensive playing fields, alongside the open spaces of Kenwood and Hampstead Heath.

The School is spread over three sites, which are referred to as; Senior School campus (within Highgate Village), Bishopswood Road campus and Far Field playing field. The foundation comprises property stock of circa fifty buildings and structures and is spread over 37 acres.

1.3 The following is a location map of the School's academic buildings and future proposed projects.

Table 1.7 Estate Wide Site Plan



Proposed Developments

- 1 Mallinson Sports Centre
- 2 Richards Music Centre
- 3 Science Block
- 4 Island Site Tunnel Building
- 5 Dyne House
- 6 The Orchard
- 7 Tatham's Field
- 8 Far Field
- 9 Pre-Preparatory Hall
- 10 11-15 Bishopwood Road
- 11 Mills Centre Sub-station

Existing Facilities

- 11 Senior Field
- 12 Junior Field
- 13 Dining Hall
- 14 Mills Centre
- 15 Junior School
- 16 Cricket Pavilion
- 17 Caen Wood Hall
- 18 Eton Fives & Squash Courts
- 19 Rifle Range
- 20 Medical Centre
- 21 Charter Building
- 22 Garner Building
- 23 Link Block
- 24 Central Hall
- 25 Entrance Lodge
- 26 Big School / Library
- 27 Chapel
- 28 Parade Ground Building
- 29 Drama Studio
- 30 Disused Swimming Pool

2 Site Context

2.1 Site Description

Highgate School's facilities and estate have significantly evolved since its formation in 1565 to meet its changing needs. It is now situated predominantly across two campuses: one in the heart of Highgate and the other on and around Bishopswood Road. The sites have a prominent position, both in terms of the location as well as the status within the wider area. See map in Table 1.7 showing these campuses and the buildings they include.

2.2 School's Challenges

The need to upgrade the School's existing buildings and facilities (together with the need for new floorspace) is fundamental to ensuring the long-term operation and success of the School. An Accommodation Needs Assessment has been produced in order to identify how and where specific educational facilities could be provided across the whole estate.

The Assessment identifies that the School has insufficient space to provide all the necessary floorspace requirements for the Senior School on one site and that, consequently, effective teaching of the curriculum will need to be achieved through a balance of timetabling and the clustering of facilities to minimise lost teaching time moving between sites. As a result, the following proposed schemes have been deemed necessary:

2.3 Temporary Accommodation

- The proposed projects on the Dyne House, Richards Music Centre and Science Block sites will require temporary accommodation to ensure continuity of teaching.
- It is anticipated that a single storey temporary accommodation facility will be required and located on the southern half of the all-weather sports pitch on Bishopswood Road. Additional ancillary temporary facilities in the form of a marquee and mobile toilets unit will be required in the Senior School quads for limited periods.
- The School has experience in providing high quality temporary accommodation as demonstrated by the temporary Junior School building (in use 2014 to 2016). The School fully re-instated the Senior Field following the removal of this temporary accommodation.

2.4 Science Block

- Essential work is required to modernise and replace the buildings ageing services infrastructure (gas, water, electricity).
- The School will be using this opportunity to re-orientate and modernise laboratories and improve disabled access.

2.5 Island Site Tunnel Building

- Essential work required to provide full wheelchair access to Central Hall and Dyne House pedestrian tunnel.
- Opportunity to visually improve the Conservation Area street view of Listed Big School building and Central Hall from Southwood Lane.

2.6 Dyne House

- The academic and logistical requirement for the Dyne House site has been reconsidered following feedback from the community in 2015.
- The School reviewed all of its sites and evaluated alternative solutions for the facilities intended for the Dyne House site.

- The overall massing of the proposed Dyne House site is now less than the original proposal.

2.7 Richards Music Centre

- This site was identified as a location for Senior School Music and Drama together with ancillary functions associated with outdoor education and sport.
- The latest proposals for the RMC sees reduced massing from the original proposal.

2.8 Mallinson Sports Centre

- Following the necessity to close the swimming pool in order to investigate essential maintenance work to the roof, the School has reviewed a broader scope of follow-on packages of phased works to modernise and improve the sports centre site. These projects will replace life expired buildings and assets, enhance architectural aesthetics, improve access and create new buildings to allow the necessary variety of options within the School's sporting curriculum.

2.9 Proposed Developments

The proposed developments have been listed and included within the summary below:

Figure 2.9 Development Areas schedule

Land Use	GIA
	Class F1
Temporary Accommodation	2,473 m ²
Science Block	3,554 m ²
Dyne House	5,982 m ²
Richards Music Centre	1,766 m ²
Mallinson Sports Centre	6,150 m ²
Total	19,925 m²

3 Construction Details

3.1 Construction Management

The Construction Logistics shall be managed by a Principal Contractor appointed to each project and closely overseen by the School's in-house Estates Team and the Capital Project Manager responsible for each project. The Principal Contractor's shall ensure compliance with the Outline Construction Management Plan for each project and produce their own detailed Construction Management Plan (CMP) once appointed. The Principal Contractor's have yet to be appointed for the proposed schemes, but their details will be made available within the detailed CMP once available.

3.2 Construction Programme

The total enabling and construction period for all the Proposed Developments is approximately ten years but may be influenced by operational and education matters that may elongate this estimation. The projects will be undertaken in the following sequence:

- Far Field engineering works and green artificial surface
- Installation of Temporary Accommodation on the southern half of the Junior Field all-weather sports pitch
- Science Block refurbishment and extensions
- Dyne House
- Island Site Tunnel Building (Built as part of the Dyne House Project)
- Richards Music Centre
- Mallinson Sports Centre (Phase 2) New Sports Hall and Fives Courts
- Mallinson Sports Centre (Phase 3) Refurbishment of Existing Hall and New Entrance
- Mallinson Sports Centre (Phase 4) New Extension for Additional Changing and Studio Space

The sequence of the above projects has principally been driven around the temporary accommodation requirements and the need to minimise disruption to the School's main operations. An extensive review of temporary accommodation options was undertaken by the school, and accumulated in the proposed location on the Junior Field all-weather sports pitch. As part of the overall study, Travel Distances around the School's Campus and Timetable Constraints played major factors in the proposed strategy and its final location.

As the temporary accommodation needs to fulfil several functions over a life span of a minimum of six years, careful consideration was given to the particular functions and how the accommodation could be retrofitted between projects in order not to prolong the overall programme. As a result, a bespoke solution necessitates the offsite build of the accommodation, allowing the temporary building to be fitted out with Science Laboratories and then converted into general classrooms on completion of the Refurbishment of the Science Block.

3.3 Temporary Accommodation

The temporary accommodation is required in the first instance to decant all the facilities from the Science Block, while the refurbishment is undertaken for circa 18 months. It is then converted from Science Laboratories into general classrooms for decanting the whole of Dyne House.

3.4 Dyne House

Once the Science Block development is complete, the facilities that have been housed within the temporary accommodation are relocated back into the newly refurbished Science Building. Only once these moves are complete, can the decant of Dyne House commence. Once Dyne House has been emptied, the proposed development is estimated to take 24 months to complete.

3.5 Richards Music Centre

The final temporary accommodation requirement is that of the Richards Music Centre and the remaining drama functions currently in Dyne House. The RMC project is currently estimated to take 18 months.

3.6 Mallinson Sports Centre (Phase 2)

Mallinson Sports Centre (Phase 2) is undertaken with the development estimated to take 15 months to complete.

3.7 Mallinson Sports Centre (Phase 3)

Mallinson Sports Centre (Phase 3) is estimated that the development will also take 15 months to complete.

3.8 Mallinson Sports Centre (Phase 4)

The final phase of the Mallinson Sports Centre (Phase 4) is estimated that the development will take 14 months to complete.

3.9 Estimated Vehicle Movements

The estimated vehicle movements on each site, shall be covered within the Outline Construction Management Plan. These shall also be refined and made site specific once the Principal Contractor has been appointed and produced the Construction Management Plan for each site, including the types of vehicles expected to service the site and the HGV traffic generation of the construction site per quarter.

3.10 Vehicle Routing and Access

This section of the OM&CLP sets out the indicative principles for vehicle routing and construction vehicle access arrangements across all the proposed projects as part of the Estate Wide Construction Management and Phasing Strategy.

Again, the vehicle routing and access shall be managed by the Principal Contractor appointed to each project, but given the context of each site and the nature of the proposed works, deliveries to each site and methods of materials handling will require detailed planning and consultation with the Local Authority and Transport for London.

Vehicle routing is to be based on the principal that whenever possible, Transport for London Road Network or Strategic Road Network roads should be used to route construction vehicles to and from the School's construction sites.

The School will also insist on the following arrangement and restrictions across all projects and that these shall be formally written into the contract for each Principal Contractor as follows;

Deliveries and Collections from Each Site

The following restrictions on deliveries and collections from each site will apply **only** in term time. These restrictions will apply to **all** vehicles making deliveries to and collecting materials from the site and are in place to protect the Health and Safety of all the users in the locality of the School's campus as well as pupils and staff of the School. In term time the following shall apply:

- No deliveries or collections of materials are to take place before 9am

- No deliveries or collections of materials are to take place between 12Noon and 2pm
- No deliveries or collection of materials are to take place between 3.15pm and 4.15pm
- No deliveries or collections are to take place after 6pm.
- All the Contractors' contracts with any subcontractors or suppliers must include in writing the above and anyone who breaches these rules will be required to be removed from site and refused future entry to the School site.

4 Construction Impact Reduction Strategies

4.1 This section of the OM&CLP sets out the proposed and considered measures with strategies to reduce the impact of construction logistics associated with the construction of all the proposed developments.

The following table sets out a summary of the construction impact reduction measures.

Table 4.1 – Construction Impact Reduction Measures

	Committed	Proposed	Considered
Measures influencing construction vehicles and deliveries			
Safety and environmental standards and programmes	x		
Adhere to designated routes		x	
Delivery scheduling		x	
Re-timing for out of peak deliveries		x	
Re-timing for out of hours' deliveries		x	
Use of holding areas and vehicle call off areas			x
Use of logistics and consolidation centres			x
Material procurement measures			
Design for Manufacture and Assembly (DfMA) and off-site manufacture			x
Re-use of material on site			x
Smart procurement			x
Other Measures			
Collaboration amongst other sites in the area			x
Implement a staff travel plan			x

4.2 Measures Influencing Construction Vehicles and Deliveries.

Safety and environmental standards and programmes

- The School is committed to ensuring all contractors and sub-contractors vehicles arriving at site comply with sufficient safety measures and requirements relating to Work Related Road Risk.
- It shall be a requirement for all vehicles and driver management practices to comply with the Fleet Operator Recognition Scheme (**FORS**) and the Construction Logistics and Community Safety (**CLOCS**) schemes.
- As a result, the School as the Client shall commit to the following:
 - specify in tender and contract documents for all stakeholders to comply to the CLOCS and FORS Standards
 - ensure the project teams develop and implement a suitable and sufficient CLP (Construction Logistics Plan)
 - ensure effective monitoring of compliance to the CLOCS and FORS Standards
 - obtain and monitor the contractor's action plan to address all identified issues and non-compliances
 - ensure that all collisions that result in harm (and near miss incidents) that occur on journeys associated with the project are quickly investigated and actions taken to prevent recurrence

Adherence to designated routes

- The routes to / from the Transport for London Road Network (TLRN) and Strategic Road Network shall be specified. These access routes will be reviewed with respect to potential impacts, conflicts and hazards. Junctions and parts of the routes of particular and potential concern will be identified in terms of coming into conflict with other road users, with particular attention paid to pedestrians and cyclists around access to work sites.
- A copy of the route plan will be given to all suppliers when orders are placed via the Principal Contractor to ensure drivers are fully briefed on the required route to take. The supplier will be made aware that these routes are required to be followed at all times unless agreed or alternate diversions are in place.

Delivery scheduling

- Dependent on project scope and size, each Principal Contractor shall be instructed to use a web-based delivery management system that can be used to control the volume of deliveries to site. The intention is that the system will define the number of 'resources' on site and thus limit the number of deliveries within 30 minute intervals.
- Deliveries to and from site via the various Sub-contractors or Hauliers will be required to be booked in each delivery or collection a minimum of 48-hours in advance in order to allow the request to be reviewed and subsequently approved or declined via the Principal Contractor.

Re-timing for out of peak deliveries

- Dependent on project scope and size, re-timing out of peak traffic times will aid the operational efficiency of each construction site and also the neighbouring areas. The Principal Contractor shall commit to attempting to re-time as many deliveries as possible out of the morning and afternoon peak hours.

Re-timing for out of hours' deliveries

- Dependent on project scope and size, deliveries that turn up outside the agreed vehicle delivery slot, will be turned away by the Principal Contractor and re-timed on another day or agreed time so not to conflict with other delivery slots.

Use of holding and vehicle call off areas

- Each development will need to be considered in isolation, but should a site have sufficient storage to hold materials and waste, and as deliveries will be timed, it could be considered that there will be limited use for holding and vehicle call-off areas. However, once appointed the Principal Contractor will evaluate this approach should they feel a net benefit to efficiency could be gained.

Use of logistics and consolidation centres

- Logistics and consolidation centres can help reduce the number of construction vehicles associated with a site on the local highway network and will therefore be considered. The final decision will be made once the Principal Contractor has been appointed for each project.

4.3 Material Procurement Measures.

Design for Manufacture and Assembly and off-site Manufacture

- Reducing delivery numbers and effective delivery management is a core value of the School's brief for each development. Therefore, the option of off-site construction will be discussed upon appointment of a Principal Contractor and used where feasible.

Re-use of material on site

- A number of measures will be explored to re-use material on site. These will be decided upon in agreement with each Principal Contractor. For instance, the piling matt required for the new foundations shall be formed of deconstructed site material from the demolition of the existing buildings where possible. The welfare facilities will be recycled from existing buildings and fixtures and fittings if considered appropriate. These are just a small selection of proposals that will be considered in order to recycle material to decrease environmental impacts and also to reduce the number of vehicles required to deliver to site.

Smart procurement

- The Principal Contractor will explore sourcing local suppliers to contribute to the local economy. It is also considered important to explore opportunities to source materials from the same supplier(s) as other developers with sites underway in close proximity to this site, where feasible.

4.4 Other Measures

Collaboration amongst other sites in the area

- The appointed Principal Contractor will consult with the Local Authority, TfL, and other contractors / developers in the area to aim to minimise disruption.

Staff Travel Strategy

- Construction workers will be encouraged to travel sustainably to the site and will be provided with sustainable travel information. They will NOT be provided with an on-site parking space.

5 Implementing and Monitoring

5.1 At this early stage, and dependent on project scope and size, the following strategy can be confirmed.

5.2 An appointed Construction Logistics Manager will be in charge of implementing the Detailed Construction Logistics Plan on behalf of the Principal Contractor. Their job description will include collecting data on:

Number of vehicle movements to site; collected through a delivery booking in system

- Total
- By vehicle type / size / age
- Time spent on site
- Consolidation centre utilisation
- Delivery / collection accuracy compared to schedule

Breaches and complaints

- Community concerns about construction activities
- Vehicle routing
- Unacceptable queuing
- Unacceptable parking
- Compliance with safety and environmental standards and programmes
- Supplier FORS accreditation
- Low Emissions Zone (LEZ) compliance

Safety

- Logistics-related accidents
- Record of associated fatalities and serious injuries
- Ways staff are travelling to site
- Vehicles and operations not meeting safety requirements
- Description of the contractor's handbook
- Description of the driver's handbook

The data collected will be reported back to the Principal Contractor with full transparency to local government if required.

6 Construction Gantt Chart

Table 6.1 **Indicative Construction Gantt Chart**

